BEIPC Coeur d'Alene Basin Calendar Year 2014 Work Plan

INTRODUCTION

This plan covers environmental cleanup and improvement activities in the Coeur d'Alene Basin scheduled for CY 2014 by the Basin Environmental Improvement Project Commission (BEIPC) and coordinating agencies in accordance with their responsibilities as stated in the Memorandum of Agreement (dated August 2002). Actions noted in the plan are intended to implement the goals and objectives of the BEIPC's 2014-2018 Five Year Work Plan. This plan has been prepared by the Technical Leadership Group (TLG) and the Executive Director with review by the Citizen Coordinating Council (CCC), and is based on recommendations for activities and work to be performed in CY 2014. The work plan is organized as follows:

> Part 1 – Environmental cleanup work performed through the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) by the EPA and State of Idaho or work performed by Potentially Responsible Parties (PRP).
>
> Part 2 - Other BEIPC Activities and Responsibilities

Part 1 includes work to implement the Interim Record of Decision (ROD) for Operable Unit 3 (OU-3) and the Upper Basin Interim ROD Amendment (RODA) for OU-2 and 3.

Part 2 includes work and responsibilities the BEIPC has assumed based on recommendations from the National Academy of Sciences (NAS) Study and requests from the State of Idaho and citizens and communities of the Basin.

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

PART 1 – ENVIRONMENTAL CLEANUP WORK

For Part 1, the scope of the proposed work corresponds to the level of funding and the funding sources anticipated for CY 2014 and work anticipated to be performed by the responsible parties. The proposal includes the following work:

- Residential and Community Property Remediation including Private Drinking Water Supply and unpaved road surface remediation; Basin Property Remediation Program (BPRP).
- Blood Lead Screening in Children
- Recreation Use Areas
- Remedy Protection Projects

- Paved Roadway Surface Remediation Program
- Repository Development and Management
- Upper Basin Remedies
- Lower Basin Remedies
- Basin Environmental Monitoring

1.1 HUMAN HEALTH ISSUES

Remediation of human health exposures is a remedial action priority as defined in the OU-3 ROD. It includes maintaining the Institutional Controls Program (ICP) and conducting cleanup in residential, community and recreational areas in the Upper and Lower Basin. The ROD also identifies mine and mill sites that represent risks to human health. The RODA addresses human health, remedy protection and ecological remedies.

1.1.1 Residential and Commercial Property Remediation

In 2013, the Basin Property Remediation Program (BPRP) remediated approximately 130 residential properties and two large commercial properties. This resulted in approximately 1.7 million square feet being remediated. In 2013, IDEQ and EPA also developed guidelines to prescribe remediation on large properties that 1) are areas subject to frequent recontamination due to flooding; 2) contain manmade barriers (e.g. fences) or natural barriers (e.g. forested areas, open waters or swamps) that impede access for exposure; or 3) will be remediated in the near future under another planned remedial program. The purpose of the evaluation is to make sure limited remedial action funds are spent to protect human health for as large or broad of a population base as possible.

During 2014, IDEQ is nearing the end of the BPRP having completed the majority of eligible properties. The remaining properties consist of a more limited number of properties remaining in the Basin that qualify for the program, properties whose owners are either unknown or unavailable, or residential property owners who do not want to participate because they object to the need or mission of the program. These circumstances present particular challenges to the program for 2014. A revised strategy for locating and working with property owners will be devised and implemented in the 2013/2014 winter. The numbers of residences targeted for remediation will remain uncertain until late spring or summer of 2014.

IDEQ plans to continue to complete the BPRP within specified geographical areas. This effort will allow IDEQ and EPA to eliminate the present uncertainty associated with what is remaining to do by evaluating the inventory of properties and unpaved private roads. This will ensure all eligible properties are addressed. In addition, these efforts will allow IDEQ to track the remaining properties that need to be sampled and remediated as property owners change their minds, property ownership changes, or connections with non-responsive owners have been made.

In 2012 as part of the BPRP, IDEQ implemented a pilot construction project on a number of segments of contaminated public unpaved (gravel and dirt) roads in the Basin. The

sampling of all public unpaved roads and the pilot construction project were completed in 2013 with about 12,000 linear feet of unpaved roads capped and remediated. Two additional projects and contracts with a total of about 23 unpaved road segments that had heavy metal concentrations over the action levels were implemented in 2013 and that work will be completed in 2014. After completion of the contracted work in 2014, all public unpaved roads in the Basin will have been cleaned up as Type II commercial facilities and have the upper 6 inches meeting the cleanup criteria for lead and arsenic.

1.1.2 Blood Lead Screening in Children

The Panhandle Health District (PHD) has been screening children for elevated blood lead levels in the CDA Basin since 1996 as a public health service and as part of the Lead Health Intervention Program. The purpose of the screening is to identify children with elevated blood lead levels and provide follow-up from a public health professional to identify ways to reduce lead exposures. The screening program also provides data to assess the effectiveness of the Basin cleanup efforts. The cleanup action decisions are not based on annual blood lead testing results. Rather, the goal is to prevent lead exposures that could result in elevated blood lead levels.

In 2012 the Centers for Disease Control established a new threshold value for blood lead levels in young children. According to CDC's fact sheet, "This new level is based on the population of children aged 1-5 years in the U.S. who are in the top 2.5% of children when tested for lead in their blood. Currently, that is 5 micrograms per deciliter of lead in blood." Previously, CDC's blood lead level of concern" was 10 micrograms per deciliter. In response to this change the PHD has used the 5 micrograms per deciliter as the trigger for follow up since 2012.

Blood lead screening will continue in 2014 with the inclusion of a $30 per child tested incentive. The incentive was increased to $30 from $20 in 2013 to encourage greater participation in the program.

1.1.3 Recreation 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.

Since 2010, work on recreation use areas has been the responsibility of the Lower Basin PFT (LBPFT). The LBPFT is coordinating 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 below remain appropriate for 2014:

- 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 implementation of the U.S. Forest Service (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 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.

In 2012, IDEQ characterized contaminants at Gene Day Pond to investigate community-generated ideas about rehabilitating the pond for recreational use. Additionally, the CDA Work 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.

2014 Tasks

Specific tasks have not been completely identified or developed by the LBPFT but will be more fully explored and discussed by the PFT and could include:

1. Work with the Community Involvement Coordinators (CICs) to identify what else can be done to make recreation users aware of human health risks along the river corridor and to further educate people on how to minimize any risks.

2. Continue work with PHD and IDEQ on Riley Raccoon Recreation Education Program to support the Lead Intervention Program. A primary role of the IDEQ CICs is participation and development of lead health awareness and support of the PHD Lead Intervention Program. The target area for recreation-related lead intervention education is the Basin including shorelines and floodplains of the river system (with exception of the North

Fork) and recreation areas on hillsides near the Bunker Hill Box. In 2014, LBPFT members will continue to support the use of Riley Raccoon and family as an educational tool at various outreach events, one being the North Idaho fair which is jointly staffed by EPA, IDEQ, the Coeur d'Alene Tribe, and the BEIPC.

3. Collaborate with other agencies on creation of additional "clean" areas for people to recreate, if the opportunities arise in 2014.

4. PHD will coordinate efforts prior to spring run-off to ensure that recreational sites are 'cleaned off' after deposition of contaminated sediments occurs. Every spring, PHD staff visits the recreational sites and issues informational letters and photographs to the appropriate land management agencies. These agencies will continue to coordinate efforts to install additional signage and close the sites if there appears to be a threat to human health.

5. EPA, CDA Tribe, and IDEQ CICs will assist land management agencies with addressing human health messaging for signs along the trail or in other areas in the Lower Basin.

1.1.4 Remedy Protection Projects

Remedy Protection is a high priority in the Superfund Cleanup Implementation Plan (SCIP). 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 2014, work on projects in the Box and Upper Basin portion of OU-3 noted in the RODA will continue. That work will include completion of design, advertising, award and construction of the Little Pine Creek and Portland Road projects in the Box; Completion of design and construction work on Shields Gulch and Meyer Creek, and design work on several projects including Mill Street and Revenue Gulch drainage projects in the Basin.

EPA and IDEQ will complete additional analysis to define the remedy protection projects for the side drainages to the same levels as the projects noted in the RODA. Completion of the analysis process and preparation of an Explanation of Significant Differences (ESD) or other decision document will be completed in 2014 so that those projects can be incorporated into out-year programs of work.

1.1.5 Paved Roadway Surface Remediation Program

EPA and IDEQ developed a roadway surface remediation strategy in 2012 in recognition of some road damage caused by heavy truck traffic during remediation work and potential ongoing risk posed by deterioration of paved roads in remediated residential areas. The purpose of the program is to address the deterioration of paved road surfaces that are underlain by contamination. Work will ensure road surfaces continue to serve as

barriers that reduce or eliminate exposures. In 2013, the Roads Board worked with the nine local road jurisdictions to develop their paved roadway surface remediation programs. The Roads Board consists of representatives of EPA and IDEQ. This process resulted in over 41,000 linear feet of paved road remediation in 2013 and the program is projecting about 58,800 linear feet in the Box and 55,800 in the Basin for a total of 114,600 linear feet or 21.7 miles of paved road remediation in 2014. The scheduling of that work is dependent on the local jurisdictions. Accomplishments in this program will be reported in the annual accomplishment report for the BEIPC.

1.2 REPOSITORY DEVELOPMENT AND MANAGEMENT

Background

Repository development and management is an ongoing process that must meet the demand for historic mining related contaminated waste disposal for the entire Basin environmental and human health related cleanup program. This includes the BPRP, other cleanup actions performed by EPA, the CDA Work Trust, and PRPs. It also includes waste generated by private parties and local government agencies under the ICP. Without the operation and expansion of existing repositories or the construction of new repositories, continued cleanup and control of contamination could be compromised and potentially stopped. The effort is coordinated through the BEIPC.

There are two operational repositories within the OU-3 area, Big Creek Repository (BCR) and East Mission Flats Repository (EMFR) and a third, Page Repository, in the Box. The BCR has been receiving waste since 2002. In 2011 an expansion plan was completed and implemented that added about 116,000 cubic yards (cy) to the existing capacity, bringing the total build-out capacity of BCR to about 616,000 cy. EMFR has been operating for four years and serves both upper and lower basin BPRP projects and ICP activities. The Page Repository usually receives approximately 12,000 cy of ICP wastes generated annually by projects in the Box.

BCR is located at the mouth of Big Creek Canyon and currently serves the Upper Basin. In 2013 BCR will have received approximately 25,000 cubic yards of waste. Since opening in 2002 the BCR has received approximately 526,000 cubic yards of waste material. In all, BCR has received over 85% of the 616,000 cy total design capacity including the expansion in 2011 and has an expected remaining operational life of no more than two years.

EMFR is located north of Interstate 90 off of Exit 39, near Cataldo. Construction at EMFR commenced in August 2009 and waste disposal continues at this site. The total waste disposal quantity for 2013 is estimated to be approximately 28,000 cy. In the last four years of operation EMFR will have received approximately 146,000 cy of waste material, about 37% of the total waste soil capacity at this facility.

The Page Repository, which has been operating for almost 20 years, is located just west of Smelterville. Having reached its previous design capacity in 2010, Page has been

redesigned to be expanded and contain an additional 700,000 cubic yards. Expansion of the facilities began in 2012 and the foundation of the first 2.5 acre expansion cell has been completed in 2013. As a result of the expansion footprint into the West Page Swamp, IDEQ completed its first phase of wetlands mitigation projects by reclaiming 18 acres of the West End Infiltration Area by constructing wetlands there. Due to an extraordinary year in which the Paved Roadway Remediation Program remediated over 41,000 feet of paved roads Basin-wide, communities installed new subsurface infrastructure, and EPA and IDEQ initiated the Remedy Protection Program approximately 60,000 cubic yards of wastes were delivered to Page. Operation of the facility included reprocessing concrete, asphalt and wood wastes for foundations, roads and compost respectively. This resulted in either stockpiling the materials for future use or relative to expansion re-using approximately 40,000 cubic yards of concrete, gravel and asphalt to serve as a foundation for Expansion Cell #1.

Objectives

The Basin Repository Work Plan centers on four objectives: (1) operations at BCR and EMFR; (2) increasing repository volume in the Upper Basin; (3) updating of the Waste Management Strategy (WMS) including considerations for waste reduction or consolidation; and (4) planning for the final closure of BCR. Specific tasks to achieve these objectives are summarized below:

The Box Repository Work Plan remains focused on two objectives: (1) develop repository capacity to sustain ICP support in-perpetuity; and (2) significantly alter waste stream management in the Box to minimize disposal and maximize re-use of high volume waste materials.

Basin Repository Operations

With both EMFR and BCR open to receive waste, the BPRP will include both Lower and Upper Basin property remediation in the 2014 construction season. Unless significant changes are made in the BPRP plans, an estimated 50,000 to 70,000 cubic yards of waste material will be generated by the BPRP in 2014. Additionally, ICP waste volume projections for next year is estimated to be as high as 5,000 cy combined for both BCR and EMFR (based on 2010-2013 averages).

Anticipating that need, the Basin repository operations include but are not limited to the following tasks: receiving and placement of approximately 50,000 cubic yards of BPRP, Remedy Protection, Paved Roads and ICP waste soils; and segregation and appropriate re-use or disposal of non-soil waste associated with remediation activities. These non-soil waste materials include such items as wood and root wads, concrete, asphalt, large (greater than 6 inch) rock fragments and miscellaneous demolition debris. Other tasks associated with repository operations include: equipment decontamination, site stabilization, erosion and sediment control installation, and surface and ground water monitoring and associated reporting.

Box Repository Operations

In order to support Box ICP operations, Page Repository will be expanded in two to three acre phases approximately every five years until the final footprint has been established. 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 1 inch plus to 12 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.

Increasing Upper Basin Repository Capacity

New Basin repository capacity will be needed to contain waste generated by cleanups identified in the 2002 OU-3 ROD and the Upper Basin RODA, which will focus largely on cleanup activity at large-volume contaminant source areas such as inactive mine and mill sites and alluvial floodplain deposits during the cleanup of stream channel and riparian areas.

The Upper Basin RODA adopted a two-part approach to waste management that utilizes both waste consolidation area (WCA) and repositories. The emphasis in the mine and mill cleanup in upper Ninemile Creek will be to store waste in the WCA located near the Interstate and Callahan mine and mill sites. Siting, design and construction of the WCA was performed by the CDA Work Trust and that work is covered in the Upper Basin Remedies section of this work plan.

In order to address the waste disposal needs for other cleanup actions a repository siting process driven by public input has identified two new repository sites to support cleanup activities in the Upper Basin, the Osburn Tailings Impoundment (OTI) area north of Osburn, and the Star Tailings Impoundment (STI) area near Woodland Park (now referred to as Lower Burke Canyon Repository (LBCR). Baseline site characterization data have been collected at both sites and design for OTI proceeded in 2011. A 30% Design Report was nearly completed for the OTI site in late fall 2011. Due to a change in remedial project planning from the RODA process, and to coordinate closely with Hecla's activities at the Star Mine Complex in Burke at that time, the OTI design was put on hold to focus on the more immediate needs for repository capacity in Canyon Creek. Pending the outcome of further evaluations of the LBCR and a potential expansion of the Big Creek Repository, both discussed below, it is unclear at the present time as to whether the OTI site will need to be developed at all.

Engineering design work on the Lower Burke Canyon Repository (LBCR) located at the STI site was initiated late in the 2011calendar year. Design activities by the CDA Work Trust for LBCR began in late 2012 and continued through 2013 and are expected to be completed by the spring 2014. Construction of the first phase of the repository by the Trust is expected to begin in the summer of 2014 with completion by the fall 2014. The

site is expected to be ready to begin receiving ICP waste materials by late 2014 or early 2015.

The Trust also began initial characterization and investigation activities at BCR to explore the possibility of a potential expansion of the site. 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. These evaluation activities are expected to continue into 2014 with the potential of initiating the design during 2014, depending upon the results of the investigation. Prior to proceeding with a design for this potential expansion area public input will be sought. 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.

Waste Management Strategy Update

The WMS is a key document that guides repository siting and waste disposal or re-use. It contains the most current estimates of future waste volumes and implementation schedule forecasts within geographic areas. The WMS will be updated to incorporate additional information regarding the projected waste volumes generated by OU-3 remedial activity and remaining repository capacities. The revised WMS is being developed jointly by IDEQ and EPA and in coordination with the TLG and/or Repository Project Focus Team (PFT) when appropriate.

Planning for Future Final Closure of BCR

It is estimated that BCR will reach the designed capacity during 2014 or 2015 depending on the waste stream management options selected. Additional planning is required for final closure including finalizing cover designs, assuring convenient ICP disposal areas are available at all times and finalizing operation and maintenance requirements for the closed facility. Much of the work planned for 2014 is related to finalizing the engineered cover design. This includes evaluating groundwater and surface water quality at the site to ensure that the remedial action objectives defined in the RODA are achieved in a cost effective manner. The final design specifications will be updated with any new information and finalized for construction of the final cover. Once the cover design is finalized the operation and maintenance requirements can be developed for post closure care of the facility.

1.3 ENVIRONMENTAL REMEDIATION ACTIONS

Environmental remediation actions include work in the Upper Basin described in the RODA and work in the Lower Basin described in the OU-3 ROD.

1.3.1 Upper Basin Remedies

This work includes remediation identified for the Upper Basin which includes the South Fork Coeur d'Alene River and its tributaries above its confluence with the North Fork.

The Upper Basin RODA identifies $635 million of work in the Upper Basin including work at 125 mine and mill sites. The EPA Site Cleanup Implementation Plan (SCIP) identifies the priority setting process and outlook for sequencing the work over the next 10 years. This document will be updated on an annual basis as part of the adaptive management process to incorporate lessons learned as the work moves forward[1]. Additional information about the RODA and prioritization of cleanup actions including technical memos, meeting presentations, and community involvement documents are located at the following web site:
http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/bh+rod+amendment

The goals of the RODA include:

- Prioritizing Upper Basin/Box source areas for cleanup to improve water quality and address risks to human health and the environment,
- Moving forward on the OU-2 Phase 2 cleanup to improve water quality in the South Fork of the Coeur d'Alene River
- Addressing changes in water treatment to accommodate additional contaminated water,
- Focusing on particulate lead through source control actions which pose a risk to human health and ecological receptors, and
- Protecting remedies in community areas from tributary flooding and heavy precipitation events.

The prioritized cleanups under the RODA are expected to provide significant improvement to surface water quality and will reduce the contribution of contaminated groundwater to surface water. There will also be reduced particulate lead in the Coeur d'Alene River and downstream areas. This in turn is expected to reduce the recontamination potential in the Lower Basin and other downstream areas. Humans and wildlife will also have a reduced risk from exposure to contaminated mine waste.

This BEIPC 2014 work plan focuses on those cleanup actions that have either already started or planned for the coming year.

[1] An update including lessons learned from 2013 is currently being prepared.

The following is expected to be the focus of the work in 2014.

1. In 2012 the CDA Work Trust identified a WCA in the East Fork of Ninemile drainage that could potentially contain all of the mine waste materials located throughout the Ninemile drainage. The Trust began design of the WCA in 2012 and completed that design in the spring 2013. The first phase of the WCA construction began in the summer of 2013 and is expected to be completed by late fall 2013. The first waste from the Interstate Callahan mine site is expected to be placed in the East Fork Ninemile WCA in 2014.

2. The design of the Interstate Callahan mine site began in late 2012 and continued through 2013. Design of the Interstate Callahan mine site is expected to be completed by early 2014. Complete removal of the mine waste from the Interstate Callahan mine site is scheduled to begin in early 2014 with completion of cleanup by the fall of 2015.

3. In 2013 the CDA Work Trust began to perform remediation of large commercial properties as part of the BPRP program. The Trust completed two large properties in 2013 and is expected to complete additional work under the BPRP program during 2014. The scope of the BPRP work for 2014 is still being determined and will depend on the overall Trust Budget and other work being performed with other settlement funds.

4. In 2013, the Trust in conjunction with the EPA and the COE began review of the drainage features for the previously remediated Rex site in Ninemile drainage. Review of ongoing water quality monitoring at this site indicates that significant metal loading is still occurring below this site. The primary focus of the review is to evaluate how the water drains through the site and develop some basic actions that will cutoff infiltration from Rex Creek as it transits through the site. The review is expected to continue into 2014 with the potential for conducting small construction projects in 2014 targeted at enhancing the drainage features that convey water across the remediated site.

5. In 2012 the Central Treatment Plant (CTP) master plan was updated in order to plan for phased expansion of the plant to accommodate additional water for treatment from OU-2 and OU-3. The planning and design for these upgrades was initiated with water pilot testing in the fall of 2012. The design for the upgrades will be complete in 2014 with construction starting in 2015.

6. Planning for the water collection actions for OU-2 identified in the RODA was initiated in 2012. In the fall of 2012 additional pre-design data was collected near the Central Impoundment Area. Remedial design efforts were initiated in 2013 including additional geotechnical investigations. Remedial design for both the groundwater collection system and CTP upgrade will continue through 2014 with construction planned for 2015.

1.3.2 Lower Basin Remedies

Work described in the OU-3 Interim ROD for the Lower Basin includes actions for wetlands and lateral lakes, river banks, splay areas and river bed dredging. Objectives of remediation in the Lower Basin focus on reducing particulate lead and other heavy metals in the Basin ecosystem.

EPA invested in significant data gathering efforts in 2013 to address key data gaps pertaining to the relationship between Basin ecology and ongoing effects and movement of historic mining related contamination. This is a multi-year effort, described in the Enhanced Conceptual Site Model (ECSM, EPA release 2010), focused on filling critical data gaps and computational model development to better understand and predict contaminated sediment transport in the Lower Basin. Such modeling and data collection will further enhance the working hypothesis for contaminated sediment locations, concentrations and transport and will support the selection of pilot projects, future cleanup decision making, project prioritization and future decision documents. The results of these data gathering efforts continue to be shared with the subgroups of the BEIPC (e.g. Lower Basin PFT, TLG and CCC), interested stakeholders, and citizen groups after they are compiled and synthesized. Data gathering and synthesis will likely continue in 2014.

In 2014, the Lower Basin PFT will continue to assist the TLG and provide updates on new technologies, pilot projects for consideration, and project ideas in order to implement the ROD for OU-3 where remedial actions are identified and where the potential for recontamination is low; the LBPFT will pursue the identification of both pilot projects and larger scale projects in the Lower Basin that could benefit from remedial action and restoration work and are of low risk of recontamination. This will be accomplished while initial cleanup priorities focus on addressing source stabilization in the Upper Basin and decreasing recontamination potential in the near term.

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 from the public for the Lower Basin. EPA provided information on background contamination and challenges with such projects including key findings about the ECSM. The next steps included describing the criteria and process for submitting potential pilot project proposals. EPA received 46 proposals from 24 individuals. The suggestions covered a range of ideas for reducing exposure to contamination, controlling sources, and using best management practices. EPA sorted the proposals into categories, and then evaluated them against EPA's objectives for the projects. The final selections combine elements of several different proposals.

Two pilot projects to address source stabilization and human health issues and water level manipulation at key waterfowl feeding areas in the Lower Basin were selected and are now moving forward. Design for recreational site source stabilization is in process by EPA and its consultant and implementation is scheduled for 2014 by the CDA Trust. A key objective of this project is to isolate contaminated river bank soils and serve as a

model for long term erosion resistance on the CDA River. The Kahnderosa Campground in Cataldo has been selected for this river bank stabilization pilot project and is being coordinated with the upland remediation being performed at the site under the BPRP. EPA is assessing key factors associated with selection and implementation of potential water level management pilots at several sites and will be determining viability of those sites in 2014. Selection and commencement of design at one water level manipulation location remains an objective for 2014.

Documents that will be generated as a result of the Lower Basin work include modeling work plans, model development reports, data reports and other technical memorandums that are generated as more is learned about contaminated sediment transport and source areas in the Lower Basin. These documents will be available to the subgroups of the BEIPC (e.g. LBPFT, TLG and CCC), interested stakeholders and citizen groups.

The actions being planned and undertaken in the Upper Basin discussed above are expected to improve water quality and reduce the movement of contaminated sediments downstream into the Lower Basin. Thus, the Upper Basin cleanup is expected to complement cleanup activities in the Lower Basin by reducing the loading of contaminated materials to the watershed and reducing the potential for recontamination from the Upper Basin to the Lower Basin.

Also in 2013 a wetland restoration project was initiated on Idaho Department of Fish and Game managed property near Robinson Creek and the Schlepp wetlands. The wetland restoration will create clean waterfowl habitat. The property acquisition and restoration work was only made possible through the collaboration of multiple entities including Idaho Fish and Game, Idaho Transportation Department, The Restoration Partnership, EPA, IDEQ, and potentially private land owners. Superfund dollars will be used to construct the wetlands in return for the wetland mitigation credits required for the expansion of the Page Repository. Work plans include the development of a comprehensive mitigation plan, wetland delineation, and preparation of a 30% design. This project is an excellent opportunity for collaboration between multiple entities and it will provide valuable experience for learning how to get the most out of natural resource restoration funds.

Refer to the Restoration Partnership (RP) section for more details on restoration work that will be conducted in the Lower Basin in 2014.

1.4 BASIN ENVIRONMENTAL MONITORING

The Bunker Hill Superfund Site currently has 2 primary monitoring plans which govern the long-term status and trends and remedial action effectiveness monitoring, the OU-3 Basin Environmental Monitoring Plan (BEMP, 2004) and OU-2 Environmental Monitoring Plan (EMP, 2006). Over the last two years EPA, in coordination with their partners, has been working on updating and combining the BEMP and EMP and will continue this process in 2014, with the expectation that any changes to the monitoring program will be implemented in 2015. This process will utilize existing quantitative and

qualitative tools to evaluate and optimize the current program; in addition, this effort includes the opportunity for input and coordination with stakeholders on the approach, data, locations, and evaluation process. EPA is working with EPA headquarters office to conduct an optimization of the groundwater monitoring program and hopes to include surface water, sediment and biological resources in this work. This optimization effort will begin early in fiscal year 2014 and is part of the ongoing effort to update the BEMP and EMP.

EPA and partners continue to monitor environmental conditions based on the schedule and locations laid out in the Draft April 2012 BEMP Quality Assurance Project Plan (QAPP). The major goal of the current and revised 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.
- 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.

In addition to the regular monitoring activities, USGS is also developing a report on the groundwater surface water interaction that will be part of the 2015 5-year review. This report should be completed by the end of 2014 and will be shared as part of EPA's analysis of BEMP data.

EPA continues 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 has transitioned 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/#. If needed, EPA will assist interested stake holders in accessing the information.

PART 2 – OTHER BEIPC ACTIVITIES AND RESPONSIBILITIES

For Part 2, the 2014 work plan recognizes a number of work items that the BEIPC has elected to be involved in and items of work needed to accommodate some of the recommendations of the NAS study.

The plan includes the following work:

- Lake Management Activities
- Flood Control, and Infrastructure Revitalization
- Communications and Public Involvement
- Restoration Partnership

2.1 LAKE MANAGEMENT ACTIVITIES

The OU-3 Interim ROD did not include CDA Lake in the Selected Remedy nor is there a remedy identified in the Upper Basin RODA. The OU-3 Interim ROD anticipated that the State, Tribe, federal agencies, and local governments would implement a Lake Management Plan (LMP) outside the CERCLA process using separate regulatory authorities. The updated LMP was approved in 2009 and implementation has been underway. Implementation of the LMP is an adaptive management process and adjustments may be necessary as monitoring and other data are obtained and analyzed.

As referenced in Subsection 4.5.1 of the 2009 LMP, many of the agencies, governments, and other stakeholders that address water quality in CDA Lake are represented on the BEIPC, TLG or CCC. As such, these various BEIPC forums represent unique opportunities for LMP coordination and implementation which IDEQ and the Tribe intend to fully utilize.

Examples of activities envisioned for implementation of the LMP in 2014 include, but are not limited to the following activities, grouped by LMP goals:

Research and Monitoring:

1. In 2010, the Tribe and IDEQ initiated the 3 Year Nutrient Source Inventory (as identified in Section 3.3, Objective 3 of the LMP) in the St. Maries/St. Joe River watersheds. The Tribe and IDEQ selected 7 sites where water quality has been monitored. After evaluating the available data, Tribe and IDEQ have decided to continue collecting flow data in the St. Maries/St. Joe watershed for another year, as well as analyze GIS data to characterize land use. IDEQ will be installing an automated sampler in the mouth of Wolf Lodge Creek in 2014, as well as several turbidity meters in the creek to begin collecting nutrient information.

2. In support of the Nutrient Source Inventory, IDEQ will revisit and measure the St. Joe River rebar bank pins, along with conducting an update and remapping of the

2010 riverbank erosion types between St. Maries and St. Joe City. A survey of riverbank erosion on the lower 9 miles of the St. Maries River will also be initiated.

3. Continue joint water quality monitoring throughout Coeur d'Alene Lake for metals, nutrients, physical parameters, and biological communities. Throughout 2014, the Tribe and IDEQ will continue utilizing the ELCOM-CAEDYM and LOADEST models. These models are utilizing real-time data that is collected from Coeur d'Alene Lake including the establishment of four meteorological stations. In the summer of 2013, the Tribe installed the data logger buoy on the lake at Benewah Lake (collecting parameters such as water temperature and dissolved oxygen at multiple depths). The location of the logger buoy for 2014 has yet to be determined.

4. In 2013, the Tribe and the University of Idaho submitted a joint NSF proposal to support social and ecological modeling of the watershed. In 2014, we will continue to partner with area research universities to pursue funding to support research on nutrient sources in the watershed, nutrient cycling in lakebed sediments, and strengthening the predictive ability of ELCOM-CAEDYM.

5. Present the draft annual monitoring reports for TLG review and comment when they are available.

Nutrient Reduction and Implementation

1. Participate in Coeur d'Alene Basin Watershed Advisory Groups in order to coordinate implementation opportunities. Should the consortium led by the Kootenai Shoshone Soil and Water Conservation District be successful in receiving funding from the USFS Western States Competitive Grant, the LMP team will provide support on the development and implementation of a community action plan for Fernan, Blue, and Wolf Lodge Creeks.

2. Provide an annual overview of LMP implementation activities to the CCC and solicit their input.

3. A set of tables identifying management entities and actions aka; Management Action Tables (MATs) affecting lake water quality in the Coeur d'Alene basin was created as part of the 1996 LMP effort. These MATs were updated and revised through an audit process conducted during 2007 by the Tribe and IDEQ using EPA CWA grant funding, available through the BEIPC and are a key component of the 2009 LMP. The LMP identifies an audit of these MATs every 5 years. The audit process will be initiated in 2014 by IDEQ and the Tribe.

4. Prioritize and initiate riverbank stabilization projects along eroding riverbanks in the St. Joe and lower St. Maries Rivers. IDEQ and Tribal staff will collaborate with Avista, the Natural Resource Conservation Service (NRCS), the Soil &

Water Conservation Districts, the Counties, and local landowners. A project under the IDEQ agreement with Avista will begin in the fall of 2013. If all permits can be obtained the project would stabilize approximately 7,000 feet along the Shadowy St. Joe recreational area on the St. Joe River utilizing rock and vegetation with minimal earth disturbance. Completion of this project may continue into 2014.

5. The Tribe will continue to implement the invasive Aquatic Plant Survey and Treatment Program within their current jurisdiction, and IDEQ will continue implementing their aquatic plant surveys within northern pool bays.

6. The LMP Coordinators will continue to be involved in the Lower Basin PFT and support implementing projects identified in the 2002 OU-3 Interim ROD.

Outreach and Education

1. The LMP Education/Outreach Program, Lake*A*Syst (a home owner's guide to environmental stewardship within the Coeur d'Alene Basin), has been finalized and printed. Tribal and IDEQ staff are developing marketing and outreach materials, including a joint website and supporting printed media to involve property owners in the voluntary Lake*A*Syst Program. We are also collaborating with Washington State University on developing visualization materials and potential demonstration projects that would help landowners understand how native vegetation/ buffers can be incorporated into landscaping. Targeted outreach to select bays will begin in 2014.

2. Participate in joint educational outreach events such as: the North Idaho Fair, Leadership Coeur d'Alene, Women in Science, training of camp counselors at Camp Cross, Camp Four Echoes (Girl Scouts), and UI - Coeur d'Alene camps (Back to the Earth, school water quality days). We will add at least one more summer camp to our camp counselor training in 2014.

3. Continue to participate on an Advisory Committee to support the University of Idaho (UI) Extension Master Water Steward Program (IDAH20), and be involved in activities of the newly developed UI Community Water Resource Center.

4. Launch joint Lake Management website with media campaign.

5. Update and reprint *Our Gem* Coeur d'Alene Lake map.

6. Revise all electronic and print media to complement *Our Gem*/Lake Management website and increase public awareness of current monitoring and implementation efforts.

7. Launch outreach program for local businesses that helps increase commercial involvement in storm water abatement and promotion of water quality, including

volunteer recognition program and partnering on adoption of techniques such as rain gardens, green roofs, etc.

8. Present LMP activity updates to various groups throughout the year such as the North Idaho/Washington Lakes Conference, homeowners' associations, environmental organizations, and chambers of commerce.

9. Coordinate with city and regional partners to explore potential for demonstration projects and educational signage in local waterfront parks.

Coordination with BEIPC forums will maximize opportunities for information exchange and advice working under the BEIPC MOA and work plans. Future coordination with the BEIPC recognizes that IDEQ and the Tribe retain their respective decision making authorities under CERCLA and the Clean Water Act (CWA).

2.2 FLOOD CONTROL AND INFRASTRUCTURE REVITALIZATION

The BEIPC through the office of the Executive Director continues to pursue support and funding for an analysis of flood control needs and the existing levee system in the South Fork CDA River and Pine Creek. The Executive Director will continue to work with the Idaho Silver Jackets Working Group including Shoshone County, COE, 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. The BEIPC will continue to assist Upper Basin communities and utilities in pursuing funding to implement the Upper Basin Drainage Control and Infrastructure Revitalization Plan (DCIRP).

2.3 COMMUNICATIONS AND PUBLIC INVOLVEMENT

During 2014, the BEIPC and CICs from EPA and IDEQ will work together to strengthen public involvement, communication, and education related to BEIPC activities. The CCC will continue to be the focus organization to facilitate the BEIPC public involvement process.

The BEIPC Executive Director, Assistant, Project Focus Team Chairpersons, and CCC Chairperson may request EPA and IDEQ CICs to support public outreach regarding BEIPC activities. EPA and IDEQ CICs may in turn request their support for public involvement activities. Following is a partial list of communications and public involvement work items and coordination opportunities:

- Make presentations to public groups.
- Explore and suggest opportunities for increasing public attendance at meetings and encouraging public involvement.
- Consider local community interests as laid out in the 2012 Technical Assistance Needs Assessment to support meaningful public involvement interactions in the BEIPC and CCC meetings.

- Support the CCC in exploring ways to maximize the group's value to interested local people.
- Sponsor and participate in a joint booth for public outreach/education at the North Idaho Fair.
- Help coordinate public education/outreach for BEIPC-sponsored activities such as open houses, workshops, training, or public meetings.
- Provide peer reviews for each other upon request to provide input or different perspectives on communication pieces (including Riley Raccoon materials, brochures, communication strategies, fliers, and posters).
- BEIPC/CCC leads the development, production and distribution of brochures, advertising and meeting announcements.
- Upon request, CIC's may support BEIPC with suggestions for publicizing BEIPC events and meetings (ie: communications strategies).
- BEIPC may inquire about CIC availability to participate in distributing meeting announcements or supporting BEIPC meetings if coordinated in advance.

2.4 RESTORATION PARTNERSHIP

The CERCLA natural resource trustees in the Coeur d'Alene Basin are the United States (represented by the USFS, U.S. Fish and Wildlife Service and U.S. Bureau of Land Management), the Coeur d'Alene Tribe, and the State of Idaho (represented by the Idaho Department of Fish and Game and IDEQ). A series of lawsuits followed the Superfund designation in the Coeur d'Alene Basin for response costs and natural resource damages. Natural resources injured by contamination included surface water, groundwater, riparian resources, benthic macro-invertebrates and phytoplankton, fish and wildlife, soils and sediments.

Under CERCLA, settlements were reached with all parties. Following the final 2011 settlement agreement, the Trustees entered into a MOA to address the planning and implementation of restoration for natural resources and associated services injured, destroyed or lost as a result of the release of mining-related hazardous substances into the Coeur d'Alene Basin. As specified in CERCLA the funds will be dedicated to projects that restore, rehabilitate, replace, and/or acquire the equivalent of the injured natural resources. The Trustees' goal is to restore the health, productivity and diversity of injured natural resources and the services they provide in the Coeur d'Alene Basin.

In 2013, the Trustees branded their new name as the Restoration Partnership (RP) and, began developing a Restoration Plan and Environmental Impact Statement (EIS) following NEPA. This plan will be a comprehensive guide for restoration of injured natural resources in the Coeur d'Alene Basin and will be coordinated with remediation activities.

The public scoping phase was completed in the late summer of 2013. In 2014, activities will include the release of the draft Restoration Plan/EIS for public comment.

During 2014, the RP will continue to coordinate with the BEIPC, participate in PFTs, and provide updates on restoration planning efforts and ongoing implementation of projects that were identified in the 2007 Interim Restoration Plan. The NRRT will continue to coordinate with EPA to integrate restoration planning with remediation. The following work will occur for the wetland restoration project along the Coeur d'Alene River:

- Wetland Restoration: oversight of restoration activities, finalization of the Interim West Field Restoration Plan, and finalize a draft long-term Operation and Maintenance Plan for the easement. Ongoing wetlands habitat management will continue as well as success monitoring.
- 2014: BLM will continue effectiveness monitoring and evaluation of floodplain stabilization and riparian planting activities in Pine Creek. Specifically, monitoring will include channel response from bank stabilization measures, survival of riparian plantings, and natural vegetation establishment.