2/18/14

2013 ANNUAL REPORT

BEIPC

Basin Environmental Improvement Project Commission

February 2014

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Executive Summary

The Basin Environmental Improvement Project Commission (BEIPC) is responsible for overseeing environmental cleanup 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 (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 2013, the BEIPC coordinated and monitored accomplishments by various implementing entities for environmental cleanup and natural resource restoration work included in the BEIPC 2013 Annual Work Plan and the five-year operating plan. It also developed a 2014 Annual Work Plan and an updated five-year plan. The environmental cleanup work was performed through the federal Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA/Superfund) Program, the State of Idaho and State of Washington environmental cleanup programs, and actions 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 BEIPC continued to work on a consolidated approach to flood control and levee management in the South Fork CDA River and Pine Creek working with the U.S. Environmental Protection Agency (EPA), State of Idaho, local government agencies, and the Idaho Silver Jackets organization, a coalition of federal and state agencies that work together to develop comprehensive and sustainable solutions to Idaho's flood hazard issues. 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 to direct, and/or coordinate environmental remediation, natural resource restoration, and related measures to address water quality and heavy metal contamination in the Basin.

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 what is known as the "Bunker Hill Box."

The BEIPC's primary purpose is to work with the EPA and IDEQ to implement the Record of Decision (ROD) for OU-3 throughout the Basin and implement the Upper Basin ROD Amendment (RODA) for portions of OU-3 and work in OU-2 included in the Amendment designed to advance the cleanup of heavy metals contamination.

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 cleanup efforts at mining sites in the North Fork of the CDA River; and
- Leading multi-agency coordination in addressing potential flooding in the South Fork CDA River and Pine Creek drainages.

Legislation 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 tribal council member of the Coeur d'Alene Tribe 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 is Terry Harwood.

Current BEIPC Membership

Name	Title	Representing
Larry Yergler,	Shoshone County Commissioner	Shoshone County
Jack Buell, Chair	Benewah County Commissioner	Benewah County
Dan Green, Vice-Chair	Kootenai County Commissioner	Kootenai County
Phillip Cernera	Lake Management Director	Coeur d'Alene Tribe
Grant Pfeifer	Regional Director, Washington Department of Ecology	State of Washington
Curt Fransen	Director, Idaho Department of Environmental Quality	State of Idaho
Dennis McLerran	Regional Administrator, R-10 EPA	Federal Government

Program Management

The BEIPC operates in accordance with the Idaho statute and the MOA between 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 cleanup activities. It is also involved in the coordination of efforts to protect the cleanup remedies, human health, and the environment from the release and migration of contaminants through the implementation of Institutional Controls in the Basin, implementation of a Drainage Control and Infrastructure Revitalization Plan (DCIRP) for the Upper Basin communities, and development of a coordinated effort for flood control and levee management in the South Fork CDA River and Pine Creek.

The Executive Director 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, and the Coeur d'Alene Tribe 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 Citizens 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 2013, the Executive Director, PFTs and TLG developed the 2014-2018 Five-Year and Calendar Year 2014 draft work plans and studied and developed project and program proposals to implement the remedy in OU-2 and 3. The TLG is currently composed of representatives from 21 governmental entities.

Public Outreach and Citizen Involvement

Community Involvement

During Calendar Year 2013, the BEIPC held meetings and deliberations open to the public and maintained an up-to-date Basin website at: **www.basincommission.com**. Meetings were held at various locations within the Basin with locations and dates announced in local newspapers, flyers posted throughout the community and at the BEIPC office in Kellogg, Idaho. EPA, IDEQ and the BEIPC held a number of community meetings to discuss proposed project work in the Basin and Box. The BEIPC also participated in public education/outreach efforts including the joint information booth at the North Idaho Fair, STEM program presentations for North Idaho Schools, and career and professional education fairs booths for North Idaho small school districts.

Citizens 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 and LBC Meetings and Communication

The CCC facilitated email and US Mail communications to its members and the public on an as-needed basis. CCC meetings were held in January, April, July, and October 2013 in different locations around the Coeur d'Alene Basin. All meetings were open to the public.

At the regular quarterly CCC meetings, members were updated on ongoing BEIPC and TLG activities and asked to provide input on a variety of issues such as how information is best distributed to residents in the Basin, and the one- and five-year BEIPC work plans. The CCC informed the BEIPC of its activities by providing meeting minutes and comments to Commissioners prior to BEIPC meetings and by making presentations at BEIPC meetings.

Chronology of Selected CCC Activities and Input to the BEIPC in 2013

In addition to receiving updates approximately once a month via email or regular mail about current BEIPC activities, CCC members were involved in the following activities in 2013.

January

- The CCC held a regular quarterly meeting on January 16 in Post Falls, Idaho. Topics included: EPA updates on the RODA Implementation Plan, an update on activities of the Lower Basin Collaborative, and a discussion of the CDA Lake 'Lake*A*Syst' Draft. The Executive Director also provided general updates on Basin Commission activities in the CDA Basin. CCC members requested that a meeting in 2013 be held at the Medimont Grange to encourage participation from lower basin residents.

February-March

- The CCC Chair presented the results of the January 16 CCC meeting at the February 20 BEIPC board meeting in Spokane, Washington.
- The revised ROD Amendment Implementation Plan was circulated to CCC members.
- EPA hosted two public forums on March 20 at the Rose Lake Community Center and Medimont Grange for residents to share ideas for small-scale pilot projects in the Lower CDA Basin to help evaluate the effectiveness of more complete, larger-scale cleanup actions that may be taken in the future.

April

- EPA collected project proposals from Basin residents for small-scale pilot projects in the Lower Basin through April 19 and provided a summary of proposed projects to CCC members.
- The CCC held a regular quarterly meeting on April 24 in Wallace, Idaho. Topics included: an overview of Lake Management Plan activities for 2013, updates on Basin Commission activities, a presentation on the Page Repository Recycling Program, EPA updates on the Lower Basin pilot project proposals, an

update on the Super JTI job training program, and a discussion of the outreach and education projects, (e.g., the Riley Raccoon Activity Book) in the Basin.
- The CCC held open nominations for the CCC Chair and Vice-chair positions. Jerry Boyd was nominated and elected to the Chair position and Troy Lambert was nominated and elected to the Vice-chair position.

May -June
- The CCC Chair presented the results of the April 24 CCC meeting at the May 22 BEIPC meeting in Wallace, Idaho.
- EPA held an Open House on the Lower Burke Canyon Waste Repository Plans on June 4 in Wallace, Idaho. The Open House was an opportunity for Basin residents to learn about plans for the new waste repository and review early designs. Comments were collected from the community through June 28.
- The IDEQ 2011 CDA Lake Monitoring annual report was circulated to CCC members for review.

July
- The CCC held a regular quarterly meeting on July 25 at the Medimont Grange in Medimont, Idaho. Topics included: the Basin Property Remediation Program (BPRP), IDEQ updates on repository groundwater and surface water testing, updates from EPA on blood lead testing in the Basin, RODA Remedy Protection projects, status of the Lower Burke Canyon Repository development project, updates on the East Fork Ninemile Waste Consolidation Area, a review of the Lower Basin pilot projects submitted by the community and the EPA project selection process, an updated from the CDA Basin Restoration Partnership project team, and an update on Basin Commission staffing changes.

August-September
- The CCC Chair presented the results of the July 25 CCC meeting at the August 14 BEIPC board meeting in Wallace, Idaho.
- The CCC Chair and other CCC members volunteered to help staff the joint fair booth at the North Idaho Fair that was sponsored by the BEIPC, IDEQ, CDA Tribe, EPA and PHD for public education and outreach.
- IDEQ requested comments from the community and the CCC in September on the Community Fill Plan developed in partnership with EPA and PHD.

October
- The CCC regular quarterly meeting was scheduled for October 17 in Coeur d'Alene, Idaho. This meeting was held but participation was extremely limited due to the Government shutdown. Notes were not developed as there were only two citizen attendees who came in as the meeting was adjourned.
- The draft five-year and one-year (2014) BEIPC work plans were circulated to CCC Members for review and comment via email and mail in lieu of a meeting.

November-December
- The CCC Chair presented the results of the October 17 CCC meeting at the November 20 BEIPC meeting.
- EPA solicited input from CCC and the broader Basin community on the updated projections for cleanup in the Basin over the next ten years. This 2013 Annual Update highlights changes from last year's Superfund cleanup plan and identifies project phasing. Public input is due by January 17, 2014.

Additional Outreach Activities

In addition to the activities of the CCC and LBC, 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 repositories 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 Executive Director 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. The Executive Director also hosted a number of field reviews by interested parties, and was interviewed numerous times by the media for news stories.

Communications and Public Involvement

BEIPC Communications and Public Involvement

In 2013, the BEIPC continued its efforts to strengthen public involvement in BEIPC activities and communication between the CDA Basin community, the BEIPC and agencies involved in the cleanup. The CCC was the focus organization to help implement this process.

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

- Participated in BEIPC public education/outreach efforts at the North Idaho STEM Fair in Coeur d'Alene, the Academic Career Fair in Plummer, and in a joint booth with IDEQ, EPA, CDA Tribe and PHD at the North Idaho Fair.

- Coordinated a field tour of sites in the Upper Basin for the Basin Commissioners, agency representatives, and citizens in August. Participants viewed the East Fork of Ninemile remedial work, 9 Mile Cemetery unpaved road project, remedy protection projects in Mullan, and the Shoshone County Shop property remediation project.

- Provided assistance to BEIPC groups and staff on communications material including presentations, information sessions, news articles, displays, and advertising.

- Publicized BEIPC and CCC meetings through distribution of informational flyers with assistance from EPA and IDEQ.

- Utilized other communication methods to publicize meetings such as public TV, community calendar pages, newspaper advertising, and electronic media.

- 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.

- Collaborated with the CICs regarding future communication resources such as video training, public service announcements, and community workshop training sessions.

- Continued efforts 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 to the website will be ongoing.

BEIPC August Field Trip

EPA Community Involvement Activities

EPA Region 10 continued working with the local community throughout 2013. The agency's outreach activities are designed to give people meaningful opportunities to be involved in agency decision-making, to ensure that the public is fully informed about site activities, and to collaborate with the many partners in the cleanup.

Highlights of EPA community involvement site activities during the year include:

- EPA invited local people to help identify pilot projects in the Lower Basin. EPA held public workshops in partnership with the CCC and TLG, prepared a fact sheet, did wide publicity, and offered online proposal forms. Nearly 100 people attended the workshops, and EPA received 46 proposals. In July,

EPA announced selection of two types of projects. Proposal summaries and selection information is online at **http://yosemite.epa.gov/r10/cleanup.nsf/sites/bh**.

- EPA launched a second **Superfund Job Training Initiative** (Super JTI) in 2013. Super JTI is a job readiness program providing free technical training to citizens living in communities affected by Superfund sites. Fourteen people graduated from the program this year.

- EPA issued the Annual Update to its Superfund Cleanup Implementation Plan (**SCIP)** in December for an informal review opportunity, outlining what cleanup work will happen in the Basin over the next ten years. As part of its outreach effort, EPA performed notifications including: posting on Facebook; providing local briefings; and distributing the document. Public input helps shape the plan.

- Many community members have expressed appreciation for a new brochure called "**Healthy Living in the Silver Valley and Coeur d'Alene Basin.**" EPA led a multi-agency collaborative effort to produce this document about the cleanup. It covers health information, cleanup highlights, resources, contacts, and more. Select local residents and business owners provided input during its production. Their suggestions helped make this brochure an especially practical and well-received document within the community. Find the brochure at **http://go.usa.gov/24CB**.

- In response to ongoing requests from the community, EPA led development of a brochure addressing questions about East Mission Flats Repository (EMFR), titled "**Water Sampling at East Mission Flats Repository;**" the brochure gives details on EMFR's monitoring program, sampling results, and protective features. Find it online at **http://go.usa.gov/bsK4**.

- The Trust, EPA, and IDEQ are continuing to plan, design, and construct several projects that will help protect completed cleanup work. Project coordinators have been working closely with local jurisdictions and other property owners on these Remedy Protection Projects. Local jurisdictions are especially involved with public outreach.

- Also in 2013, EPA invited the public to comment on early designs for the Lower Burke Canyon Repository. Local residents attended an Open House hosted by the CCC, and submitted comments during the 30-day review period. To ensure that neighborhood residents had complete information and got direct invitations to the Open House, we conducted door-to-door visits and did direct mailings in Woodland Park. Learn more at **http://go.usa.gov/Tvzd**.

- The agency conducted outreach related to the work up at the East Fork Ninemile Waste Consolidation Area this year. EPA prepared a fact sheet (**http://go.us.gov/bsZe**), a series of features on Facebook, and other publicity. EPA's Community Liaison made direct contact with several local people and businesses, including the ATV club, to inform and answer questions.

- EPA led a collaborative, interagency effort to develop two new waste repository signs. A sign now stands at the ICP entrance for the East Mission Flats Repository, explaining the benefit of repositories and thanking people for using the ICP. Also, a "coming soon" sign is posted at the site of the Lower Burke Canyon Repository. In 2012, the CCC expressed support for development of the signs.

- EPA coordinated with IDEQ and PHD on outreach planning related to the Community Fill Plan.

- Two activities to help characterize the river took place by boat this year: a geophysical survey of the river bottom and river bed coring. EPA coordinated with local authorities and notified citizens.

- The Trust completed two cleanups at large commercial properties in the Basin, coordinating with property owners and others. The goal is to protect public health.

- The **Coeur d'Alene Basin Facebook** page continues to provide site updates to the public. Find it at **www.facebook.com/CDAbasin**. The page offers site news, resource information, and an online community forum. EPA invites your participation, suggestions, and postings.

- Publication of EPA's **Basin Bulletin** continues (**http://yosemite.epa.gov/R10/CLEANUP.NSF/bh/bunker+hill+superfund+site+basin+bulletin**). The agency published three editions in 2013, each providing news and updates about the Coeur d'Alene Basin Cleanup Project.

- The agency maintained its commitment to the Basin Commission process throughout 2013. EPA provides staff support and regular participation at meetings of the Basin Commission, CCC, TLG, and PFTs. EPA also provides funding support for facilitation of the CCC.

- An EPA website for the Basin Cleanup Project offers the public access to updates, site documents, and background information about the cleanup. Suggestions for improvements are always welcome.

- EPA maintains document collections related to the cleanup at several area libraries for public access. This year, in response to a request from the CDA Tribe, EPA worked with the Plummer Public Library to also make select site documents available there on disk. Although it is not an official document repository, a large amount of site information is now more easily available to the CDA Tribe and others.

- Project managers met several times with local officials, interest groups, and others to provide updates and answer questions in 2013. Additionally, EPA and IDEQ conducted site tours for interested parties and provided presentations to local schools and interested groups in the area. EPA also supported the interagency exhibit about the cleanup at the North Idaho Fair.

- EPA regularly worked with the media in 2013, arranging quarterly press availability sessions, fielding questions from reporters about the site, running newspaper display ads, and issuing press releases on high-interest activities.

- EPA's Community Liaison continued working with the community, serving as a resource for local residents. EPA created this liaison position in response to requests for an on-site representative. The liaison is enhancing local communications, providing people with easier access to the agency, and helping EPA to be responsive to local issues and questions.

IDEQ Community Involvement Activities

The following are highlights of 2013 outreach and community involvement activities for IDEQ:

Projects

- IDEQ Outreach led the development of multi-media recreation education projects supporting community health. The products include:
    - "Riley's Family" children's activity book,
    - "Suds After Mud" radio public service announcement,
    - "Play Clean" website.

  Products were developed with feedback from the Basin Commission, TLG, CCC, and LB PFT as well as several community groups in Shoshone and Kootenai counties. Activity books are distributed at businesses, visitors' centers and medical offices, offered at community events and through Kellogg PHD Lead Health Intervention Program. The radio announcement broadcasted on four stations for two months to the greater North Idaho region. IDEQ's **"Play Clean"** webpage houses these projects and offers information to children and families. The Kellogg PHD is IDEQ's primary partner in the development of lead health intervention education.
- IDEQ outreach provided project development for the Hercules Mill historic interpretive sign. EPA-directed remedial action at the Hercules Mill spurred local interest in the historic value of the mill site. IDEQ sought the support of numerous local businesses including the participation of the Wallace District Mining Museum and the Wallace Historic Preservation Society. IDEQ sought out a local non-profit organization Panhandle Lakes Resource Conservation and Development Council, Inc. to manage grant funds provided in part by a grant from the Idaho Humanities Council, a State-based Program of the National Endowment for the Humanities. The Wallace Mayor granted placement of the sign at the Wallace Visitor Center grounds where about 100,000 visitors are welcomed each year.
- IDEQ participates in Panhandle SEEP (Stormwater and Erosion Education Program) Steering Committee. IDEQ participated in revising and updating the "Basic SEEP" class curriculum, facilitating classroom activities, and delivering training to contractors, design professionals, and jurisdictions throughout Shoshone and Kootenai County.
- IDEQ coordinated with the Kellogg Staff House Museum to provide EPA's Basin Cleanup poster for display at the museum.

Outreach Presentations and Events

- Outdoor Writer's Annual Conference presentation at Page Repository. IDEQ staff provided additional support.
- Coeur d'Alene Chamber of Commerce "Leadership Coeur d'Alene" group with EPA.
- Coeur d'Alene Flycasters Annual Banquet
- Coeur d'Alene Canoe and Kayak Club
- Shoshone Medical Center Women's Health Fair
- Lead Health Intervention Program to Silver Valley schools led by PHD

- University of Idaho Upward Bound (students of Shoshone County High Schools)
- North Idaho Fair and planning activities with BEIPC, EPA, IDEQ, and CDA Tribe
- Ramsey Science Magnet School 4th grade students
- GearUp Expo for regional 8th grade students
- GearUp Career Day in Plummer, Idaho with the Executive Director
- Assistance and participation in BEIPC's meetings: CCC, LBC, TLG, LBPFT, and Commission

Idaho DEQ Direct-Outreach for Program Projects

- Conducted door-to-door outreach with community members in:
    - Lower Woodland Park (the area Main Avenue) with construction contractor for Unpaved Road Program construction
    - Upper Woodland Park (the area of Woodland Drive and Canyon Apartments) with EPA for Lower Burke Canyon Repository design
    - Smelterville (area between E and J streets) with Smelterville Mayor for Grouse Creek Remedy Protection construction
    - Remedy Protection Communication Strategy Plans with EPA.
- Supported multi-jurisdictional Paved Roads Workshop outreach.
- Assisted EPA in outreach and outreach planning for the Lower Basin Pilot Project Workshop and Remedy Protection Projects led by EPA

IDEQ Community Liaison and Media

- Participated in a Public Information Officers team lead by the Restoration Partnership Communications Specialist. Assistance was provided for the outreach strategy, website content, press releases and scoping period open house in 2013
- Developed and distributed the Superfund Straight Talk in newspapers and websites each month
- Developed and submitted Basin Bulletin articles for EPA three times each year
- Attended community and civic meetings supporting community communications

Lower Burke Canyon Repository Open House

North Idaho Fair Booth

Calendar Year 2013 Work Accomplishments

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

Blood Lead Screening in Children

Screening of children for elevated blood lead levels has been occurring annually in the CDA Basin since 1996 as a public health service to identify children with elevated blood lead levels and to provide follow-up from a public health professional to identify ways to reduce lead exposures. The screening program also 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

Results of the 2013 Screening Program were presented at the November BEIPC meeting. The table below shows the 2013 Basin Blood Lead summary results for children up to 6 years compared to data since 2004.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of Children	80	81	69	71	73	175	108	75	83	92
Min (µg/dl)	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.4
Max (µg/dl)	16.7	12.0	10.0	9.0	14.0	10.0	20.0	12.0	8.0	16
Ave (µg/dl)	3.9	2.9	2.8	2.9	2.4	3.1	2.5	3.1	3.3	2.8
GeoMean (µg/dl)	3.4	2.3	2.4	2.6	2.1	2.7	2.1	2.6	3.1	2.5

Two children were identified with a blood lead level greater than 10 micrograms per deciliter (µg/dl). One of these children had a blood lead level greater than 15 µg/dl. PHD contacted families of children for each child with a blood lead level above 5 µg/dl to provide information on how to reduce exposures.

In early 2012, the Centers for Disease Control & Prevention (CDC) changed its "level of concern" associated with childhood lead poisoning from a blood lead level of 10 µg/dl to a new "threshold value" of 5µg/dl. The term "level of concern" was dropped based on scientific evidence that adverse health effects occur below 10µg/dl.

In 2013 Basin participants were paid $30 for each child screened. This is an increase from $20 per child used in most previous years. The number of children tested in 2013 was slightly higher than earlier years with the exception of 2009. In that year a $40 incentive was offered as a one-time effort and participation rates roughly doubled. The blood-lead screening program will continue in 2014. The program will be offered in the same manner as the past with the new $30 incentive per child.

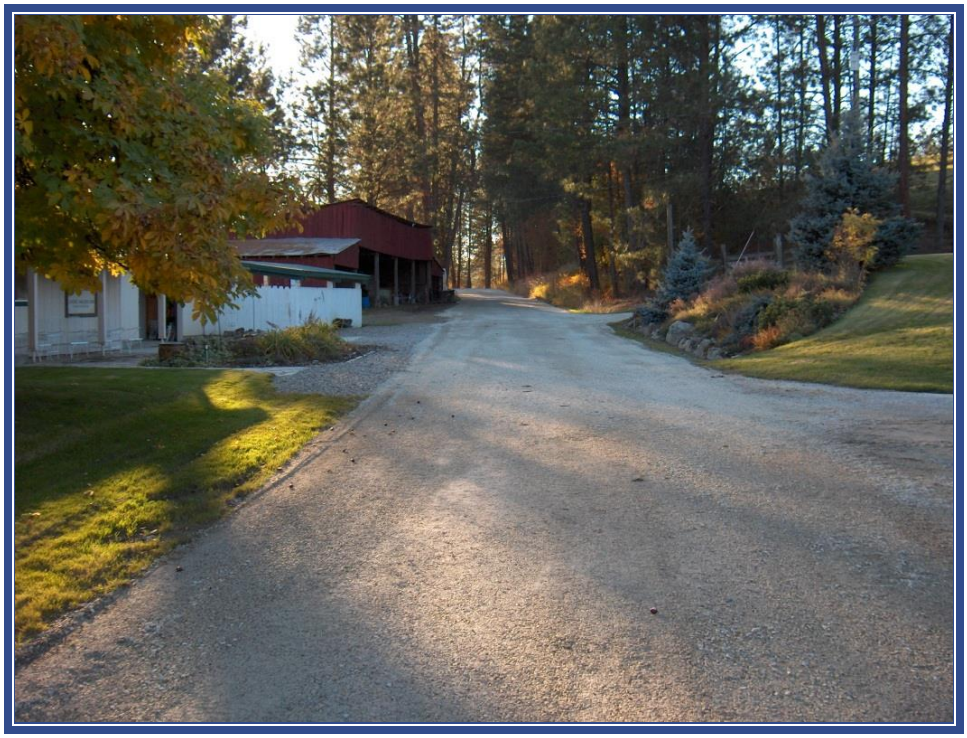
Basin Property Remediation Program (BPRP)

Year	Number of Property Addresses	Area Remediated (Acres)	Waste From BPRP Disposed of in Repositories (Truckloads)	Truckloads Per Acre
2007	373	60	9,240	154
2008	352	57	8,129	143
2009	547	149	18,780	126
2010	311	70	10,725	153
2011	243	64	9,795	153
2012	216	73	9,127	125
2013	128	44	3,500	80

IDEQ and the Trust remediated a total of 126 residential and two commercial property addresses, respectively, during the 2013 BPRP. This resulted in over 1.9 million square feet (500,000 of which was contributed by the Trust work) of contaminated property being remediated. The volume of waste material disposed of in the Big Creek and East Mission Flats repositories per acreage remediated was considerably lower than previous years due to modified waste management strategies including cut-and-fill and re-use. Also, remediation at the two commercial properties did not result in contaminated soil being sent to the repositories.

Work started on May 1, 2013, and continued until December 5, 2013. Activities at the repositories extended slightly beyond the beginning and end dates of the BPRP due to seasonal preparation and closeout, remedy protection and ICP related business. The cost of property remediation conducted by IDEQ was $8.8 million and the cost to the Trust for remediating the two commercial properties was approximately $760,000. This season the total cost of repository operations incurred by the Trust for the Basin repositories was approximately $550,000. The 2013 Trust budget for repository operations was $876,702. The table above contains information on properties remediated and truckloads of waste processed in repositories since 2007 for reference.

In 2011, EPA and IDEQ implemented a process to sample unpaved public roadway surfaces to determine if and where surface contamination with heavy metals may be present. The sampling process was completed in 2013 and the results of the process used to develop an unpaved roadway surface remediation program with a listing of unpaved roads to be addressed. A pilot project for unpaved road surface remediation on contaminated road segments in Shoshone County and East Side Highway District jurisdictions was prepared and implemented to develop surveying techniques, design approaches, standard drawings and technical specifications, and a standard Operation and Maintenance Agreement document for execution by the State of Idaho and the involved local road jurisdictions. The pilot project was completed in 2013. Based on the information learned from the pilot project two additional projects were designed and one contracted in 2013 and the other in January 2014 including 23 contaminated road segments. A total of about 21,000 linear feet of unpaved contaminated local jurisdictions roads were completed in 2013. The remaining road segments will be completed in 2014.



Unpaved Road Remediation

Property Remediation

Remedy Protection Projects

Remedy Protection is a high priority in the Upper Basin RODA and the SCIP developed by EPA in the fall of 2012. The objective of this work is to protect the installed human health related remedy from recontamination and scouring caused by heavy precipitation and tributary flooding. In 2012, planning, survey and design began on a number of projects in the urban areas of the Box and Upper Basin portion of OU-3 noted in the RODA. The Sierra Nevada Drainage Project in Wardner and the Grouse Creek Project in Smelterville were completed in 2013 under the management of IDEQ. The Third Street and Dewey Street Drainage Projects in Mullan and the Unnamed Creek Project in Silverton were competed by the Trust in 2013. The Trust and IDEQ also were working on designs for a number of projects in the Box and Basin to be contracted in 2014.

EPA and IDEQ continued analysis of data to define the remedy protection projects for the side drainage program noted in the RODA. Completion of the analysis process and preparation of an Explanation of Significant Differences (ESD) or other decision document is now projected to be completed in 2014, so that those projects can be incorporated into out-year programs of work.

Grouse Creek Remedy Protection Project

Grouse Creek Remedy Protection Project

Paved Roadway Surface Remediation Program

EPA and IDEQ implemented the roadway surface remediation program in 2013 to address the deterioration of contaminated paved road surfaces due to heavy traffic during site remediation activities to ensure road surfaces continue to serve as barriers that reduce or eliminate exposures to underlying contamination. The local road jurisdictions working with their engineering consultants and contractors under the program oversight of the EPA/IDEQ Roads Board completed about 41,000 linear feet of paved road remediation in 2013. The Board and jurisdictions also developed the anticipated program for 2014.

Damaged Paved Road Prior to Remediation 1st Street Pinehurst

Paved Road Remediation Complete 1st Street Pinehurst

Repository Development and Management

Introduction

Repository development and management is an ongoing process that must meet the demand for the disposal of historic mining related contamination for the entire Coeur d'Alene Basin environmental and human health related cleanup program. The cleanup program includes the BPRP, other cleanup actions performed by EPA, the Trust, and Potentially Responsible Parties (PRPs) performing cleanup under administrative agreements with EPA and IDEQ. It also includes waste generated by private parties and local government agencies under the ICP and Paved Roadway Remediation Program. Without the expansion of existing repositories or the construction of new repositories, continued cleanup and control of contamination could be compromised and potentially stopped.

The Upper Basin RODA specifies a two-part approach to waste management that utilizes both repositories and Waste Consolidation Areas (WCAs). Repositories are large, centrally located areas within the Upper and Lower Basin where contaminated soil excavated during cleanup actions is transported to, managed, and secured. WCAs will be located adjacent to or near the waste source areas and will serve for consolidation or placement of wastes from specifically identified sources such as mine and mill site remedial actions. Repositories and WCAs constructed under the remedy are engineered and constructed to reliably contain waste 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.

Three repositories were operated to receive remedial action and ICP waste in the 2013 field season. Big Creek Repository (BCR) near the community of Big Creek serves the Upper Basin, and East Mission Flats Repository (EMFR) near Cataldo serves communities in the Lower Basin. The Page Repository, located in Smelterville, receives the ICP and remedial action wastes generated by the cleanup activities conducted in the "Box." EMFR and BCR were operated by the Trust. Page is operated by IDEQ. In 2013 both IDEQ and the Trust, conducted the BPRP, and therefore directed waste to the repositories to minimize transportation distances and costs. In addition, the Page Repository is being expanded using recycled construction materials extracted from Basin waste streams which helps to further reduce operating costs. A summary of activity at each site is described in the sections below.

Big Creek Repository

During 2013, BCR received 1718 truckloads from the BPRP, 951 truckloads from the ICP, 838 truckloads from Remedy Protection Projects and 926 truckloads from Paved Roads Projects. Final in-place, compacted volume calculated from the truck load count was about 26,586 cubic yards. This material was placed and compacted in accordance with the fill plan outlined in the annual BCR Operations Plan. The Trust's site management contractor oversaw these activities including operation of the decontamination facility. In 2013, the water quality monitoring program at the site found that BCR operations had not impacted adjacent surface or ground waters.

BPRP, ICP, Remedy Protection Program and Paved Roadway Remediation Program wastes placed at BCR in 2013 was incorporated into the north side expansion area. Starting right after the last of these wastes were received, approximately October 18, a cap was installed over the waste and the year-end repository shutdown activities were initiated.

Year-end repository shutdown activities have been completed and include:

- Finish grading of the north and west slopes of the BCR North End expansion area were initiated on October 18, and completed on October 23. All slopes were cut/filled to a nominal 3:1 slope, and track-walked to prevent erosion.
- The active placement surface of the BCR North End expansion area was graded and sloped inward to prevent consolidated runoff from eroding any finished slopes.
- A storm water ditch (constructed of filter fabric and six inch cobble) was constructed at the interface between BCR North End expansion waste and the original tailing pond berm at the NW corner of the site to convey collected storm water off the waste mass.
- Additional storm water management controls including straw waddles and hydro-seeding with a native seed mix were installed on finished slopes to further protect against erosion of these surfaces.

At the end of the 2013 field season, the BCR contained approximately 546,000 cubic yards of waste soils. The total anticipated capacity is approximately 607,000 cubic yards including the final cap volume. Assuming similar production levels of waste from the BPRP, ICP, Remedy Protection Program and Paved Roadway Program, no more than two years of capacity remains in BCR. To ensure continued ICP capacity for the Upper Basin until operation of a new upper basin repository begins, careful management of wastes and the remaining BCR capacity will be critical.

East Mission Flats Repository

East Mission Flats Repository (EMFR) achieved fully operational status starting in 2010. In 2013, the EMFR repository received 2,843 truckloads from the BPRP, and 804 truckloads from the ICP. Final in-place, compacted volume calculated from the truck load count was about 21,882 cubic yards.

All exterior slopes of EMFR completed in 2013 have been cut/filled to a nominal 3:1 slope, and track-walked to prevent erosion. Clean soil treated with approximately 180 cubic yards of compost generated at the Page Repository was placed as a six inch cover over the 2013 lifts. This temporary cover will stabilize the exposed waste until the final cap and cover can be constructed. The exterior surfaces were further stabilized from erosion using straw waddles and hydro-seeded with a native vegetation seed mix.

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

Quarterly 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.

Page "Box" ICP Repository

The Page Repository, which has been operating for almost 20 years, is located just west of Smelterville. End of year surveys for placed and compacted wastes at Page are still in progress. However, IDEQ's Program manager estimated that during 2013 Page received and disposed of approximately 7,500 cubic yards of ICP waste generated in the Box. Most of these materials were generated by commercial developments. Page received approximately 20,000 cubic yards of remedial action wastes from the Paved Roadway Remediation Program in

the Box. Approximately 1,000 cubic yards of Remedy Protection wastes were also delivered from the Grouse Creek Project.

Page also received, processed, and re-used concrete, asphalt, organic materials and wood wastes from local communities and the Basin repositories. Approximately 10,000 cubic yards of wood wastes were removed from local waste streams and are being composted for use as soil amendments in repository caps and covers. Approximately 40,000 cubic yards of soils that have been tested and can be used in the BPRP have been salvaged and stockpiled at Page, and will be processed for use in the BPRP in 2014 and 2015 at significant cost savings to that program.

Due to the limited capacity remaining, the Page Repository has been redesigned to contain an additional 700,000 cubic yards of materials in order to support Box ICP operations. Preliminary work on expansion of the facilities began in 2012 and continued into 2014. The expansion will occur in two to three acre phases approximately every five years until the final footprint has been founded. Each repository cell will be initialized by constructing a "starter berm" from two to four foot concrete blocks, filled in by a "mattress" layer of one inch plus to twelve inch minus materials. The starter berms and mattress materials have been designed to exceed geotechnical criteria for structural stability and to platform placed ICP wastes above the 50 year flood conditions that may be realized in the West Page Swamp.

To mitigate for the expansion of the Page Repository into the West Page Swap, the West End Natural Infiltration Area (WENI) wetland restoration project was required. The WENI mitigation project is currently in a monitoring mode. Preliminary qualitative assessments of the mitigation project indicate the area is developing at a much faster than expected rate. In 2014 IDEQ will be delineating the WENI wetlands to better evaluate its performance. In the meantime, IDEQ has entered discussions with the Idaho Department of Fish and Game, and the Restoration Partnership regarding potential funding and implementation of the Robinson Creek Wetlands project, which may provide for the residual mitigation obligations for the Page Expansion.

New Repositories

In addition to the operational repositories, three separate areas for future disposal and permanent storage of mining related contamination are currently in some stage of development. The repository site selection process initiated in 2008 culminated in the identification of two new repository sites in the Upper Basin; the Osburn Tailings Impoundment (OTI) near Osburn and the Star Tailings Impoundment (STI) near Woodland Park. The third area under development is a WCA in the East Fork of Nine Mile Creek necessitated by the significant volume of waste identified for cleanup in that drainage. The progress toward transforming these sites into waste disposal facilities is described in the sections below.

During 2011, a thirty percent repository design report was initiated for the OTI site. Prioritization of remediation projects in Canyon Creek necessitated shifting to design of a repository located at the STI site. The design and development of the OTI site has been put on hold until prioritization of nearby projects necessitate a disposal facility at the location.

In 2013, the Trust began the design for the Lower Burke Canyon Repository (LBCR) located at the STI site in Canyon Creek. The collection of the pre-design data was completed in 2012. The 30% design document was made available for public comment in June 2013 and presented at an open house in Wallace. The 60% design was completed in November and is undergoing review. The first phase of construction at the LBCR is scheduled for late 2014.

Work also began for an initial characterization and investigation at the Big Creek Repository area to explore the possibility of a potential expansion of the site. In late 2013 field investigations were conducted at this site to determine if it is an acceptable waste disposal location. If conditions prove favorable, the potential expansion could provide significant long-term capacity for both ICP waste and other cleanup actions in the Upper Basin. This expansion could also utilize existing infrastructure and decontamination facilities at BCR resulting in significant cost savings. This evaluation is expected to continue into 2014 with the potential of initiating the design during 2014. Prior to proceeding with a design for this potential expansion area public input will be sought.

In addition to the regional repositories being developed to receive future waste generated by the Basin cleanup, during 2013 construction started at the WCA in the East Fork of Ninemile Creek. The WCA is located approximately ¼ mile northeast of the Interstate Mill site. The WCA design is intended to meet the disposal and borrow material needs of remedial actions being implemented in the Ninemile Creek watershed to reduce metals loading to Ninemile Creek.

The repository design program is a dynamic process driven by many factors, including waste stream volume estimates, priority cleanup site locations, funding availability and active mine site activities. As cleanup implementation plans are finalized and waste stream volume generation schedules are developed, repository designs, technical evaluations, and property acquisition will proceed at the repository sites currently identified through the public planning process or new sites best located to serve the cleanup program in the 10 year planning period.

Recreational Use Activities

The OU-3 Interim ROD includes remediation of Lower Basin recreational use areas to reduce human exposure to lead and other metals. Some priority recreational use areas were identified in the ROD with the understanding that other recreational areas will be evaluated for cleanup based on factors such as risk of exposure, location, and use.

In 2010, the TLG decided to move the work from the Recreation Areas PFT to the Lower Basin PFT (LBPFT). This transfer is to better connect the recreation areas work with the ecological remedy, work on sediment transport and recontamination in the Lower Basin, and natural resource restoration work. The remediation and development principles identified by the Recreational Area PFT (below) remained appropriate for 2013:

- Primary objective is to protect human health, particularly young children and pregnant women.
- Work with impacted communities and local residents when considering recreational site development.
- Create clean oases for public use (based upon community interests).
- Build upon existing features to enhance use and reduce risks to human health.
- Provide enough amenities to attract folks to clean “safe” areas; do not create attractive nuisances or beautification-only projects.
- Design individual recreational sites to be consistent with an overall strategy for Basin recreational areas.

In 2011, the LBPFT recommended the USFS Medimont Boat Launch remediation/rehabilitation project to the TLG and the BEIPC Board. The BEIPC supported members of the LBPFT and TLG to investigate funding resources to assist the USFS in rehabilitating the Boat Launch site and parking area. Although not funded through the BEIPC, TLG members assisted in the implementation of this project.

The USFS Recreation staff worked through designs and identified funding opportunities and in 2013, the USFS paved the access road and parking area, rehabilitated the boat launch, and installed a new restroom. In January of 2013, approximately 450 feet of riverbank was stabilized utilizing encapsulated soil lifts with coir fabric. This bioengineering technique did not require the use of any hard rock rip-rap. In February, USFS staff along with other stakeholders installed vegetative plantings along the riverbank.

Summer 2012 Looking Downstream

October 2013 Project Complete From the Same Photo Point

In 2012, IDEQ characterized contaminants at Gene Day Pond in Osburn to investigate community-generated ideas about rehabilitating the pond for recreational use. Additionally, the Trust funded historical research. In 2013, IDEQ and EPA concluded that the soil did not exceed human health contamination thresholds, would not require remedial action, and would not be eligible for additional superfund cleanup funds. The community may choose to continue the project with other support agencies such as the Idaho Fish and Game and funding options that support recreational development.

Upper Basin Remedies

In 2013, EPA continued implementing the cleanup actions identified in the RODA, for the Upper Basin pursuant to the priority actions identified in the 10-year Superfund Cleanup Implementation Plan (SCIP). The Upper Basin RODA is an interim remedy and covers a portion of OU-3 including the South Fork of the CDA River and its tributaries downstream to where they combine with the North Fork and some work in the "Bunker Hill Box" where EPA began cleanup in the 1980s. Specific actions for respective areas of the Upper Basin are discussed below.

To learn more about the Upper Basin RODA: Additional details including technical memos, a map, materials from past meetings, and community involvement documents may be found at: **http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/bh+rod+amendment**.

OU-2 Phase II Remedial Actions

The Upper Basin RODA includes several OU- 2 Phase II cleanup actions to address ongoing water quality issues. During 2013, EPA continued work on the highest priority action identified for OU-2 with the design of a groundwater collection system in the vicinity of the north side of the Central Impoundment Area (CIA).

During 2013, EPA applied field investigation data collected in 2012 to refine the local groundwater model and to optimize the groundwater collection system. The objective was to design a system that minimized groundwater collection flow rates, maximized hydraulic isolation and capture, and reduced surface leakage into the system from the SFCDR. The basis-of-design for an isolation (slurry) wall and series of extraction wells was finalized in September 2013. Additional field testing and a survey to determine more precise locations of existing utilities, property boundaries, and topography were performed in the fall, and the schematic design, 30%, is currently under review. At the schematic design phase, the groundwater collection system design was integrated with the Phase I Central Treatment Plant (CTP) upgrades, which are discussed below.

Concurrent with the CIA investigations, geotechnical explorations and pilot studies were completed at the CTP to support advancement of the treatment plant upgrade design. These upgrades are necessary to increase treatment efficiency and allow for treatment of the additional groundwater collected near the CIA. The basis-of-design for the Phase 1 CTP upgrades was completed in September and the CTP design was integrated with the groundwater collection system at the schematic design phase (approximately 30%), which was reviewed by EPA and IDEQ in November.

The CTP treats contaminated flows from the Bunker Hill Mine and will treat contaminated groundwater from the Box and eventually the Upper Basin as per the RODA.

Cleanup Actions in Ninemile Creek

In early 2011, the EPA identified nine sites in the East Fork of Ninemile (EFNM) Creek for priority cleanup. These sites were identified in the 2002 OU-3 ROD. During 2011 and 2012, work was begun to further characterize these sites, begin design work and select a location for a WCA for disposal of waste in the EFNM. In 2013 construction began on the WCA and it is now ready to receive waste from the Interstate Callahan site in 2014.

The following specific work was conducted in the EFNM Creek:

- Completion of the 90% Remedial Design of the Interstate-Callahan Mine/Upper and Lower Rock Dumps
- Continued Surface water monitoring in the EFNM.
- Remedial Design Completion at the WCA in the EFNM.
- Construction of the WCA, which includes the following activities:
    - Construct WCA haul roads. The roads in the WCA area were constructed between July and August. Approximately 4,800 linear feet (LF) of roadway base was prepared and surfaced with 3-inch-minus crushed rock. Roadway base and surfacing compaction was evaluated by proof-rolling.
    - Construct Interstate-Callahan (IC) haul road. Approximately 1,700 LF of roadway base between the IC Rock Dumps and the WCA was constructed during 2013.

- Quarry, crush, and screen rock to be used in the WCA and at other projects. Operations took place at the WCA quarry from August through November. Approximately 96,000 cubic yards (cy) of material (buttress fill, drain rock, riprap, 3-inch-minus rock, 1-inch-minus rock, and type 1 filter bedding) was produced from the quarry.
- Construct the north buttress. Construction of the north buttress began in August with preparation of the foundation and installation of the seep collection system. Buttress fill placement began in September and was completed in October. The north buttress was constructed with 32,750 cy of buttress fill.
- Construct the south buttress. Construction of the south buttress began in October with preparation of the foundation and installation of the seep collection system. Buttress fill placement began in October and was stopped in November because of winter weather. 23,980 cy have been placed in the south buttress.
- Work to address all applicable regulatory requirements prior to the start of construction. This includes compliance with the National Historic Preservation Act, Endangered Species Act, and Clean Water Act.

EFNM Crushing Operations

EFNM WCA Construction Operations

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 river banks, splay areas and river bed. The objectives of remediation in the Lower Basin focus on reducing risks to human health and wildlife by reducing particulate lead and improving habitat quality in the CDA River system. These remedial actions, in conjunction with pilot studies, are being considered for implementation under the 2002 OU-3 ROD.

EPA continued significant data collection and analysis efforts in 2013 to address key data gaps pertaining to contaminated sediment from historic mining and Lower Basin ecology. During August and September, 315 shallow cores were collected in the bed of the Coeur d'Alene River between River Mile 160 (the historic dredge pool near the Old Mission) and 131 (the mouth of the river at Harrison). Results of this data collection effort will be compiled and synthesized during the first quarter of 2014 and will provide a critical element for sediment transport modeling. Filling critical data gaps and development of a nested computational model is a multi-year effort, described in the Enhanced Conceptual Site Model (ECSM) (EPA, August 2010), that is improving the understanding of and ability to predict contaminated sediment transport in the Lower Basin.

A 2–dimensional hydraulic model was developed in 2013 and is currently undergoing calibration steps. Such modeling and data collection will further enhance the understanding of contaminated sediment sources, concentrations and transport dynamics, and will support the selection of pilot projects, future cleanup decision making, project prioritization and any possible future decision documents. In addition to aiding with the evaluation of remedial strategies, the 2-dimensional model will enable analysis of floodplain interactions and sediment transport pathways and will provide the basis for a sediment transport model to be developed in 2014.

Several geophysical techniques for mapping contaminated sediment layers in the riverbed were also tested by the EPA in 2013. The results of these tests have been closely scrutinized by engineers and scientists, and while the accuracy of these techniques was variable, the evaluations helped provide increased understanding of riverbed characteristics and previously collected data. In the continued effort to identify more efficient ways to gather information about the contaminated riverbed sediments in the CDA River, EPA will continue to search for new technologies and may select appropriate ones for testing as they are identified and proven.

The results of these data collection and model development tasks continue to be shared with the subgroups of the BEIPC (e.g. Lower Basin (LBPFT), TLG and CCC), interested stakeholders, and citizen groups after they are analyzed and summarized.

In the spring of 2013, the LBPFT and CCC assisted EPA in sponsoring two Lower Basin Pilot Project Forum sessions. The purpose of these sessions was to generate potential pilot project ideas for the Lower Basin from the public. EPA provided key findings regarding background contamination issues and challenges related to cleanup in the Lower Basin, as well as the pilot project selection process and criteria. EPA received 46 proposals from 24 individuals. The suggestions covered a range of ideas for reducing exposure to contamination, from controlling sources to using management practices to protect people and wildlife. EPA sorted the proposals, and through a multi-tiered selection process, evaluated them against EPA's objectives for the projects. Two pilot projects were selected for evaluation and potential design, addressing source isolation in river banks and water level manipulation at key waterfowl feeding areas in the Lower Basin.

Spokane River Remedial Actions Completed in Washington

The Washington Department of Ecology (Ecology) in coordination with EPA completed cleanup of heavy metals contamination in shoreline sediments at public access locations along the Spokane River in Washington in 2012 and the report that summarizes the actions taken at all of the beach sites from the Idaho/WA border to just upstream of Upriver Dam was finalized in 2013. In addition, the first post-remediation sampling event took place in late fall at the beach sites of Starr, Murray, Island Complex, and Harvard Road. Seventeen samples were collected from dry areas that are normally underwater during most of the year. Sampling locations were selected from areas with observed fine grained sediment deposition on top of the gravel caps. Samples will be analyzed for arsenic, cadmium, lead, and zinc. Sampling results will be reported in early 2014. The work was part of the overall EPA cleanup decision for the Basin OU-3, and was led and funded by Washington State. Cleanup actions were completed at Islands Lagoon (AKA: Centennial Bridge), Myrtle Point (AKA: Plantes Ferry Park), Flora Road, and Barker Road North.

Basin Environmental Monitoring

Basin Environmental Monitoring Plan (BEMP)

Over the last several years, EPA has been working to consolidate the Bunker Hill Superfund Site/CDA Basin three primary monitoring plans into one plan for the entire Basin. Historically there have been three CDA Basin environmental monitoring programs/plans: OU-3 Basin Environmental Monitoring Plan (2004), OU-2 Environmental Monitoring Plan (EMP, 2006), and OU-3 RA Effectiveness Monitoring Program (2007). EPA has been working to integrate the existing plans into a consolidated CDA Basin environmental monitoring plan to: 1) optimize the current monitoring under the various programs; and 2) enhance the overall program operation and effectiveness with respect to changes and adaptive management, laboratory coordination, field

sampling, data management, and reporting efforts. This work is still evolving and EPA is currently working with stakeholders on the approach, data, locations, and evaluation process. EPA anticipates updating the BEMP in phases and will likely have the revised BEMP finalized for the 2015 5-Year Review.

The major goal of the BEMP is to monitor and evaluate the progress of the remedy in terms of improving ecosystem conditions. Consistent with that goal, the BEMP will provide data relative to the following Basin-wide monitoring objectives:

- Assess long-term status and trends of surface water, sediment, groundwater and biological resource conditions in the Basin using rigorous statistical analysis.
- Evaluate progress toward meeting remedial action objectives (RAOs), applicable or relevant and appropriate requirements (ARARs), and preliminary remediation goals (PRGs). Improve the understanding of Basin environmental processes and variability to improve the effectiveness and efficiency of remedial actions.
- Provide data for CERCLA - required Five-Year Reviews of remedy performance.

During 2013, United States Geological Survey (USGS), IDEQ, USFWS and EPA continued BEMP and EMP sampling. Specific activities are outlined below:

- USGS collected 70 stream discharge and water-quality samples from a total of 18 OU-3 surface-water stations over a range of hydrographic events during Federal Fiscal Year 13. In addition, an initial round of sampling was conducted at 19 OU-2 surface water stations. All samples were analyzed for nutrients, selected trace metals and major ions, and suspended sediment.

- All gaging station stream discharge and water quality records for the BEMP gages for Water Year 2012 were worked up, approved, and included in the 2012 USGS annual data report for Idaho. The annual data summaries were completed and delivered to EPA during the first quarter of FY13. USGS personnel worked with EPA to upload all of the BEMP surface water quality data to STORET.

- Telemetry was installed at the Ninemile Creek Station at the mouth. All 13 of the continuous streamflow stations are now telemetered and real-time streamflow data for each can be accessed at **http://waterdata.usgs.gov/id/nwis/rt.**

- In August, the USGS reconnoitered the OU-2 surface water sites with consultant personnel. All of the sites were inventoried and site locations uploaded to the USGS NWIS database in preparation for storage of analytical results.

Plans are still underway to relocate the gaging station on the outlet of Coeur d'Alene Lake sometime during FY 2014. The current location continues to have difficulties with silt buildup and lacks sufficient velocity for high-quality measurements. Water quality samples will continue to be collected upstream of the outfall from the Coeur d'Alene STP.

In 2013, IDEQ administered semiannual groundwater and surface water sampling within OU-2 of the Box in accordance with OU-2 EMP. The sampling objective is to evaluate the OU-2 Phase I human health Remedial Actions conducted pursuant to the OU-2 ROD. In addition, the OU-2 sampling helps to inform and support the implementation of the Phase II water quality remedial actions identified for OU-2. During the 2013 sampling,

ground water sampling was conducted at 88 sites during the April high flow conditions and 97 sites during October and November low flow conditions. Surface water sampling was conducted at 20 sites during the spring of 2013. Fall surface water sampling was conducted by the USGS. In addition to measurement of typical field parameters, samples underwent laboratory analysis for a number of total and dissolved metals.

USFWS conducted waterfowl surveys from late February to late April 2013 in 26 lower basin floodplain wetlands recording observations of waterfowl use and tundra swan mortalities. During June, July and August Monitoring of Avian Productivity and Survivorship (MAPS) of songbirds was conducted for the fourth year at two locations in the Basin, Smelterville Flats and a Reference Site (located on the Lambrose Property) adjacent to the North Fork of the CDA River.

As part of a 5-year monitoring cycle, aquatic sampling occurred at 16 monitoring locations during July and August. One hundred and seventy fish and benthic macroinvertebrate tissue samples were collected for cadmium, lead, zinc, and arsenic tissue concentration analyses; fish, benthic macroinvertebrate, and periphyton diversity and abundance data collection and aquatic habitat data was also conducted at all locations. As the first year of a 5-year interval monitoring program, 83 bullhead fish livers were collected from 11 wetlands for metals analysis. Additionally, 79 waterfowl blood samples were collected for lead concentration analyses. This is the largest waterfowl blood data set to date in the Basin. In total, over 500 biological samples were collected in 2013.

In July and August, aquatic sampling was conducted at three sample sites on the EFNM Creek for the second year to capture the health condition of aquatic resources prior to the remediation of the Interstate-Callahan Upper and Lower Rock Dumps. Fish and benthic macroinvertebrate tissue samples were collected for cadmium, lead, zinc, and arsenic tissue concentration analyses at one sample site above the Interstate-Callahan Rock Dumps and one just below the Lower Rock Dump. Because no fish are present below the Success Mine Site, only benthic macroinvertebrates were collected for analyses. Fish (where present), benthic macroinvertebrate, and periphyton diversity and abundance data, as well as Aquatic Habitat Data collection was also conducted at these locations. All three locations will be sampled again post-remediation to evaluate the success and assist in guiding any additional work at this location, or future locations.

In July and August, Canyon Creek aquatic sampling was conducted for the first time; one long-term and three remedial effectiveness monitoring sites. Fish and benthic macroinvertebrate tissue samples were collected for cadmium, lead, zinc, and arsenic tissue concentration analyses at one reference site, approximately river mile 8.3; one site just downstream of Burke, ID, at river mile 6.0; a third site at river mile 3.2, downstream of the Gem Mine; and a long-term monitoring site in Woodland Park, below the Lower Burke Canyon Repository. Fish, benthic macroinvertebrates, and periphyton were collected at these locations for diversity and abundance, as well as Aquatic Habitat Data.

2013 BEMP sediment sampling in the Basin included the collection of two types of sediment samples: sediment suspended in the water column (suspended sediment) and sediment deposited on banks near the river channel and in off-channel lakes or wetland areas (depositional sediment). Suspended sediment sampling is conducted to obtain data on the amount and characteristics of sediment being transported at a given time and location in the river system. Six suspended sediment sampling stations are located in the Upper Basin: South Fork CDA River (SFCDR) near Shoshone Park, mouth of Ninemile Creek, mouth of Canyon Creek, SFCDR near Wallace, SFCDR near Smelterville, and SFCDR near Elizabeth Park. The Shoshone Park station is located upstream of most historical mining activities and is used to assess “background” metals concentrations. The Ninemile Creek and Canyon Creek stations are used to measure the concentrations and characteristics of sediment entering the

SFCDR from these two tributaries, where some of the most extensive mining practices and tailings discharges occurred. The Wallace station was added in 2012 to measure suspended sediment in the SFCDR immediately downstream of these tributaries. The Smelterville and Elizabeth Park stations provide spatial coverage of suspended sediment sampling stations in the SFCDR.

Six suspended sediment sampling stations are located in the Lower Basin: SFCDR near Pinehurst (mouth of the SFCDR), North Fork (NF)CDR near Enaville (mouth of the NFCDR), main CDA River near Cataldo, mouth of Latour Creek (a tributary), CDA River near Rose Lake, and CDA River near Harrison. The Pinehurst and Enaville stations are used to measure the characteristics of sediment entering the Lower Basin from the SFCDR and NFCDR. Latour Creek is the largest tributary discharging directly into the Lower Basin. The Harrison station provides data on sediment characteristics discharging from the CDA River into Coeur d'Alene Lake.

2013 was characterized by a series of relatively small (<10,000 cubic feet per second), short duration "rain-on-snow" events between mid-March and mid-May 2013 and suspended sediment stations were sampled just once during a single high-flow event in April 2013. Bulk and size-specific SSC and metals concentrations were measured for all samples collected during Water Year (WY) 2013. Bulk and size-specific SSC and metals concentrations were measured for all samples collected during 2013.

Depositional sediment sampling was conducted as soon as practicable (between May and June) after floodwaters receded at each sampling station to provide data on the amount and characteristics of sediment deposited by high-flow events.

Five near-channel depositional sampling stations are located in the Upper Basin. Sampling stations in the Lower Basin include 10 within-bank or near-channel locations. Six off-channel locations are used to assess sediment deposition rates and characteristics in shallow lakes and wetlands. These stations provide data on material deposited in wildlife habitat areas and can be used as a measure of sedimentation rates and risk characteristics associated with specific flood events. One additional near-channel depositional sampling station is located downstream of Coeur d'Alene Lake and Post Falls Dam on the Spokane River. This sampling location is used to assess the physical and chemical characteristics of sediment carried beyond Coeur d'Alene Lake. Analysis on depositional sediment is performed for seven metals as determined by the Ecological Risk Assessment (EPA, 2002) to be contaminants of ecological concern.

EPA will continue to make analytical results from site surface water, sediment, and groundwater sampling available on a web-accessible data management system; human health-related data will not be included in this database. For the last several years, EPA has made site environmental monitoring data available through a web page. Nationally the STORET system is transitioning to the new WQX data management system and the site environmental monitoring data will be accessible at a new website: **http://gispub9.epa.gov/cda/.** EPA is working with USFWS to incorporate the biological monitoring data into WQX.

Part 2 –
Other BEIPC Activities and Responsibilities:

Lake Management Activities

The Coeur d'Alene Lake Management Plan (LMP), written by the CDA Tribe and IDEQ, was finalized in 2009. Since then the Tribe and IDEQ have been implementing core aspects of the LMP. LMP related accomplishments in 2013 consisted of the following:

Science Core Program

- In November and December, Tribal and IDEQ staff held a comprehensive meeting on the science program, reviewed their monitoring program through 2013, and began planning for a comprehensive report of monitoring data collected by the Tribe and IDEQ since 2007.

- Routine lake monitoring on seven sampling visits was conducted by Tribe and IDEQ staff.

- IDEQ LMP staff produced the 2011 water quality monitoring report for the northern portions of CDA Lake and provided it to the TLG for review.

- IDEQ continued collecting samples in selected bays for pico-plankton (very small but highly productive algae) and heterotrophic bacteria.

- IDEQ continued collecting surface sediment samples in selected bays for presence and abundance of benthic invertebrates, along with trace metal concentrations.

- The Tribe collaborated with University of Idaho (UI) on a "Water, Sustainability and Climate" proposal to the National Science Foundation. If funded, the work will include research on phosphorous cycling and transport in the watershed, as well as mesocosm experiments to examine phytoplankton response to the removal of zinc from lake waters.

- IDEQ completed rooted aquatic plant surveys within Swede, Everwell, Gotham, Kid Island, and Mica Bays. Sampling of plants within quadrats by SCUBA is used to characterize plant community diversity. Collected plants are measured for biomass as well as plant tissue content of phosphorus, nitrogen, and trace metals. In 2013, Eurasian watermilfoil was found in Mica Bay. Avista Corporation hired divers to hand-pull the infestation. Annual reports of the plant surveys are forwarded to Avista. IDEQ is a cooperative partner under Avista's aquatic plant management program for non-Tribal waters.

- The Tribe continued its milfoil treatment program in its waters during 2013. Work included continued herbicide treatments and some bottom barrier treatment. The Tribe also conducted pre and post treatment monitoring to determine efficacy of treatments as well as conducted water quality sampling during the treatments. All herbicide treatments were conducted using containment booms to provide for increased effectiveness.

- The Tribe hired a new Water Resource Specialist who is analyzing milfoil treatments to examine overall treatment efficacy and spread of milfoil.

Education & Outreach Core Program

- LMP staff continue to maintain a Facebook page with items relating to activities and information of the Lake Management Plan. **https://www.facebook.com/CdA.LMP**

- The Coeur d'Alene Basin Lake*A*Syst manual was finalized and published in April 2013. Several outreach events were held to share the manual with the general public. Staff also began developing plans for survey work with UI and Washington State University (WSU) to better understand stakeholder

perceptions of water quality and stewardship. The information gathered will be used to develop an effective outreach campaign for the Lake*A*Syst program.

- In June, LMP staff conducted its third year of water quality training for camp counselors at Camp Cross in Loffs Bay and Camp Four Echoes in Windy Bay. Camp staff are trained on: water clarity measurements using a Secchi disc, collection of water samples for pH and dissolved oxygen measurement, collection and identification of aquatic insects along the lakeshore, and rake toss for collection and identification of rooted aquatic plants. Camp staff are given equipment and supplies to conduct this water quality sampling with summer campers.

- For the fourth consecutive year, LMP staff participated in a water quality educational booth at the North Idaho Fair in August, with partners from EPA and BEIPC.

- LMP Staff contracted with a consultant to develop a website that will have background information on the LMP, as well as monitoring reports, Lake*A*Syst materials, and general information on Coeur d'Alene Lake. The site, **www.ourgem.org**, is scheduled to be available to the public in early January 2014.

- Throughout 2013, LMP staff provided updates on LMP activities to a variety of community groups. LMP staff was also involved in the University of Idaho "Back to the Earth" watershed education program; the Coeur d'Alene Tribe's Rock'n the Rez camp; Women in Science Fair at North Idaho College (NIC); and water science activities at Ramsey Elementary, Hayden Meadows, and the Coeur d'Alene School District's CDA4Kids afterschool program. Staff also presented at the Osprey Cruise, sponsored by the Coeur d'Alene Chamber of Commerce.

- LMP staff collaborated with UI Community Water Resource Center staff to develop a stormwater working group, as well as a watershed education collaborative, who are working together to identify joint projects and curriculum to support the reduction of pollutants in the watershed.

Nutrient Inventory & Nutrient Reduction Core Program

- Tribe and IDEQ staff analyzed three years-worth of water quality data collected in the St. Maries/St. Joe River watersheds as part of the Nutrient Source Inventory and have identified sub-watersheds that are substantial nutrient contributors. These sub-watersheds will be targeted for landowner outreach in 2014. Further land use analysis is underway to refine implementation priorities within these identified sub-watersheds.

- Work was completed on the St. Joe River utilizing Avista funds under Section III of the Idaho State §401 WQ Certification agreement (FERC relicense). This stabilization project treated approximately 6,000 linear feet of river bank along the Shadowy St. Joe Campground - wildlife/wetland area. This is a cooperative project with Avista, IDEQ, IDFG, Benewah Soil & Water Conservation District, Natural Resource Conservation Service (NRCS), and Idaho Soil and Water Conservation Commission. IDEQ continued a survey of erosion using bank pins along the St. Joe River from St. Maries upstream to St. Joe City and updated a bank erosion survey map to reflect recently-treated areas.

- The §319 grant project for river bank stabilization along the CDA River in the Medimont area was completed in January 2013. This project was sponsored by the Kootenai-Shoshone Soil & Water

Conservation District. About 4,000 feet of river bank (IDFG property) was treated using the standard NRCS design. Cost share funds are from Avista under Section III of the relicense agreement and from IDFG.

Partnerships with Other Entities

- LMP staff continued to be involved in the CDA River and Lake Tributaries Watershed Advisory Group (WAG), and the St. Joe/St. Maries Rivers WAG. These WAGs have completed 5-year reviews of existing TMDLs for these water bodies.

- LMP staff worked with the BEIPC Executive Director to provide LMP activity updates to the TLG, CCC, and BEIPC during quarterly meetings and for written reports. LMP staff participated in EPA meetings of the lower CDA River Project Focus Team.

- LMP staff provided review and comment to land use applications throughout the Basin where there can be potential impacts to Lake or tributary water quality.

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

Flood Control and Infrastructure Revitalization

The BEIPC through the office of the Executive Director continued to work with the Idaho Silver Jackets Working Group including Shoshone County, U.S. Army Corps of Engineers, FEMA, Idaho Bureau of Homeland Security, Idaho Department of Water Resources, and the National Weather Service to develop an approach to dealing with potential flooding problems and levee management in the Upper Basin. These organizations established and formalized the implementation of the CDA River Watershed Management Group to develop and implement a shared watershed flood risk mitigation and floodplain management vision and plan for the CDA River watershed from the South Fork headwaters to Harrison, Idaho.

The continuous inter-governmental collaborative group will develop a unified community vision and plan for managing the floodplain and flood risk and identify strategies that the community can pursue in the near and long term to mitigate flood risk and manage floodplains by implementing the following:

- Increase and improve flood risk communication and outreach among local, state, Tribal and federalagencies;
- Lead and facilitate strategic planning and implementation of mitigation, response and recovery actions to reduce the threat, vulnerability and consequences of flooding in the watershed;
- Create or supplement a process to collaboratively identify issues and implement or recommend solutions;
- Identify and implement ways to leverage available resources and information between agencies;
- Increase and improve flood risk communication and outreach;
- Promote wise management of existing and future flood control infrastructure and the investments made in those structures;
- Work with the U.S. Army Corps of Engineers Institute for Water Resources to develop a process that will be effective with the stakeholders and political environment in the watershed;

- Collect and repackage existing watershed data, including existing hydraulic modeling information, to conduct a preliminary assessment of flood risk in the watershed;
- Identify actions/strategies that can be implemented with available resources and programs to reduce flood risk.

IDEQ and the BEIPC Executive Director implemented in 2013 a process to inventory all of the drainage and flood control facilities in the side drainages of the South Fork CDA River. That inventory will be used to work with the CDA River Watershed Management Group in 2014 to develop an Operation and Maintenance Plan for these facilities including assignment of O&M responsibilities to insure that they are properly maintained.

The BEIPC continued to assist Upper Basin communities and utilities in pursuing funding to implement the Upper Basin Drainage Control and Infrastructure Revitalization Plan (DCIRP). A number of the priority drainage control projects and roads needs in the DCIRP are now being implemented as remedy protection projects and Paved Roadway Surface Remediation projects included in CERCLA/Superfund cleanup activities so infrastructure and Superfund remedial needs are both being met by the work.

Restoration Partnership

The Restoration Partnership have implemented a number of restoration projects within the Basin. The Trustees include the USFS, BLM, USFWS, the CDA Tribe, and the State of Idaho; represented by the IDFG and IDEQ. The purpose of the Trustees' restoration projects is to restore natural resources injured due to the release of hazardous substances as a result of mining and mining related activities in the Basin. The Trustees completed or are working on a number of projects throughout the Basin and upon request, provide updates to the BEIPC at quarterly meetings. In 2013, projects included ongoing vegetative success monitoring at the Pine Creek restoration site, ongoing monitoring of the agriculture to wetland conversion project in the Lower Coeur d'Alene River, and land acquisition along Robinson Creek.

Throughout 2013, the Restoration Partnership started developing the draft Restoration Plan that will be part of a Programmatic Environmental Impact Statement (RPEIS). The team started developing the RPEIS mid-to-late fall and will continue working together on the document while coordinating with EPA in their remedial efforts as identified in the RODA. Work that was conducted in 2013 includes, but is not limited to:

- **Pine Creek Restoration**
  Stream channel and floodplain restoration activities lead by BLM such as riparian plantings and ongoing survival rate monitoring of 21,000 riparian plantings that were installed in 2010 and 2011. Trench plantings that were installed in 2012 were also monitored for success.

- **Wetland Restoration in the Lower Basin**
  Ongoing monitoring of wetland plant growth, vegetative weed management, wild rice plantings, and water level management (i.e. maintenance of water pump and repair of dikes).

- **Robinson Creek**
  In 2013, an additional 10 acres adjacent to the original Robinson Creek property was purchased by the IDFG utilizing Natural Resource Damage Assessment (NRDA) settlement funds and was incorporated into the Coeur d'Alene River Wildlife Management Area

complex. Extension of the property boundaries facilitates more flexibility in restoration design and water level management to benefit waterfowl and other wildlife.
In 2013, IDEQ, IDFG, and their consultant began collaborating on conceptual designs of the water management system for restoration.

The Restoration Partnership also continued to coordinate with the BEIPC through Project Focus Teams and BEIPC quarterly meetings. The Restoration team met with EPA and IDEQ Project Leads throughout the year on draft design documents from 30-90% phases. In particular, the team met with the Trust on the 30/60% Design documents for the work in EFNM Creek. The team also met with EPA, IDEQ, and IDEQ's design consultant on the following remedy protection projects; Grouse Creek, Unnamed Creek, Meyer Creek, and Shield's Gulch.

Challenges Ahead

The cleanup effort in 2013 was focused on a mix of items; remediation of human health risks resulting from contaminated residential and commercial properties and public roads; extensive work by the Trust in the EFNM Creek Drainage on ecological remedies; and EPA directed work to address the contaminated ground water problems in the Box noted in the Upper Basin RODA. About 3,500 properties have been remediated in the Basin and unpaved road surface remediation in the Basin will be completed during the 2014 construction season. Human health related projects continue to be a priority, but cleanup work in fish and wildlife habitat areas, surface and ground water, and inactive mine and mill sites is moving forward with EPA working with the BEIPC, IDEQ, the Trust, other cooperating agencies and stakeholders.

Besides the RODA for the Upper Basin, the involved governments and agencies are continuing work on Lower Basin ecological issues and project planning. 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.

Other major challenges include: management of the ICP by PHD; development of any needed additional waste repositories for disposal of remedial action and ICP wastes; continued implementation of the RODA for the Upper Basin; assistance to the local jurisdictions in their implementation of an infrastructure revitalization and storm water drainage control program; development of a solution to major flooding issues in Lower Pine Creek and the South Fork of the CDA River; and continued coordination with the CDA Tribe and State's efforts to implement the Lake Management Plan.

With the ASARCO bankruptcy settlement and the Hecla settlement, a large amount of funding is available for environmental remediation and natural resource restoration actions. Careful action through the implementation of the Upper Basin RODA any additional needed amendments plus diligent work on the part of the Natural Resource Trustees is necessary to ensure that the available funds are expended in a judicious manner. Assuring sustainable funding intended to advance cleanup as planned in the RODs and amendments, along with operation and maintenance of the implemented remedies and restoration of injured natural resources still represents a significant challenge in the future.