Coeur d'Alene Basin Recreational Sites Strategy

Bunker Hill Mining and Metallurgical Complex Superfund Site

Prepared by:

October 2016

Version 1

Contents

Section 1.0 Introduction 1
Section 2.0 Strategy Development 2
2.1 Goals and Objectives 2
2.2 Stakeholders 3
2.3 Geographic Boundaries 3
Section 3.0 Human Health Exposures During Recreational Activities 4
Section 4.0 Creating Recreational Sites Inventories 6
4.1 Recreation Sites Eligible for the BPRP 6
4.2 Ongoing and Previous Reports and Inventories 6
4.3 Mapping 7
Section 5.0 Risk Management Toolbox 8
Section 6.0 Community Outreach and Education 11
Section 7.0 References 14

Appendices

Appendix A. Institutional Control Program Administrative Boundary Map 16
Appendix B. BPRP Recreation Site Eligibility Screening Criteria 18

Tables

Table 1. Recreational activities and routes of exposure. 5
Table 2. A toolbox of action alternative examples. 9

Acronyms and Abbreviations

ATVs	all-terrain vehicles
BEIPC	Basin Environmental Improvement Project Commission
BHSS	Bunker Hill Superfund Site
BLM	U.S. Bureau of Land Management
BMPs	Best Management Practices
BPRP	Basin Property Remediation Program
CDA	Coeur d'Alene
CDA Tribe	Coeur d'Alene Tribe
CIC	Community Involvement Coordinator
DEQ	Idaho Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
HEPA	high-efficiency particulate air
HHRA	Human Health Risk Assessment
ICP	Institutional Control Program
IDAPA	Idaho Administrative Procedures Act
IDFG	Idaho Department of Fish and Game
IDHW	Idaho Department of Health and Welfare
IDPR	Idaho Department of Parks and Recreation
MICP	microbial induced calcite precipitation
OHVs	off-highway vehicles
PFT	Project Focus Team
PHD	Panhandle Health District
RV	recreational vehicle
SFCDA	South Fork Coeur d'Alene River
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

Section 1.0 Introduction

This strategy presents information and a toolbox of alternative actions for developing a multi-year plan to address and manage human health risks from exposure to lead and other metals that can occur during recreational activities throughout the Upper and Lower Coeur d'Alene (CDA) Basin. The information included in this strategy is provided to seek stakeholders' suggestions and comments to identify the following:

- Priority recreational sites, activities, and/or concerns
- Needs for maintained recreation areas to replace highly contaminated areas
- Actions to add to the risk management toolbox
- Locations to apply certain actions or ideas for pilot projects
- Recommendations of priority sites, activities, and/or concerns to provide to other stakeholders who own or manage recreational properties

Addressing recreational activities and sites will be different than other human health remedial actions at the Bunker Hill Superfund Site (BHSS) due to challenges associated with remote locations, lack of full-time residents, and ongoing recontamination by frequent flooding of recreation sites in the floodplain.

Recreational sites in the CDA Basin range from properties that are occupied for short periods any time of year to those that are used all summer. The prevalent use of these sites is recreational along the banks or shores of water bodies such as the chain lakes or the main stem of the CDA River, including camping, riding all-terrain vehicles (ATVs), boating, swimming, inner tubing, fishing, etc. These activities expose children and adults to lead and other metals-contaminated bank sediments and upland soils (located out of the floodplain) that can be ingested or inhaled while occupying a site. This contaminated soil can also be found in dust that infiltrates tents, trailers and campers and can be transported back to their primary residence. Recreation sites are located in both the Upper and Lower CDA Basins.

This strategy is presented in the following sections:

- Section 2, **Strategy Development**, defines the goals and objectives, limitations, stakeholders, and geographic boundaries.
- Section 3, **Human Health Exposures During Recreational Activities**, defines six categories for the many types of recreational activities and identifies routes of exposure for each of these categories.
- Section 4, **Creating Recreational Sites Inventories**, lists resources that can be used to identify recreational sites throughout the CDA Basin.
- Section 5, **Risk Management Toolbox**, presents action alternatives that can be used at recreational sites to address and manage human health risks from exposure to lead and other metals.
- Section 6, **Community Outreach and Education**, discusses outreach and educational messaging and materials for recreational activities.

This strategy has been developed collaboratively by the U.S. Environmental Protection Agency (EPA), Idaho Department of Environmental Quality (DEQ), Panhandle Health District (PHD), and the Coeur d'Alene Trust; collectively referred to as the Recreation Sites Team. Developing this multi-year plan starts with a stakeholder engagement process. Both the Rec Site Team and

the Community Involvement Team, which includes Community Involvement Coordinators (CICs) from EPA and DEQ, will seek stakeholders' suggestions and comments for this strategy in late 2016. Following review of stakeholder's comments and additional information gathering, an Implementation Plan will be prepared to identify initial actions or pilot projects to be started during the summer of 2017.

Section 2.0 Strategy Development

As part of this strategy development, the goals and objectives (including limitations), stakeholders, and geographic boundaries are defined in this section.

2.1 Goals and Objectives

The overall goal of this strategy is to manage human health risks from exposure to lead and other metals that can occur during recreational activities throughout the Upper and Lower CDA Basin. To meet this goal, the objectives of the Recreation Sites Team are to identify and prioritize recreation sites and uses in the Basin, develop options for managing recreational exposures, provide support to public outreach and education efforts specific to recreation activities, and provide guidance to CDA Basin stakeholders (identified in Section 2.2). The Recreation Sites Team will use this strategy to obtain information and stakeholder input on recreational human health issues throughout the Upper and Lower CDA Basin.

Information and comments about this strategy, gathered from stakeholders, will be used by the Recreation Sites Team to identify priority areas and actions to be performed and provide recommendations for project sequencing. These recommendations will be identified in a multi-year Implementation Plan, to be prepared during the winter of 2017, and annual work plans prepared in future years (as needed).

Factors considered for prioritization of areas and actions include:

- High risk human receptors
- Effectiveness of action alternatives
- Feasibility of long term maintenance in areas where recontamination is likely
- Ownership
- Current property uses
- Type of recreational activity
- Coordination with other programs
- Traditional gathering areas significant to the Coeur d'Alene Tribe (CDA Tribe)
- Others factors identified by stakeholders

The Implementation Plan will identify the following:

- Priorities of stakeholders and the public
- Top candidate sites or activities for community outreach and education or other immediate actions
- Referrals of priority sites, activities, and/or concerns to other ongoing CDA Basin programs
- Needs for further characterization or remedial action
- Considerations to define implementation timelines

The funding sources for performing actions at recreational sites have not been identified at this time. Therefore, the goal of this team is to collaborate with other CDA Basin programs and stakeholders to provide guidance for implementing actions and to also identify other funding mechanisms to plan and execute actions.

Complete removal of contaminants from recreation sites is not feasible given the expansive area that recreational sites encompass, unknown quantities and concentrations of contaminated soils, and potential for recontamination. Therefore, multiple alternative actions are identified in the toolbox (Section 5) to provide options for managing recreational exposures. In addition, current planning will represent a snapshot in time since changes over time in land use and recreational activities on the land are expected.

2.2 Stakeholders

The Recreation Sites Team will work with the following stakeholders to gather suggestions and comments:

- **Cross-program coordination with other CDA Basin programs including**: Lower Basin Project Focus Team (PFT), Lower Basin Technical Work Group, Restoration Partnership, Basin Property Remediation Program (BPRP), Lake Management Plan, and Mine and Mill Programs.
- **Agencies/organizations that own/manage recreational properties**: Projects associated with recreation on properties owned/managed by stakeholders (e.g., boat docks, campgrounds, etc…). Agencies/organizations include: Kootenai County, Shoshone County, CDA Tribe, USFS, BLM, U.S. Fish and Wildlife Service (USFWS), Idaho Department of Fish and Game (IDFG), and Idaho Department of Parks and Recreation (IDPR).
- **Commercial property owners**: Commercial properties provide opportunities for the public to access areas for recreational use. Many of these properties experience high use by a large population similar to that of public property.
- **Private property owners**: Recreational use of private property often consists of heavy use by a relatively small group of people (family and friends of owner).
- **Interested public and recreation user groups**: Recreational users can be local residents, occasional visitors from nearby areas living outside the CDA Basin, or infrequent visitors traveling through the CDA Basin or staying for a short-term duration.

2.3 Geographic Boundaries

The geographic boundaries for the actions to be performed at recreational sites under this strategy are defined by the Institutional Controls Administrative Area (IDAPA 41.01.01.511, Contaminant Management Rules in the Bunker Hill Superfund Site Operable Unit #3 Institutional Controls Administrative Area, Shoshone and Kootenai Counties, Idaho). These contaminant management rules can be found at: https://adminrules.idaho.gov/rules/current/41/0101.pdf. A map of the Institutional Control Program (ICP) Administrative Boundary is included in Appendix A of this document. Public engagement, including outreach and education, for recreational activities is currently ongoing and will continue to encompass any recreational users or types of activities within the Upper and Lower CDA Basin.

Section 3.0 Human Health Exposures During Recreational Activities

Human health exposure to metals can occur when contaminants migrate from the source to an exposure point where a person comes into direct contact with contaminated media. An exposure pathway is complete if a person can ingest, inhale, or absorb contaminated media through the skin. Exposure is a potential concern for visitors who use the land for recreational purposes (such as hikers, campers, fishermen, etc.), and include adults, pregnant women, infants, and children. Recreationalists can be individuals from outside the CDA Basin as well as residents of the CDA Basin, including but not limited to summer residents, transient populations, and second home residents.

Potential routes of exposure associated with recreational activities include the following:

- Ingestion of (swallowing) and dermal (skin) contact with contaminated surface soils and sediments
- Inhalation of (breathing) dust from contaminated soil
- Ingestion of and dermal contact with contaminated surface water
- Ingestion of fish, wild game, and/or wild plants affected by metals
- Ingestion of soils and sediments that have been deposited on traditional subsistence plants by the CDA Tribe (e.g., wapato or water potato)

If contaminated soils and/or sediment are tracked back to a residence, ingestion of and dermal contact with soil and house dust can also occur. Dermal contact with soil, sediment, and surface water contributes less to overall risk compared to incidental ingestion of surficial soil/sediment and disturbed surface water (TerraGraphics/URS 2001).

Previous human health risk assessments for the CDA Basin (TerraGraphics/URS 2001) defined the following list of recreational uses and site types:

- Riverfront homes/camps
- Campgrounds for tents
- Primitive campsites for tents only
- Recreational vehicle (RV) campgrounds
- Private RV sites
- Swimming with beaches
- Picnicking
- Geocaching
- Hiking
- Bird and wildlife viewing
- Mountain biking
- Dirt biking/motorbikes
- ATVs/off-highway vehicles (OHVs)
- Horseback riding
- Scenic driving
- Hunting
- Fishing

- Rafting/canoeing/kayaking
- Foraging for morels and huckleberries
- Gathering of subsistence plants significant to the CDA Tribe. (See: Warning and Health Advisory regarding subsistence activities in the Coeur d'Alene River Basin; CDA Tribe 2001).

This list was condensed into six recreational activity categories with descriptions for the most common activities and routes of exposure summarized in Table 1.

Table 1. Recreational activities and routes of exposure.

Recreational Activity	Description	Routes of Exposure
Camping and Picnicking	Camping and picnicking activities may occur in a variety of areas throughout the Upper and Lower CDA Basin, including informal campsites on private properties, public and/or private RV sites, the sides of hiking trails, road pullouts, and waste piles.	• Incidental ingestion of soil • Ingestion of untreated surface water • Incidental ingestion of residential soil/dust contaminated with soils that were tracked to a residence
Swimming and Beach Activities	Swimming and playing in the water occurs along the South Fork Coeur d'Alene (SFCDA) River, CDA River, and Chain Lakes, as well as neighborhood streams, and may result in ingestion of disturbed sediment-laden surface water. Beach activities are considered intense recreational activities as they involve deliberate and continued contact with soils/sediment. The Human Health Risk Assessment (HHRA) indicated that swimming and water sports can result in substantial increases in intake and lead absorption due to ingestion of both surface water and soil/sediment (TerraGraphics/URS 2001).	• Ingestion of disturbed sediment-laden surface water • Ingestion of surficial soil/sand/sediment • Incidental ingestion of residential soil/dust contaminated with soils/sediment that were tracked to a residence
Water Activities	Other water activities (besides swimming and beach activities listed above) as defined for this report include boating and fishing when ingestion of surface water and sediment is likely to be incidental.	• Incidental ingestion of surface water and sediment • Ingestion of fish • Incidental ingestion of residential soil/dust contaminated with sediment that were tracked to a residence
Medium Intensity Land Activities	Medium intensity land activities may expose recreationalists to smaller amounts of contaminants because of less contact time with soils compared to high intensity activities. They include hiking, golfing, road cycling, exploring, scenic driving, and wildlife viewing.	• Incidental ingestion of surficial soil • Incidental ingestion of residential soil/dust contaminated with soils that were tracked to a residence
Hunting and Foraging Traditional gathering and cultural ceremonies	Hunting and foraging are similar to medium intensity land activities; however, these activities potentially add to the amount of metals ingested through contaminated wild game, berries, mushrooms, and other wild plants.	• Incidental ingestion of surficial soil, with the potential of additional soil ingestion due to consumption of berries, mushrooms, or other wild plants that are not thoroughly washed • Ingestion of wild game • Incidental ingestion of residential soil/dust contaminated with soils that were tracked to a residence

High Intensity Land Activities	High intensity land activities are activities such as dirt biking, riding ATVs, mountain biking, and horseback riding, which involve continued contact with soils and a high potential for producing fugitive dust.	• Ingestion of surficial soil • Inhalation of fugitive dusts • Incidental ingestion of residential soil/dust contaminated with soils that were tracked to a residence • Ingestion of surficial soil along the Trail of the Coeur d'Alenes right of way where full removals were not conducted and where trail users don't follow trail rules &/or warning signs.

Section 4.0 Creating Recreational Sites Inventories

It is difficult to inventory all of recreational sites throughout the CDA Basin since recreational uses and sites change over time. Instead, this strategy provides a description of resources that can be used to identify and create inventories of recreation sites as areas or recreation types are prioritized for actions. These resources include: recreation sites eligible for BPRP (Basin Property Remediation Program), ongoing and previous reports and inventories, and mapping.

4.1 Recreation Sites Eligible for the BPRP

Several recreation sites are highly developed, maintained, and used frequently. Implementing sampling and remediation of these highly developed recreation properties is similar to implementation for residential and commercial properties through the BPRP. As such, a screening process has been implemented to identify highly developed recreation sites which may be eligible for sampling and remedial action through the BPRP. The screening sheet is included in Appendix B.

The screening criteria include three threshold criteria. In order for a recreation site to be eligible for the BPRP, it must meet all three threshold criteria and receive a score of at least 10 on the balancing criteria.

4.2 Ongoing and Previous Reports and Inventories

The following is an initial list of ongoing programs with available information about recreational site inventories:

- *Lower Basin Technical Work Group*: This group was recently formed in 2016 and will be addressing concerns with recreational sites in the Lower Basin.
- *Basin Property Remediation Program*: Recreation sites can overlap between BPRP and this plan; see Section 4.1 for additional details.
- *Restoration Partnership*: As part of the process to develop a natural resource restoration plan for the CDA Basin, the Restoration Partnership has started creating a list and gathering information for recreation sites.
- *Federal, State, Local, and Tribal Management Agencies*: Each agency typically has an inventory and map of recreational sites within their jurisdiction. This may include boat launches, parks, Trail of the Coeur d'Alenes, campgrounds, Wildlife Management Area access sites, and others.

- *Public-Private Programs:* Examples of these programs include the Avista Spokane River Hydroelectric Project Recreation Plan (Avista Corporation 2010).
- *Lower Basin Recreational Project Focus Team:* Basin Environmental Improvement Project Commission (BEIPC) Work Plans and Accomplishment Reports (BEIPC 2016) include summaries of prioritization and other actions accomplished by this team, including the *BEIPC Recreation Site Inventory*, prepared in 2008 to include general information, developed amenities, and recreational activities (BEIPC 2008).

The following is a list of documents and past CDA Basin programs with available information about recreational site inventories:

- *OU3 Record of Decision* (ROD; USEPA 2002): The 2002 OU3 ROD prioritized 31 recreational areas in the Lower basin such as boat ramps, picnic areas, and campgrounds.
- *CDA River System Recreation Sites* (PHD 2013): This report includes a summary of Upper and Lower Basin sites; including both established and informal sites. Informal sites are locations where adults and children gather, primarily sandy or muddy beach areas, and are usually temporarily used and change year to year.
- *Draft Recreational Sites Notebook, Lower CDA River, Idaho* (USACE 2003): This report identifies features for 34 recreational sites along the Lower Coeur d'Alene River and was prepared to support the Lower Basin Recreational Project Focus Team's task of identifying and prioritizing potential recreation sites to remediate in the future.
- *Recreation Monitoring Report* (Avista Utilities 2010): This report includes information about a number of public recreation areas extending across the Lower Basin, CDA Lake, and Spokane River. However, for the purposes of this strategy, only sites within the Lower Basin will be considered.
- *Statewide Comprehensive Outdoor Recreation and Tourism Plan* (IDPR 2016): This document was prepared to reflect the current state of outdoor recreation in Idaho. It provides a report of the public's perceived needs and includes a public input process with feedback from 488 respondents statewide.
- *CDA River Corridor Management Plan* (USFS 2012): The goals for this plan include providing enjoyable recreation experiences, restoring and rehabilitating specific injured areas, improving developed recreation opportunities, educating the recreating public, developing partnership and volunteer opportunities, and improving economic benefits to local counties and businesses.
- *Coeur d'Alene Tribe Integrated Resource Management Plan* (CDA Tribe 2012): The goals of this plan are to: 1) improve local environmental conditions to benefit human health, ecology, and quality of life, 2) to provide tools for Tribal and community environmental planning and action, as well as to other programs and planning activities, and 3) increase communication and cooperation to improve environmental management with Tribal community and departments, and local, state, and federal governments.

4.3 Mapping

Multiple public resources are available that identify specific recreation facilities, or can be used to help identify potential for recreation activities. Spatial analysis can be conducted to support development of the inventory. Available site location data can be gathered from USFS, IDPR, IDFG, CDA Tribe, and Avista. Other sources include locally maintained map layers for

roadways, streams, lakes, property ownership, and sampling data. A summary of the GIS layers that can be utilized to develop the inventory has been compiled.

As the recreation site strategy is implemented, specific types of sites for investigation or property owner outreach activities may be targeted. Compiling map data can provide a resource for identifying properties or locations where specific types of activities may occur. For example, property ownership layers and stream layers could be used to identify all owners of properties along the SFCDA River in order to distribute educational information about recreating in the River.

Section 5.0 Risk Management Toolbox

The purpose of this section is to use the information presented in Sections 3 and 4 to develop a toolbox approach for applying risk management actions for recreational sites and activities. The toolbox approach is presented in Table 2. This toolbox includes only a few examples of possible action alternatives. The Recreational Sites Team is seeking suggestions from stakeholders for the following:

- Actions to add to the toolbox
- Locations to apply certain actions or ideas for pilot projects

Table 2. A toolbox of action alternative examples.

Category	Category Description	Action Alternative Example	Example Description
Community Outreach and Education	These actions include efforts to inform the public about potential exposures to lead and other metals during recreation activities in the BHSS. The scope may include regional outreach campaigns, informational signs placed at an individual site, outreach personnel distributing information to public groups or visiting recreation sites, and "How-To" Guidance provided to property owners based on examples of past actions (e.g., bank stabilization, annual "cleaning" of surfaces, vegetation maintenance, durable surfaces in high traffic areas, etc.). Additional details are included in Section 6.	Develop consistent public messaging for FAQs related to recreational activities in the CDA Basin.	Information for public outreach will be tailored based on the type of area and associated recreational activities; see Section 6 for a more detailed description.
Sediment Control Best Management Practices (BMPs)/Tracking Reduction	Sediment control actions are taken to reduce tracking of contaminated sediments from recreation areas, or to provide means to clean off sediment during recreation activities. Potential actions include public wash stations for washing vehicles and ATVs, vacuums for cleaning out RVs, outdoor showers at public beaches, etc.	Public Wash Stations	Construct wash stations in central areas to provide public access to clean and rinse vehicles and gear after recreating. Wash stations would provide car wash type facilities for cleaning sediment from vehicles, ATVs, boats, etc. They may also include high-efficiency particulate air (HEPA) vacuums to clean out interiors. Wash stations can help minimize tracking of dust from recreation areas back to residences.
Erosion Control BMPs/ Stabilization	Erosion control actions are taken to reduce the potential for contaminated sediments to be mobilized from recreation areas by stabilizing them in place. These may include bank stabilization, revegetation of banks and floodplains, developing hard surfaces, etc.	Bank Stabilization with Riparian Vegetation	Establishing riparian vegetation along the river banks helps to reduce bank erosion. This can help reduce human exposure to contaminants in dusty and muddy areas from bare soil along banks. By planting undesirable vegetation (e.g., hawthorne) along stabilized banks you can reduce foot traffic, exposure, and prevent further bank erosion.
Removals/Capping	Removals and Capping are actions to physically remove contaminated soils and install clean barriers with soil, gravel, etc.	Sampling and Remediation of Campgrounds	Some recreation sites may be candidates for sampling and remediation through the BPRP. A developed campground meeting the criteria in the Recreation Site BPRP Eligibility Sheet (Appendix A) would be eligible for the same process used for residential yards. The soil and gravel areas of the property would be sampled, and contaminated soils would be removed to a depth of 12 inches and replaced with clean soil or gravel.

Category	Category Description	Action Alternative Example	Example Description
Access Controls	Access controls are physical barriers such as fences and roadway barricades installed to reduce public access to a contaminated area or creating a single, controlled access area that is a maintained recreation area.	Fencing off highly contaminated areas.	Fences would be installed to restrict recreational access to areas that are highly contaminated. This could be a short term action to temporarily restrict access until another action can be taken, or a long term action if other action alternatives are not feasible for a particular site.
Maintained Recreation Areas	Create designated maintained areas established for recreation. A maintained recreation area may be established using one or several of the above actions, along with community outreach and education, with the intent to provide maintained areas for specific recreation activities.	Clean Beaches	Develop designated clean beach areas that may be remediated, monitored, maintained, and seasonally resurfaced. Other public amenities such as restrooms, volleyball courts, drinking water, showers, etc. could also be installed on site to encourage use of these areas instead of informal beaches.
Pilot Projects	Pilot projects are ongoing efforts that may provide additional action alternatives that would be applicable to recreation sites in the future.	BioCement™	BioCement™ is a developing product that stimulates native soil bacteria to cement soil particles together through a process known as Microbial Induced Calcite Precipitation (MICP). BioCement™ product is shipped as a dry powder to be mixed in water. The resulting nutrient rich solution is then fed to native soil bacteria, which grow in proportion to the amount of nutrients, cementing the soil together in a hard solid material similar to limestone.

Section 6.0 Community Outreach and Education

Community outreach and education is an important way to help people manage health risks while recreating in the Basin. A robust outreach and education program has been in place for years in the area. The Community Involvement Team includes CICs from EPA and DEQ. The team coordinates closely with the Panhandle Health District, governments, and other agencies, when appropriate. In addition, a Citizen's Coordinating Council is sponsored by the Basin Commission as a forum for local citizens and interested parties.

A range of activities is designed to help recreationalists limit their exposure to heavy metals. These activities include signage, brochures, educational poster displays, exhibits at local fairs and events, children's activity books, and lead education in schools. The mascot Riley Raccoon and his family help remind people to "Keep Clean, Eat Clean, Play Clean." Facebook posts, public service announcements, and media articles also provide reminders. These efforts will continue.

Information in this section is provided to present an overview of current outreach and educational materials related to recreational activities. This work is ongoing and evolving based on concerns of the citizens and changing activities or conditions.

Common questions about recreational exposures:

Several inquiries are received each year from adults and students living in and outside the area. People are often seeking information that will help them gauge and manage their risk of exposure to contaminants while recreating. Inquiries are generally received either by phone call or during outreach events.

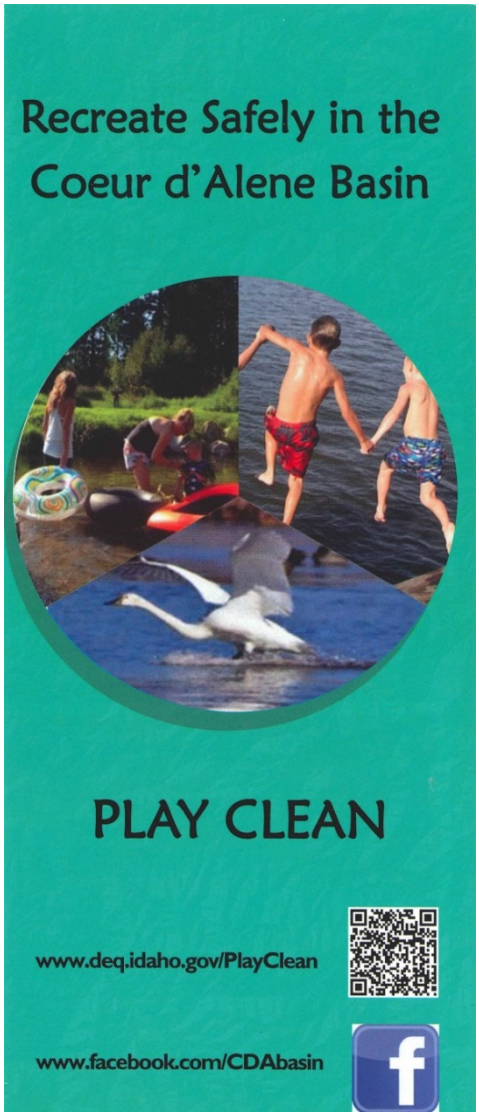
People frequently ask about the status of cleanup, the effects of lead, exposure pathways, and additional information resources. Answers to these questions are presented in a relatable manner using available technical information and human health messaging. After receiving these answers, most people say they appreciate the information and would pay more attention to using mitigation measures. People are generally satisfied to know that mitigation measures are effective for reducing risk.

In addition, information about the accomplishments of property remediation, other cleanup efforts, and improving childhood blood lead trends since the 1980s is also shared. Other information shared includes describing where cleanup has not been accomplished and where contaminants are likely to be present, such as shorelines and floodplains and several mine and mill sites where evidence of historic activity may be found. People are urged to stay off of historic mine and mill sites and to use mitigation measures when recreating.

People are relieved to know that touching the dirt is not an exposure pathway. Lead is taken into the body through ingestion, often by hand-to-mouth contact, and through inhaling soil or dust. Inadvertent hand to mouth contact, especially with kids, is a very common route of exposure. Toddlers frequently put their hands in their mouth. Several mitigation methods are described using the official messaging reported below. Symptoms of lead exposure are not always present. Blood lead testing is the only way to confirm lead levels. Testing through PHD or a doctor is advised.

People are referred to resources, as needed. Some of those resources include the following:

- Website: www.deq.idaho.gov/PlayClean as well as general project information DEQ, PHD, and EPA webpages.
- Brochures: Recreate Safely in the Coeur d'Alene Basin; Healthy Living in the Silver Valley and Coeur d'Alene Basin.
- Children's Education: Riley's Family coloring and activity book.
- ATSDR: ToxFAQs.
- Fish Advisories: IDHW fish advisory for CDA Lake (current sampling is underway to revise the 2002 Advisory).
- CDA Tribe 2001 Health Warning and Advisory
- Lead testing programs: Kellogg PHD and Idaho Medicaid Lead Testing Program.
- Referrals: EPA, PHD, CDA Tribe, and DEQ often cross-refer. We provide additional staff contacts as needed to satisfy the question.



Messaging for brochures includes:

Keep Clean, Eat Clean, Play Clean:

- After recreating in the Coeur d'Alene Basin, wash hands and face before eating.
- Bring water for drinking, cooking, and washing. Do not use water from the river - even if it is filtered!
- Eat on a table or on a blanket in grassy areas for protection.
- Remove dirt from clothes, toys, pets, and equipment before leaving area.
- Soil tracked home from recreation areas becomes an exposure source. Keep yourself and belongings clean.

Recreation Tips:

- Wear bandanas or other dust-covering over the mouth and nose when riding off-road trails.
- When you use the Trail of the Coeur d'Alene's, stay on the trail and in designated areas.
- Follow fish consumption advisories. It is best to eat fillets only.
- Do not harvest or ingest edible plants from floodplain areas.
- Prolonged exposure increases risk, especially for young children and expecting mothers.

Section 7.0 References

Avista Corporation. 2010. *Interpretation and Education Plan, License Article 418, Spokane River Hydroelectric Project, Federal Energy Regulatory Commission Project No. 2545*. Prepared by REC Resources. May 25, 2010. https://www.avistautilities.com/environment/spokaneriver/resources/Documents/2010-0176.pdf. Accessed on July 13, 2016.

Avista Utilities. 2010. Spokane River Project, Recreation Monitoring Report. Prepared for Avista Utilities. Prepared by REC Resources Pinnacle Research. May 2010.

BEIPC (Basin Environmental Improvement Project Commission). 2016. *One Year and Five Year Work Plans and Annual Accomplishment Reports*. http://www.basincommission.com/ Accessed June 22, 2016.

BEIPC. 2008. Recreation Site Inventory. Prepared by the Lower Basin Recreational Project Focus Team.

Coeur d'Alene Tribe. 2012. Integrated Resource Management Plan, k'wen' chstqhessiple' hnkhwlkhwlstsutnet "The future course of our renewal" prepared for the U.S. Department of Interior Bureau of Indian Affairs. http://www.cdatribe-nsn.gov/tribaldepts/notice/IRMP_ES.pdf.

Coeur d'Alene Tribe. 2001 Legal Counsel, Warning and Health Advisory Regarding Subsistence Activities in the Coeur d'Alene River Basin.

IDPR (Idaho Department of Parks and Recreation). 2016. *Statewide Comprehensive Outdoor Recreation and Tourism Plan*. https://parksandrecreation.idaho.gov/scortp Accessed June 22, 2016.

PHD (Panhandle Health District). 2013. *Coeur d'Alene River System Recreation Sites.* Panhandle Health District Institutional Controls Program. October 2013.

Restoration Partnership. 2016. http://restorationpartnership.org Accessed June 22, 2016.

TerraGraphics/URS (TerraGraphics Environmental Engineering/URS Greiner). 2001. *Final Human Health Risk Assessment for the Coeur d'Alene Basin Extending from Harrison to Mullan on the Coeur d'Alene River and Tributaries, Remedial Investigation/Feasibility Study.* Prepared for the Idaho Department of Health and Welfare, Idaho DEQ, and USEPA Region X.

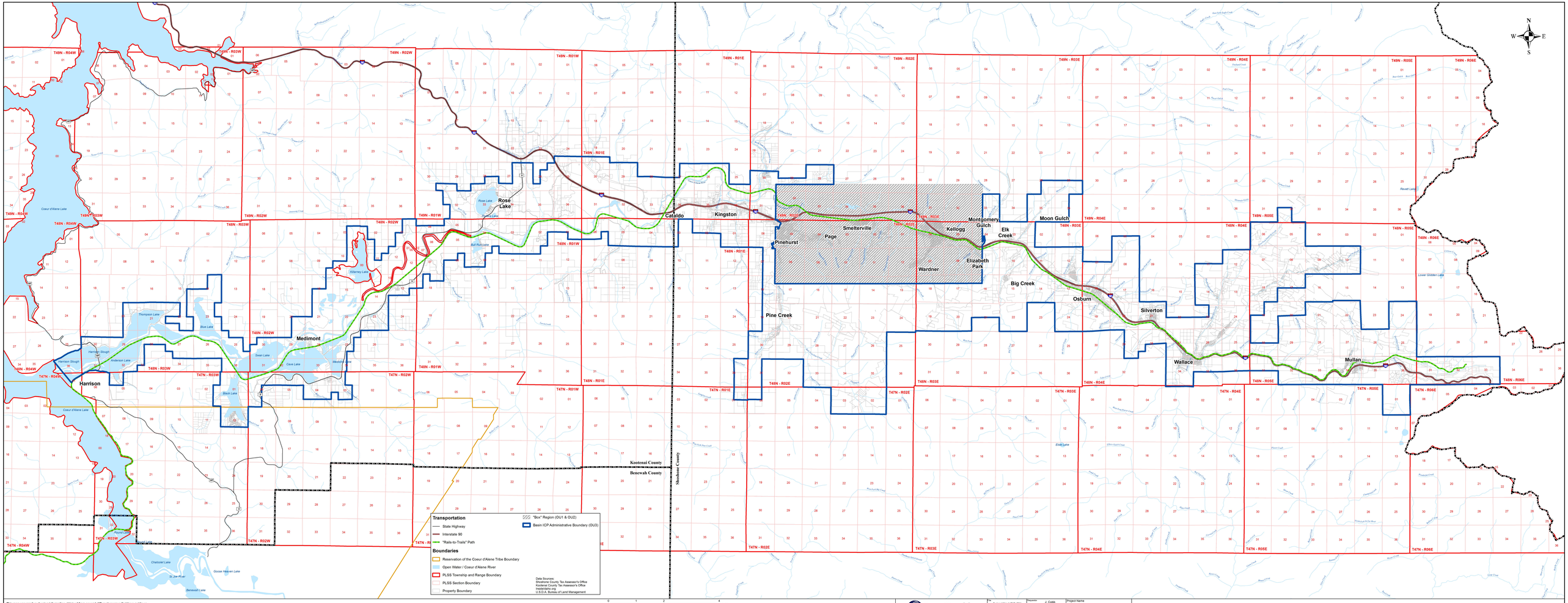
USACE (U.S. Army Corps of Engineers). 2003. *Draft Recreational Sites Notebook. Lower Coeur d'Alene River, Idaho. Bunker Hill Mining and Metallurgical Complex Operable Unit 3.* June 18, 2003.

USEPA (U.S. Environmental Protection Agency). September 12, 2002. *Record of Decision, Bunker Hill Mining and Metallurgical Complex Operable Unit 3 (Coeur d'Alene Basin), Shoshone County, Idaho.*

USFS (U.S. Forest Service). 2012. *Coeur d'Alene River Corridor Management Plan*. *North Fork and Little North Fork of the Coeur d'Alene River*. *Idaho Panhandle National Forests, Coeur d'Alene River Ranger District.* June 2012.

Appendix A.

Institutional Control Program Administrative Boundary Map



This map was produced using information obtained from several different sources that have not been independently verified. These sources have also not provided information on the precision and accuracy of the data. Information on this map is not a substitute for survey data.

TerraGraphics Environmental Engineering, Inc.
www.tgenvirco.com

Date	Bunker_Hill\mxds\PhD_2011	Designer	J. Cobb
Date Date	June 23, 2011	Project Manager	S. Spalinger
Project Number	2010-7130	Cartographer	J. Mierzwinski

Project Name: Basin ICP

Bunker Hill Mining and Metallurgical Complex Superfund Site, Operable Units 1, 2 & 3

Appendix B.

BPRP Recreation Site Eligibility Screening Criteria

Site Name: Site Address:

Parcel Number: Owner Name:

GIS ID Number:

Recreation Site BPRP Eligibility Sheet

General Notes

- **One or two of the balancing criteria need to be met, along with all threshold criteria, for a site to make it into the BPRP program.**
- **The developed versus undeveloped aspect is important in distinguishing which sites should be in the BPRP and which are better suited for the Recreation Sites program.**

Threshold Criteria (all three must be met)

Item	Check All That Apply	Comments
Sampling data, or anecdotal evidence of contamination, warranting sampling or remediation	☐	
Evidence or records of occupation (especially by children and pregnant women) during the summer (dusty season) prior to ICP date	☐	
Road for access to site and for potentially bringing in equipment to remediate	☐	

Page 1 of 2

Balancing Criteria

Item	Criteria	Value	Score
Flooding frequency and sedimentation	Annual Flooding	0	
	2-5 Year Flooding	1	
	5-10 Year Flooding	2	
	10+ Year Flooding	3	
	No Flooding	4	
Permanent structures that support infrastructure of developed rec. site	No permanent structures	0	*Add up all criteria that apply to maximum of 5 points
	Storage building(s)/concrete slabs for RVs/campfire areas	1	
	Storage building(s) with utilities, sprinkler system, etc.	2	
	Playgrounds or sports courts/fields	3	
	Covers or roofs for trailers/gazebo possibly with barbeque	4	
	Covered kitchens, especially with electric appliances	5	
Power, water, or other utilities available on the site	Septic System/Sewer	2	
	Portable Toilets	1	
	Potable Water	2	
	Natural Gas/Fixed Propane Tank	2	
	Irrigation Water	1	
	Power	1	
	Garbage Service	1	
	Other	1	
Types of use and duration (tent camping, RV's, every weekend sporadically, etc.)	>90 days	5	
	60-90 days	4	
	30-60 days	3	
	14-30 days	2	
	7-14 days	1	
Proximity to residences	500-1000 ft from residence	2	
	>1000 ft from residence	1	
TOTAL SCORE			

Page **2** of **2**