

BEIPC Coeur d'Alene Basin Calendar Year 2008 Work Plan

INTRODUCTION

This plan covers environmental cleanup and improvement activities in the Coeur d'Alene Basin scheduled for CY 2008 by the Basin Environmental Improvement Project Commission (BEIPC) in accordance with its 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 2007-2011 5-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 their recommendations for activities and work to be performed in CY 2008. This work plan for 2008 is organized as follows:

Part 1 – Work Funded with Superfund or Other Cleanup Monies

Part 2 – Activities and Work Funded Through the Clean Water Act (CWA) Grant Program

Part 3 – Other BEIPC Activities and Responsibilities

Part 1 includes work to implement the Operable Unit (OU) 3 Record of Decision (ROD) with funding provided by the U.S. Environmental Protection Agency (EPA's) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Superfund program or other environmental cleanup funding.

Part 2 addresses the work to be accomplished with CWA Grant funding. In Fiscal Years 2002, 2003, and 2004, funding under the CWA was provided for the BEIPC to be used for *“...research, investigation, experiments, training, demonstrations, surveys, and studies related to the causes, effects, extent, prevention, reduction, and elimination of pollution.”*

Part 3 includes work and responsibilities the BEIPC has assumed based on recommendations from the National Academy of Sciences (NAS) Study and requests from the 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 – OU-3 ROD WORK FUNDED WITH SUPERFUND OR OTHER CLEANUP FUNDING

Funds made available through EPA's CERCLA appropriations are available for environmental remediation on privately owned lands and state, county and local government owned properties. EPA's CERCLA funds cannot be used for cleanup of sites on public (Federal) land. Work proposed on public lands is the responsibility of the federal land management agencies. The State of Idaho is supplying funding through the Idaho Department of Environmental Quality (IDEQ) for environmental cleanup activities.

For Part 1, the scope of the proposed work corresponds to the level of funding and the funding sources anticipated from EPA and State funding for CY 2008 for implementation of the ROD. The proposal includes the following OU-3 ROD work to be funded with Superfund or other cleanup monies:

- Evaluation of Pre ROD OU-3 Removal Actions
- Repositories
- Residential and Community Property Remediation
- Recreational Use Activities
- Mine and Mill Sites
- Blood Lead Screening in Children
- Upper Basin Ecological Remedies
- Lower Basin Ecological Remedies
- Basin Environmental Monitoring

1.1 EVALUATION OF PRE ROD OU-3 REMOVAL ACTIONS

Various parties have performed CERCLA removal actions in Basin sub-watersheds including Canyon, Ninemile, Pine, Moon, and Grouse Creeks and along the Upper South Fork and Lower Main Coeur d'Alene River to cleanup contamination, protect human health and restore ecological systems. During late 2007 the Mine and Mill Site PFT began work on this issue. In 2008 existing information for these sites will be collected and incorporated into the database developed for prioritizing the mine and mill site work. This will facilitate the review of existing information and prioritization of further data collection in order to evaluate the status of these sites in the context of the OU-3 ROD and if warranted, incorporation into the OU-3 remedial action program.

1.2 REPOSITORIES

Repository development is an ongoing process that must address the demand for mining related contaminated waste disposal for the entire Basin environmental clean up program and the Institutional Controls Program (ICP). Without new repositories, continued cleanup and control of contamination is compromised and potentially stopped. IDEQ is the lead in developing repositories and the effort is coordinated with the BEIPC and EPA and funded by the EPA.

In 2007, IDEQ and EPA drafted a preliminary Waste Management Strategy (WMS) with the specific objective of estimating both the short-term and long-term repository needs for the Upper and Lower Basin. The WMS is intended to be used as a blunt tool and not a precise tool in estimating repository capacity and volumes of mining related contaminated waste materials. The primary function of the WMS is to provide managers with an estimate of when actions are needed to site, design, and construct the next repository. Based on a comparison of estimated remaining repository capacity and projected waste disposal needs for the Upper and Lower Basin cleanup and ICP activities, the team was able to predict the general vicinity and size of where additional repository space would be needed. This work should be complete by early 2008. This information will be presented to the Repository PFT for consideration in the discussion of potential new repository locations. It is anticipated that the PFT will assist in prioritizing repository needs and potential locations.

During 2008, the Big Creek Repository (BCR) will continue to be used for the residential and community remediation program and ICP in the Upper Basin. Closure activities are currently planned to begin for the BCR no earlier than 2012. As a result of changes to the original engineering design and resulting site modifications, the revised remaining capacity of the BCR is now approximately 265,000 to 270,000 cubic yards. Depending on projected average annual cleanup and ICP waste volumes there could be a need for a new repository site to be ready to accept waste from activities in the Upper Basin by late 2012.

Current plans are to have the East Mission Flats Repository (EMF) open for limited operations in the spring of 2008 to accommodate ICP and some cleanup wastes for the Lower Basin. Based on public comments to the 30% Design Report, the preliminary design was modified and a 60% Design Report process initiated. The 60% design document is being prepared and is scheduled to be available for review by the Repository PFT and the TLG and CCC in the second quarter of 2008. The public will be provided with a summary of the 60% design following the completion of the 60% Design Report. EPA's Office of the Inspector General will be conducting an investigation of the East Mission Flats Repository related to public comment requirements for the 30% Design report under CERCLA.

As a result of the preliminary WMS evaluation the agencies and BEIPC will be looking for a new repository in the Upper Basin to replace the BCR by 2012. This will require a re-evaluation of the 2002 repository needs analysis and potential negotiations with private parties and federal and state agencies to locate a new site.

To reduce haul distances and make compliance with the ICP less impacting on Basin property owners and managers the agencies have evaluated the feasibility of ICP waste transfer stations at various locations around the Basin to accommodate small quantity ICP wastes. The feasibility study included recommendations for transfer station locations accessible for communities and/or rural residential areas. It also included conceptual designs of transfer stations that could be constructed around the Basin. The information gathered on the siting and operation of transfer stations lead to the

conclusion that constructing transfer stations at this time would not be cost effective. It was recommended to the BEIPC and TLG that the agencies work with the Panhandle Health District during the initial implementation of the Basin ICP to ascertain need, prior to incurring the expense of constructing and operating a transfer station facility, especially in the Lower Basin.

IDEQ will be evaluating the concept of satellite collection stations to serve remote areas of the Basin during 2007-2008. In support of satellite collection stations, IDEQ has begun preliminary discussions with the Idaho Transportation Department (ITD) to allow for the temporary use of select properties to serve the Lower Basin. The sites could be used as "satellite" collection stations and would only be used on a limited and seasonal basis to supplement the waste haul trailer program administered by Panhandle Health District (PHD). The waste haul trailer program consists of small one cubic yard trailers that can be checked out from PHD for discreet and small ICP waste hauling. The satellite collection stations would be temporary in nature and not require substantial improvements. As PHD works through the ICP for various locals in the Basin, the need for satellite or transfer locations may become more apparent. Should the need arise the IDEQ is working to be positioned to respond to a need for these types of facilities. The goal is to be in a position to respond to such a need within a few months time.

1.3 HUMAN HEALTH ISSUES

Remediation of human health exposures is a remedial action priority as defined in the OU-3 ROD. It includes maintaining an ICP and conducting cleanup in residential and community areas as well as recreational areas. The ROD also identifies mine and mill sites that are used for recreation and represent risks to human health.

1.3.1 Residential and Commercial Property Remediation

During 2008 IDEQ plans to remediate 400-500 properties. The properties will be located mainly in target areas including the upper CDA Basin. During the spring and fall areas located at lower elevations will be targeted. High risk properties will be the top priority for remediation and IDEQ expects about 25% of the properties will be classified as high risk. High risk properties are those properties on which children less than 7 years of age or pregnant women reside.

The health and safety of the public, staff, contractors, and consultants is an important component of the remediation program. That component will again be emphasized in 2008.

In 2008 DEQ plans to sample approximately 750 properties to allow for planning for the current and future year remediation efforts.

1.3.2 Recreation Use Activities

The OU-3 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 use areas may be evaluated for cleanup based on factors such as risk of exposure, location and use. The remediation and development principles identified by the Recreation PFT (below) remain valid and appropriate for the 2008 work plan:

- 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.
- Design to minimize long-term operation/maintenance costs and repository requirements.
- Create clean oases for public use (based upon community interests).
- “Reality check” of the scale and scope of what can be done.
- 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.

During the 2007-2011 planning period, the PFT will complete development of a Basin Recreational Management Strategy and Guidelines Document involving agencies, local communities, impacted land owners and other stakeholders. Many agencies and entities, including BLM, Idaho Fish and Game (IDFG), the CDA Tribe, Idaho Department of Parks and Recreation (IDPR), Kootenai County Parks and Waterways, and the Forest Service, manage recreational use in the Basin. All entities will benefit from the establishment of a coordinated approach to administration of recreational uses.

In 2008, the PFT will update the contaminated recreation use area inventory to include both developed and dispersed recreation sites needing potential remedial actions, and initiate the Basin recreational management strategy and guidelines formation process.

1.3.3 Mine & Mill Sites

The OU-3 ROD identified a number of mine and mill sites with potential for human health exposures, primarily from recreational use. Prioritization of mine and mill sites in the Upper Basin was primarily based on risks of lead exposure to recreational users. Remedial designs address these risks as well as any impacts to water quality. The mine and mill sites listed in the ROD that appeared to represent a potential risk to human receptors are as follows:

- Day Rock in Nine Mile Creek

- Upper and Lower Constitution, Highland Surprise, Nabob, Nevada Stewart, Hilarity, in Pine Creek
- Standard Mammoth, Sisters and Burke Concentrator in Canyon Creek
- Hercules, USBM, and Silver Dollar in South Fork
- Golconda, Morning No. 6, and National in the Upper South Fork
- Rex mill site in the east fork of Nine Mile Creek (added subsequent to the ROD)

The Constitution tailings piles, the Rex mine and mill site, the Golconda site, and the Sisters waste rock dump were identified in 2003 as initial priorities. These four sites were incorporated into the BEIPC five-year work plan. Construction at the Sisters site was completed in 2005. Work at the Constitution site included consolidation of the mine tailings from the upper and lower mine sites into a single repository at the Upper Constitution Mine. Construction began in the summer 2006 and was completed in October 2006.

Phase 1 work at the Golconda site involved an interim action to address the adit flow and surface water runoff. The design for this work was completed by the EPA in early 2006. The construction was completed by IDEQ in the spring of 2006. The design for the Phase II work was completed by EPA in July 2006. EPA started construction in the fall 2006 and completed the work in the spring 2007.

At the Rex site EPA completed the design for the toe buttress in 2006. The construction for this portion of the project was conducted by the BLM in September 2006. In 2007 EPA completed the design for the upper portion of the Rex site. Construction began in July 2007 and was completed in September 2007.

At the USBM site pre-design data gathering began in September 2006. This was followed by development of a design during 2007. Construction is tentatively scheduled for 2008.

Looking ahead to the later part of the workplan, the Mine & Mill Site PFT will develop an inventory and prioritization system for additional sites identified that have a potential for human health impacts as well as sites where previous CERCLA removal actions were taken. The prioritization effort will begin in January 2008. Initiation of designs and remedial actions will be contingent on a variety of factors such as property ownership, human health and ecological risks associated with the site and available funding for design and construction work. The PFT will work to identify small sites that would require minimal design and construction effort where action could potentially be taken during 2008. Larger more complex sites would be prioritized for future work as funding becomes available.

1.3.4 Blood Lead Screening in Children

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

The Human Health PFT evaluated ways to increase participation in the blood lead testing program that would result in a proposed two year workplan for BEIPC consideration. However, the PFT did not come up with any new ways to increase the numbers other than increasing the cash payment per child. A funding source for increasing the cash payment above the current \$20 that is used in the Basin Health Intervention Program has not been found. This information was presented to the BEIPC at its August 15, 2007 meeting.

EPA and IDEQ are currently determining data collection needs for the upcoming 2010 Five Year Review. This effort may require gathering additional blood lead data to evaluate the effectiveness of the Basin Property Remediation Program. If this is required, EPA and IDEQ will consult with the PFT about blood lead data needs and ways to gather that data.

During the summer of 2008, the Panhandle Health District will continue to provide blood lead testing of children as part of the Basin Health Intervention Program.

1.4 ENVIRONMENTAL REMEDIATION ISSUES

Environmental remediation issues under consideration by the BEIPC include involvement in the OU-2 Phase 2 remedy implementation as well as environmental remediation work in the Upper and Lower Basin described in the ROD for OU-3.

1.4.1 Upper Basin Ecological Remedies

This work includes remediation identified for Ninemile Creek, Pine Creek, Canyon Creek and the South Fork. Remediation in these areas is tied to benchmarks established in the ROD that are directed toward improvements in water quality and in the fishery.

Priorities proposed in this plan for improvement in water quality and fisheries habitat are water treatment in Canyon Creek, and remediation of mine wastes along Pine Creek. Treatment in Canyon Creek was selected as the priority action because it is expected to provide the greatest reduction of dissolved zinc and cadmium in the South Fork of the Coeur d'Alene River upstream of OU-1 and 2 (the Box). Remedial actions in Pine Creek were selected as the priority because this drainage provides the best opportunity for meeting fisheries benchmarks specified by the ROD in the near term.

Water Treatment - Treatment of water in Canyon Creek is proposed as the remedial action priority for reduction of dissolved metals in the South Fork above the Box. To reduce zinc loads to the South Fork Coeur d'Alene River, the OU-3 ROD calls for treatment of Canyon Creek surface water near the mouth of the creek. A great deal of the metals loading in the surface water comes from contaminated ground water in the watershed. Water treatment technology assessments, groundwater modeling, and surface

and groundwater monitoring have been completed in order to develop the most cost-effective long-term solution to improving water quality from Canyon Creek that will meet the goals of the OU-3 ROD.

During 2007 the modeling, monitoring, and technology evaluations were completed. In September the following two draft reports were distributed to the Water Treatment PFT for review: 1) Draft Canyon Creek Hydrologic Study, and 2) Draft Remedial Component Screening from the Woodland Park area of Canyon Creek. Further work on screening the options for Canyon Creek will continue during 2008 along with focused efforts to prioritize other source areas of metals in the upper basin. Field work and data collection for the focused prioritization efforts will be conducted during 2008 along with further refinement of the options for Canyon Creek. Initiation of specific designs and construction of alternatives to address water quality will depend on a number of factors including, availability of funds, execution of a State Superfund contract for options requiring long-term operation and maintenance, and implementation of actions by potentially responsible parties.

Fishery Habitat Improvements - Pine Creek is a priority area for improvement of fish habitat. Implementation of the remedy selected in the ROD is expected to significantly improve 3.5 miles of habitat. These improvements are expected to allow natural increases in salmonid populations and enhance spawning and rearing. EPA and BLM are the lead agencies for remedial actions in Pine Creek. BLM has already done a significant amount of stream and mine site stabilization on public and private lands in Pine Creek. BLM is developing a master stream stabilization plan for Pine Creek. Cleanups in Denver Creek and the Upper and Lower Constitution tailings piles were priority actions undertaken in 2006 and 2007. The potential exists for BLM to undertake projects in the Pine Creek watershed performed as joint-funded efforts along with BEIPC directed projects.

In addition to technology evaluation for water treatment in Canyon Creek and remedial designs for mine and mill sites, many remedial actions identified in the ROD will require additional information and analysis to support design and remediation. Development of necessary information and understanding in the near term will allow efficient implementation of remedial actions in future years.

1.4.2 Lower Basin Ecological Remedies

In the 2004 work plan, it was noted that a better understanding of the complex and dynamic system in the Lower Basin and sound answers to these questions were necessary before a sequence of remedial actions could be recommended. The ecological work described in the 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 improving wildlife habitat and reducing particulate lead in the Coeur d'Alene River.

Many other issues and uncertainties pertaining to the implementation of remedial actions in the Lower Basin have been raised. Some lack of data continues to exist pertaining to the complex ecology of the Lower Basin and the combined effects of mining related contamination. Clean Water Act sub-grants were approved by the BEIPC to provide site-specific information required to make sound ecological remedial management decisions. In 2008, a major focus will be to complete these studies and demonstration projects and monitor the effectiveness of already completed CWA sub grant projects.

EPA used Coeur d'Alene Basin Superfund settlement monies to purchase a conservation agreement with a willing private property owner in April 2006. The agreement was established to help meet OU-3 ROD goals in establishing safe waterfowl feeding habitat in the Lower Basin as they pertain to metals of concern. Other parties participating in agreement negotiations included USFWS and Ducks Unlimited. Remedial actions on the property include the conversion of approximately 400 acres previously used for agriculture to wetland and upland habitat providing waterfowl feeding areas with mining-related metals concentrations below those shown to cause negative physiological effects in waterfowl. Natural resource restoration will be conducted on the property following remediation. Remedial action construction in the East Field component of the project started in September 2006 and was completed in 2007 using Asarco Trust settlement funds. EPA anticipates completion of the remedial action in the West Field component of the project in 2009.

No additional actions are planned or funded for 2008. The sequencing and evaluation of cleanup actions in the Lower Basin will receive greater focus as human health cleanup and water quality issues in the Upper Basin are addressed. The BEIPC will support EPA Region 10 in an effort to secure funding from EPA Headquarters and will have the Funding PFT working on outside sources of funding for Lower Basin remedies as appropriate.

1.5 BASIN ENVIRONMENTAL MONITORING

Basin Environmental Monitoring Plan (BEMP) - Implementation of the long-term status and trends basin environmental monitoring program (BEMP) will be continued in 2008 with EPA funding. Establishment of a basin-wide environmental monitoring plan is required under the OU-3 ROD. The monitoring program is critical to the successful implementation and evaluation of the Selected Remedy. EPA worked with the Monitoring PFT to develop the Basin-wide environmental monitoring program. The Monitoring PFT, TLG and key stakeholder agencies concurred that the BEMP is appropriate given available funding to obtain technical data for assessment of long-term status and trends, evaluation of overall effectiveness of the Selected Remedy, evaluation of progress toward cleanup benchmarks, and future Five-Year reviews. EPA will continue to make analytical results from site surface water, soil and sediment sampling available on the web-accessible data management system (www.storet.org); human health-related data will not be included in this database. EPA will assist interested stakeholders in accessing the information.

Remedial Action Effectiveness Monitoring - Action-specific effectiveness monitoring will focus on areas that have been addressed by remedial actions (e.g., tributaries, river reaches, etc.). The purpose of the effectiveness monitoring is to assess the success and effect of a given remedial action. By comparison, the BEMP will address basin-wide status and trends by monitoring a limited number of strategic locations. Both the remedial action-effectiveness and long-term monitoring plans will be integrated by coordinating monitoring to generate comparable data (same timeframe or synoptic) and using common sampling locations, where possible. Effectiveness monitoring, while not detailed in the BEMP, will incorporate similar monitoring hypotheses as those included in the BEMP. The adaptive management approach will maximize the utility of effectiveness monitoring data through comparison of results to expectations.

Remedial action effectiveness monitoring in OU-3 will be included in the designs and implementation plans for ecological-related remedial actions. In 2007, remedial action effectiveness monitoring plans were established for several mine and mill sites, including Golconda, Rex and Constitution. In addition, a monitoring plan was established for the Canyon Creek water treatment project and the Success mine which includes the treatment system. The remedial action effectiveness monitoring will continue at the human health-related remedial actions recently implemented at the East of Rose Lake Boat Launch and Highway 3/Trail of the Coeur d'Alenes Crossing site.

Part 2 – Activities and Work Funded Through the Clean Water Act Grant Program

2.0 INTRODUCTION

CWA funds are being used “*to conduct and promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction and elimination of pollution*” Clean Water Act 104(b)(3). The first round of CWA funds were available in Fiscal Year (FY) 2002 and obtained by the BEIPC in the summer of 2003. These projects are completed. The next round of funding for FY2003 was available to the BEIPC during the summer of 2004. These projects are at various stages of implementation and most are completed or nearing completion. Finally, the most recent round of funding for FY2004 was available in July 2005 and these projects are at various stages of implementation and many are complete.

This section of the work plan outlines current status of completed projects and CY 2008 activities of all ongoing projects. As these projects reach completion, the BEIPC will receive reports detailing the results of each one. Over the next five years, information taken from these reports will be used to develop future work plans and be incorporated into additional remedial and resource restoration actions.

Lake Monitoring Water Quality Studies

Sub-grant amount: \$546,000 FY 2002 plus \$13,000 additional FY 2004 to sample southern lake nearshore stations.

Sub-grantee: CDA Tribe, USGS

All work complete final report due in January 2008.

Ecological Monitoring of CDA Lake

Sub-grant amount: \$150,000

Sub-grantee: USFWS

All work complete.

Streambank Stabilization

Sub-grant amount: \$466,940 FY 2002, \$122,386 FY 2003, \$15,540 from BLM

Sub-grantee: IDEQ

All work complete.

Lake Education and Outreach Program

Sub-grant amount: \$88,500

Sub-grantee: CDA Tribe, Kootenai-Shoshone Soil and Water Conservation District (KSSWCD).

All work complete.

Mullan Inflow and Infiltration Assessment

Sub-grant amount: \$764,100

Sub-grantee: South Fork of the Coeur d'Alene River Sewer District

All work complete.

Woodland Park Groundwater Quality Monitoring

Sub-grant amount: \$35,948

Sub-grantee: IDEQ

All work complete.

Meyer Creek Flood Control

02/27/08 Final

Sub-grant amount: \$26,521

Sub-grantee: IDEQ

All work complete.

Upper East Fk. Ninemile Water Quality Evaluation

Sub-grant amount: \$193,652

Sub-grantee: INL

All work complete.

Metal & Nutrient Removal Pilot @ Page WWTP

Sub-grant amount: \$179,763

Sub-grantee: South Fork of the Coeur d'Alene River Sewer District

All work complete.

East Fork Pine Creek Revegetation Pilot Project

Sub-grant amount: \$61,624

Sub-grantee: BLM

Description of work to be performed during 2008: Final spring planting will take place in late March–early April, 2008. Field measurements for site characterization, including stream flow measurements, floodplain particle size distribution and surveyed channel cross-sections continue until June 30 2008. A final report will be presented to the BEIPC at their August meeting

Inventory and Evaluation of Private Lands for Potential Restoration of Wetland Habitats

Sub-grant amount: \$152,406

Sub-grantee: USFWS

Description of work to be performed in 2008:
All field work complete. Final report to be completed in 2008.

Monitoring Fish Responses to Bank Stabilization in the Coeur d'Alene River

Sub-grant amount: \$107,550

Sub-grantee: USFWS, University of Idaho

Description of work to be performed in 2008:

Work is near completion. Field collection is complete and the report is being finalized. Results of the project will be presented to the BEIPC in 2008 and the final report will be completed in 2008.

Computer Models to Assess Sediment Transport and Bed Evolution in the Lower Coeur d'Alene River Phase 1 and 2

Sub-grant amount: Phase 1 - \$193,706 FY 2003, Phase 2 - \$128,000 FY 2004

Sub-grantee: USGS

All work complete.

Simulation Model to Evaluate Coeur d'Alene Lake's Response to Watershed Remediation-Phases 1 and 2.

Sub-grant amount: Phase 1 - \$205,406 FY 2003, Phase 2 - \$221,800 FY 2004

Sub-grantee: USGS

All work complete.

North Fork Coeur d'Alene River Hydrologic & Sediment Study

Sub-grant amount: \$165,810

Sub-grantee: IDEQ

All field work complete.

Description of work to be performed in 2008:

Contract work by Watershed Professionals Network, LLC (WPN) was completed on this project in September 2007. A series of four final reports were completed and delivered to IDEQ: 1) *Hydrology Analysis – North Fork Coeur d'Alene River Subbasin*, 2) *Sediment Source Analysis – North Fork Coeur d'Alene River Subbasin*, 3) *Stream Channel Analysis – North Fork Coeur d'Alene River Subbasin*, and 4) *Watershed Overview & History – North Fork Coeur d'Alene River Subbasin*

02/27/08 Final

As of February 2008 the project is complete.

Mica Bay Nutrient Reduction Project – Phase 1 & Phase 2

Sub-grant amount: \$20,000 FY 2003, \$121,000 FY 2004, and \$25,190 ITD Settlement to DEQ

Sub-grantee: IDEQ

Description of work to be performed in 2008:

A contract is in place with the Kootenai/Shoshone Soil & Water Conservation Service to conduct the Mica Creek project with technical assistance from staff of NRCS and the Idaho Soil Conservation Commission. The entirety of the project will be conducted on stream segments flowing through the Mundt property. The project will be completed by December 2008. Project work for 2008 will include:

1. Stream bank stabilization on several segments of North Fork Mica Creek, South Fork, and/or the main stem that have had mass failures into the stream and are actively eroding during high flow events. NRCS engineering staff has provided a suite of bank stabilization methods and materials to be applied to eroding stream bank sections. For each method/material applied, cost per linear foot of bank improvement will be documented, and evaluated over time for stabilization effectiveness/cost.

Sections of Mica Creek have also undergone stream bed incision. Sections of stream bed will receive various grade stabilization structures using rock weirs, timber, brush mattresses, and vegetation such as willows.

2. A 10 minute DVD production of this project will be produced and distributed as an informational and educational tool for local farmers and ranchers, and to serve as a long-term educational tool used by the Agricultural Partnership and staff managing the Coeur d'Alene Lake Management Plan. Filming segments will be conducted from start to finish of the project.
3. A demonstration tour of the project site will be conducted for farmers and ranchers who have streams running through their property which are tributaries to Coeur d'Alene Lake (including Coeur d'Alene, St. Joe, and St. Maries Rivers).

Lower Lakes Aquatic Vegetation Survey

Sub-grant amount: \$143,275

Sub-grantee: CDA Tribe

All work complete.

Canyon Creek Groundwater Metal Source Characterization

Sub-grant amount: \$190,253

Sub-grantee: INL

All work complete.

Plummer Wastewater Treatment Pilot

Sub-grant amount: \$129,900

Sub-grantee: City of Plummer, Idaho

Description of work to be performed in 2008: The final report will be completed and a presentation made to the BEIPC.

Plummer Creek Watershed Nutrient Load Assessment, Modeling and Management Plan Development

Sub-grant amount: \$165,700

Sub-grantee: CDA Tribe

Description of work to be performed in calendar year 2008: Performance of watershed modeling and development of a watershed water quality management plan.

Modeling work is proposed to focus on the Generalized Watershed Loading Function (GWLF) model which will be used to simulate watershed nutrient loadings. GWLF is used for the simulation of mixed land use watersheds to evaluate the effect of land use practices on downstream loads of sediment and nutrients (N, P). The model will be configured based on watershed data (e.g., landuse, soils, weather, crop, point source, etc.) for a number of sub-watersheds. Sub-watershed delineations will be determined based on such factors such as monitoring station locations, expected source locations, topography, and hydrology. In addition, after configuration, the model will be tested or calibrated to available flow and water quality data. The calibrated model will be applied to establish the “existing conditions” in the watershed. The model results will be used to characterize the current nutrient loading conditions in the watershed, including identifying the location and magnitude of watershed sources.

The modeling results will support development of the management plan through characterizing existing nutrient source loads and evaluating management alternatives. Once the watershed loading is characterized with the model, the results can be presented to the stakeholder group to identify areas and opportunities for future management options. The “ideas” from the stakeholders will be prioritized to identify several

management scenarios that will be evaluated using the calibrated GWLF model. The analysis will evaluate the results/impacts of implementing the different management alternatives. The modeling will support the stakeholder driven process for identify management options and evaluating their potential effectiveness.

Pinehurst Flood Impact Study

Sub-grant amount: \$330,000

Sub-grantee: IDEQ

Description of work to be performed in 2008: Initial work in 2006 focused on determining the actual scope of the project. In 2007, data for the models was collected. Also, working with the City of Pinehurst and using a preliminary model for Little Pine Creek, a major culvert was replaced and a mine dump was armored against erosion. In 2008, the models will be completed and creek channel improvements will be constructed in consultation with property owners. The models will be modified based on future high water events.

Silver Crescent Mine and Mill Complex Habitat Restoration

Sub-grant amount: \$318,700

Sub-grantee: USDA Forest Service

Description of work to be performed in 2008:

Construction was in full swing in 2007 and most all work is now complete. The Forest Service had successfully gained an additional partnership with the Silver Mountain Corporation on the project. Additional wetland creation and enhancement was accomplished using funding provided by Silver Mountain. This work in turn will satisfy Silver Mountain's mitigation requirements under their current 404 permit for new development at the ski area and village. This added wetland work will further enhance the overall restoration effort at the site. Additions to the design for the project have been integrated into the Forest Service contracts.

Some revegetation and weed treatment work remain in 2008. A post construction report will outline the entire project and any changes that were made. This report will include an evaluation of successes and a section dedicated to "lessons learned". Site maintenance and a 5-year monitoring effort will start at the close of the construction phase.

Canyon Creek Treatability Study

Sub-grant amount: \$100,000

Sub-grantee: IDEQ

All work complete.

South Fork Sewer District Toxicity Reduction

Sub-grant Amount: \$115,900.00

Sub-Grantee: South Fork of the Coeur d'Alene Sewer District

Description of work to be performed in 2008:

The Page wastewater treatment plant (WWTP) performance has been reviewed to determine if the process and operations may be contributing to observed toxicity. Likely candidates upon completion of this task include ammonia and heavy metals. Two whole effluent toxicity (WET) tests were completed in 2006 and two additional tests in 2007. The toxicity observed in the 2007 WET tests was less than in 2006, which correlated to reduced metals levels for zinc and cadmium in the effluent. Following the fourth WET test in April 2007, a Phase I Toxicity Identification Evaluation (TIE) was completed to identify the probable toxicant or group of toxicants. Heavy metals were confirmed as the toxicity source and a Phase II / III TIE was initiated to determine the likely metal and concentration causing toxicity. Based on results obtained from ENSR Labs, zinc has been identified as the likely source of toxicity in the April 2007 sample.

The remaining step in the TRE process is completion of a Toxicity Control Evaluation (TCE), which will review the pilot study work previously completed under a grant from the BEIPC and the ability to treat the effluent to the required metals levels to reduce toxicity in the receiving stream.

- Draft Report – February 2008
- Final Report – June 2008

Assessment of the Economics and Effectiveness of Alluvium Sorting as Mine Waste Removal Strategy at the Project Implementation Level

Sub-grant amount: \$208,500

Sub-grantee: IDEQ

All work complete.

Coeur d'Alene Lake Management Plan Implementation

Sub-grant amount: \$137,200

Sub-grantee: IDEQ, CDA Tribe

Description of work to be performed in 2008: From September 2007 through April 2008, the Coeur d'Alene Tribe and Idaho DEQ will continue to meet with local, state, tribal, and federal entities that were identified as lead groups in the management action tables of the 1996 CDA LMP. Agencies that the sub-grantees plan to meet with include:

USDA Forest Service
US Fish and Wildlife Service
North Idaho Building Contractors Association
Coeur d'Alene Realtors
Private and Industrial timber companies
Associated Logging Contractors Inc.
Highway Districts
Representatives for Senators Craig, Crapo, and Representative Sali
Marina operators
Golf course managers
City Street Departments within the basin
AVISTA

With anticipated cooperation and input from the agencies and businesses listed above, conduct and complete a survey and effectiveness audit that would:

- Continue to evaluate what best management practices (BMPs) are in place to protect water quality;
- Continue to determine the effectiveness of those BMPs being used;
- Continue to evaluate areas and activities where BMPs are required under various regulations, but are not being applied or are being applied improperly;
- Continue to establish specific BMP audit procedures where needed for the following, but not limited to these activities - road construction and maintenance, building and facility construction, installation of septic and other wastewater treatment systems, operation and maintenance of marinas and docks, construction, operation and maintenance of golf courses; recreational use of the Coeur d'Alene and St. Joe Rivers and agricultural operations; and
- Continue to determine future programmatic funding projections to continue nutrient management activities as well as determine whether staffing and funding are sufficient to implement activities outlined in the 1996 LMP management action tables.

Results of the survey will be reported to the BEIPC and hopefully incorporated into the revised Lake Management Plan management tables currently being developed by IDEQ and the Tribe. This work will also serve as the basis for establishment of a standardized audit process that can be repeated as needed to evaluate the effectiveness of LMP actions.

PART 3 – OTHER BEIPC ACTIVITIES AND RESPONSIBILITIES

For Part 3, the 2008 work plan includes a number of work items that the BEIPC has elected to become involved in and items of work needed to accommodate some of the recommendations of the NAS study. The plan includes the following work:

- Phase II Component of Overall OU-2 Remedy
- Lake Management Activities
- Upper Basin Infrastructure Revitalization Activities
- Communications and Public Involvement
- Funding for the Environmental Cleanup and Infrastructure Revitalization

3.1 PHASE II COMPONENT OF OVERALL OU2 REMEDY

As part of the State Superfund Contract (SSC) for OU-2, a Comprehensive Cleanup Plan (CCP) was developed to define a path forward for remedy implementation in OU-2. The CCP calls for a phased approach to implementing the OU-2 remedy. In Phase I, the focus is on remedial actions aimed at removing and consolidating extensive contamination from various site areas, demolition of structures, development and implementation of an ICP for OU-1 and OU-2, future land use development, and public health response actions. Phase I work also includes support studies for long-term water quality improvement and evaluation of Phase I remedial action effectiveness.

Phase II of the OU2 remedy will be implemented following completion of source control, removal activities and evaluation of the effectiveness of these activities in meeting water quality improvement objectives. Phase II will consider any shortcomings encountered in implementing Phase I and will specifically address long-term water quality, ecological and environmental management issues. Both ROD and SSC amendments will be required prior to implementation of any Phase II remedial actions. EPA and IDEQ are the responsible parties for modifying the ROD and negotiating a State Superfund Contract.

Per the motion passed by the BEIPC in August 2005, the Commission will participate in future Phase II activities in OU-2 by providing technical input into the remedy alternative development and selection (including evaluation of technical reports, pilot studies, and feasibility study documents), providing input into the public processes associated with ROD modifications and educating the community and legislative bodies of the need for funding for this work.

The following provides a brief overview of EPA and IDEQ's concept for how the agencies will jointly move forward in conjunction with the BEIPC to set the stage for evaluation and potential implementation of an OU-2 Phase II remedy.

Phase I Evaluation

In 2006, EPA and IDEQ completed the following documents that are supportive of the evaluation of the OU2 Phase I remedy:

- Revised OU2 Conceptual Site Model,
- Statistical Trend Analysis of Groundwater and Surface Water Evaluation
- Phase I Remedial Action Characterization, and a
- Revised OU-2 Environmental Monitoring Plan.

These documents have been completed, provided to the OU-2 Phase II Water Quality PFT, and placed in the site information repositories. In addition, a briefing was provided to the Basin Commissioners in February 2006. These documents were developed to refine our understanding of the OU-2 environmental system and facilitate Phase II remedy implementation.

An assessment focusing on the effectiveness of the OU-2 Phase I remedial actions on surface water and groundwater quality was completed by EPA and IDEQ in October 2007. This document, the OU II Phase 1 Remedial Action Assessment Report, also includes an updated surface water and groundwater quality analysis. The document assesses impacts of Phase I remedial actions on water quality within OU-2. The assessment relies on the recently completed Five-Year Review Report for the Bunker Hill site, the Phase I RA characterization report and the findings of the updated water quality statistical analysis. The assessment will include all remedial actions completed under OU-2 Phase I but will emphasize those areas or actions believed to have the most substantial impact on the water quality. The OU-2 Phase I Remedial Action Assessment report and an overview presentation were provided to the Water Quality PFT. An overview presentation was also provided to the Basin Commission at their November 2007 meeting.

OU-2 Phase II Remedy Consideration

Following the above evaluation of Phase I remedial actions in OU-2, the next step is to further set the stage for consideration of Phase II remedy alternatives and potential implementation. The following evaluations will facilitate definition of OU-2 Phase II:

Identification of OU-2 Source Areas of Concern

Based on the results of the Phase I evaluation, source areas within OU-2 will be identified and ranked based upon a set of criteria to be established. The criteria will include a relative contaminant metal loading, impacts on environmental receptors and other factors to be determined. Data gaps that need to be filled to confirm and quantify source areas and their resultant impact on the environmental system may be identified and addressed.

Identification and Evaluation of Potential OU-2 Phase II Remedial Actions

Based on the results of the identification and relative ranking of source areas identified within OU-2, conceptual remedial actions (RAs) will be developed to address the sources and evaluated based on overall protectiveness of human health and the environment,

compliance with applicable or relevant and appropriate requirements, implementability, effectiveness, and cost of supplemental remedial actions and other relevant considerations.

3.2 LAKE MANAGEMENT ACTIVITIES

The OU-3 ROD anticipates that the State and Tribe, coordinating with federal agencies and local governments, will prepare and implement an updated LMP outside of the Superfund process using separate regulatory authorities.

The original Coeur d'Alene Lake Management Plan (LMP) was prepared by the CDA Tribe, Clean Lakes Coordinating Council and Idaho Division (Department) of Environmental Quality and accepted by the CDA Tribe, Kootenai and Shoshone Counties in 1996. The BEIPC intends to participate in coordination and implementation of the LMP and any future modification to the plan.

During the 2008 work planning period, the BEIPC and Clean Water Act sub-grant implementing agencies will continue to be involved in the following actions in support of lake management:

- Finalize Lake Management Plan, management action table audit.
- Implementation of a pilot project to reduce nutrients entering the Lake from Mica Bay; and
- Implementation of a project to perform a nutrient load assessment and modeling to develop a management plan for Plummer Creek tributary to the Lake.

The Contaminant Management Project Focus Team (PFT) completed the contaminant management issues study for Coeur d'Alene Lake and the slack water section of the Spokane River in Idaho and the Executive Director presented his finding and recommendations to the BEIPC at their August 2007 meeting. The BEIPC did not act on the findings and recommendations. The Executive Director and PFT are waiting for BEIPC direction before further action is taken on this issue.

In addition, the State and Tribe are involved in a two phase mediation process. The first phase has been completed and entailed assessing the global issues surrounding the current impasses to develop an updated joint LMP. The report on this assessment was finalized in January 2007. The second phase is attempting to mediate the impasses and develop a joint Tribe and State LMP that includes stakeholder involvement consistent with agreements between the State and Tribe and the State and Counties. If the second phase is successful the State and Tribe anticipate approving the LMP and coordinating adoption and implementation with other stakeholders, including local governments and the BEIPC.

3.3 UPPER BASIN INFRASTRUCTURE REVITALIZATION ACTIVITIES

In 2006, the BEIPC implemented a process to identify existing infrastructure, determine infrastructure needs, prioritize actions, and develop an Infrastructure Revitalization Plan

(IRP) for the Upper Basin communities. This effort also includes identification of stormwater drainage problems, the development of potential financing options, and the acquisition of financing. This process will continue in 2008 and is addressing infrastructure needs to protect environmental cleanup remedies, preserve public and private property, and revitalize local economies within the Upper Basin. This project is modeled on a similar project implemented in the Box and will be combined with that effort resulting in an IRP for the entire Upper Basin.

This work addresses some of the concerns of residents and government officials in the Basin and the National Academy of Science involving potential damage to the cleanup remedies posed by flooding and the need to construct and reconstruct infrastructure to preserve property and protect the environment. The BEIPC is working closely with county and local government agencies to develop and implement the IRP.

Work in 2008 is planned to include completion of the drainage assessments for Wallace, Osburn and Silverton, completion of the Upper Basin infrastructure assessment, preparation of cost estimates for needed work in the Upper Basin, updating of cost estimates for the Box projects, combination of Box and Upper Basin information, prioritization of projects for the entire Upper Basin including the Box, and final preparation of the IRP in the fall.

The funding acquisition work will include prioritization of systems segments, the study and determination of the best processes for rehabilitation, and preparation of preliminary designs and estimates to support efforts in meetings with local governments, taxing districts boards, local stakeholders and the general public. This phase of the work and final preparation of the IRP is currently unfunded after June 30 and will need to be addressed.

The BEIPC will assist Upper Basin communities and utilities in pursuing funding to implement the IRP. The Funding PFT will address this issue in its activities in 2008 as well.

3.4 COMMUNICATIONS AND PUBLIC INVOLVEMENT

During the BEIPC November 2007 workshop, it was recommended that the Executive Director form a Communications PFT to address issues concerning the strengthening of public involvement in BEIPC activities and communication between the Basin community and the BEIPC and CERCLA cleanup and natural resource restoration implementing institutions. It was also recommended that the CCC be the focus organization to assist in implementing this process.

In 2008, the Executive Director will form a Communications PFT working with the Chair of CCC to formulate some ideas and recommendations concerning improvement of communications and public involvement. This information will be presented to the TLG and CCC for consideration and then presented to the BEIPC at its May 2008 meeting for

consideration. Following is a partial listing of communications issues noted at the workshop:

- Increase public attendance at meetings
- Need to make sense to lay people(simplify technical issues for better understanding)
- Continue public information on East Mission Flats Repository with attention to people who provided comments or signed the petition
- Prepare a summary document of all the annual accomplishments to date
- Identify issues of concern for a more elevated approach
- Identify groups of people to get the “word” out
- Focused mailing to reach people without access to newspapers
- Develop strategy to keep people engaged in the long-term
- Examine alternative communication tools (TV, radio, etc.)
- Use consultant help with communication (and/or other issues)
- Develop involvement categories to structure communication/outreach activities
- Commissioners need to become more involved to educate constituents
- Better communication among all groups – BEIPC, TLG, CCC, PFTs
- If controversy anticipated, use higher level of advertising to get information out
- BEIPC commissioners need good feedback from TLG reps
- Meet with businesses and community leaders
- Does public know limitations that agencies have to work under?
- Field trip next summer with Congressional delegations

The entire list developed during the workshop will serve as the initial set of issues/ideas that the PFT will address as it begins its work in 2008.

3.5 FUNDING FOR THE ENVIRONMENTAL CLEANUP AND INFRASTRUCTURE REVITALIZATION

Funding for the human health element of the Superfund (CERCLA) remedy is currently provided by the EPA and the States on private and state lands. The Federal Land Management agencies are currently providing funding for human health and ecological system cleanup actions on federally managed lands. Funding for EPA to implement the remedies in OU-2 and 3 is currently prioritized on implementation of the Human Health protection. Funding for the infrastructure revitalization activities is currently being addressed in the IRP process.

During the November 2007 BEIPC workshop, there was a great deal of discussion and concern expressed over the lack of funding sources in the future for implementation of the ecological remedy in OU-2 and 3 and implementation of the IRP. A number of concerns and recommendations were expressed involving funding and it was agreed that an overall financial strategy needed to be developed.

To address this issue in 2008, the Funding PFT will be reinstated to review and work on the IRP funding process and will explore potential sources of funding for ecological remedies. Federal funding of CERCLA activities on state and private lands outside of the EPA's appropriation for CERCLA is not allowed, but the PFT will investigate opportunities to fund these activities from other sources. The PFT will report accomplishments to the TLG and CCC. The first report will be available in the summer of 2008.