

Upper Coeur d'Alene Basin Proposed Plan

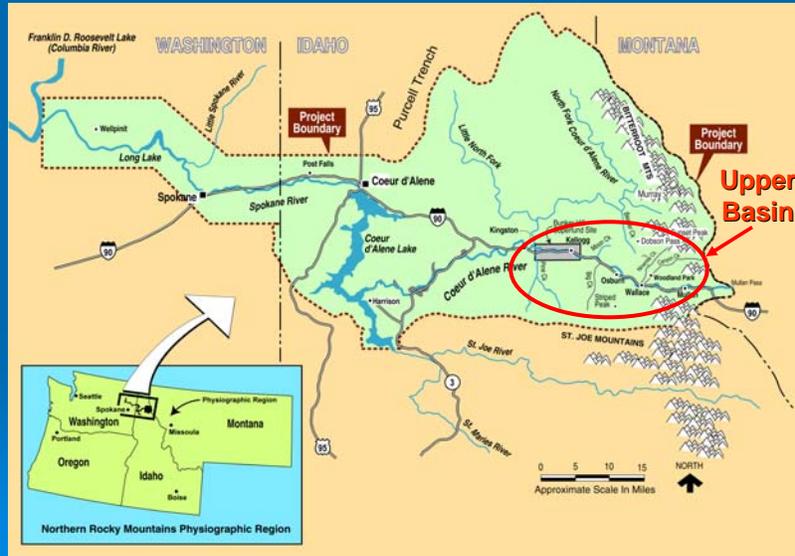


Coeur d'Alene Chamber of Commerce
October 21, 2010

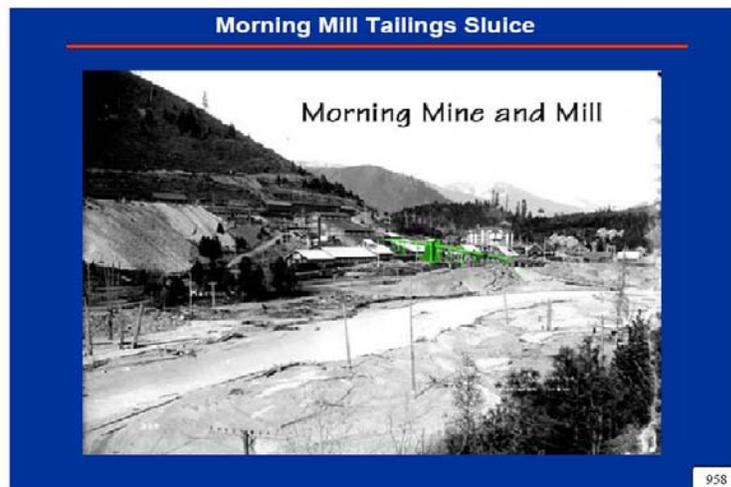
Agenda

- Bunker Hill Superfund Site Overview
- Why do we need a Record of Decision Amendment?
- Proposed Plan Overview
- Questions & Answers

Coeur d'Alene Basin Location



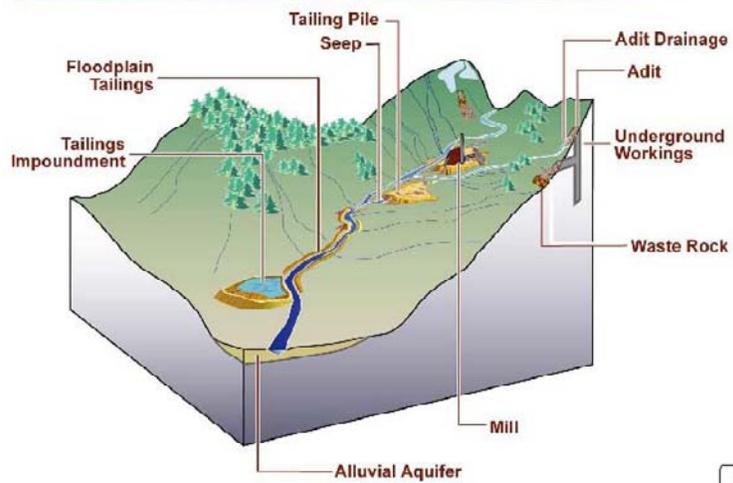
Long storied history of mining



Led to sites like this



Source and Pathway Overview



965



Summary of Basin-Wide Risk Findings

- **Direct human contact** to lead-contaminated soil, sediment and dust
- **Significant ecological impacts** from surface water, groundwater and soil/sediments
 - Fish and other aquatics significantly impacted from elevated Zn and Cd
 - Reduced species diversity/density and habitat fragmentation
 - Waterfowl mortalities due to ingestion of lead-contaminated sediment reported for decades



Bunker Hill Mining and Metallurgical Complex Superfund Site

Site listed on NPL in 1983

- OU1 – Box Populated Areas/ROD in 1991
- OU2 – Box Non-populated Area/ROD in 1992
- OU 3 – Coeur d'Alene Basin Interim ROD in 2002

Why ROD Amendment Now?

- Present a comprehensive cleanup plan for the Upper Basin
 - Reflects improved knowledge of the site
 - Addresses National Academy of Sciences recommendations
 - 2002 Interim ROD was never intended to be a complete set of actions to meet water quality standards
 - Addresses groundwater and impaired surface water quality in “OU2” or Box non-populated areas
- Include actions to protect remedies from tributary flooding and heavy precipitation

Improved Site Understanding

- Evaluation of actions already completed, monitoring data, and pilot studies
- Better understanding of source areas with high dissolved zinc
- Revised approach and conceptual designs for hydraulic isolation and water treatment
- Evaluation of permeable reactive barriers
- Evaluation of OU2 Box Phase I cleanup actions

Upper Basin ROD Amendment Approach

➤ Remedy Protection Alternatives

- Protects existing remedy from tributary flooding and heavy precipitation

➤ Remedial Alternatives

- Updates 2001 alternatives for Coeur d'Alene Basin (OU3)
 - Added mine/mill sites
 - Change in water treatment strategy
 - Learnings from pilot studies integrated
- Box (OU2) Phase II actions for water quality

Remedy Protection Focus

- Proposes specific infrastructure actions to address identified risks to clean soil barriers that protect people's health
- Addresses previously experienced flooding issues
- Provides framework to evaluate additional side gulches



Remedy Protection Components of Preferred Alternative

- 14 actions to safely move storm run-off through communities to the SFCDR:
 - Armor/pave roadside ditches
 - Make culverts larger
 - Replace inlet structures
 - Make channels wider
 - Install below grade bypass drainage pipes
- Framework to evaluate 18 Side Gulches

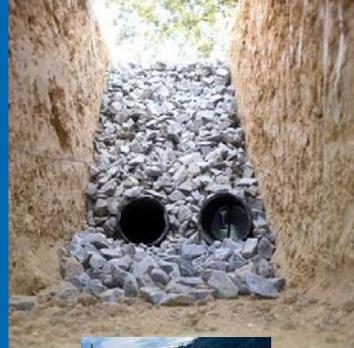
Excavation, regrading and capping

- Alt 3+ and Alt 4+ include actions at 345 and 760 mine and mill sites respectively
- Focuses on key source areas such as floodplain tailings and mine/mill areas prone to erosion and leaching
- Actions are mainly:
 - Consolidation of wastes in upland areas
 - Capping based on waste type and loading potential



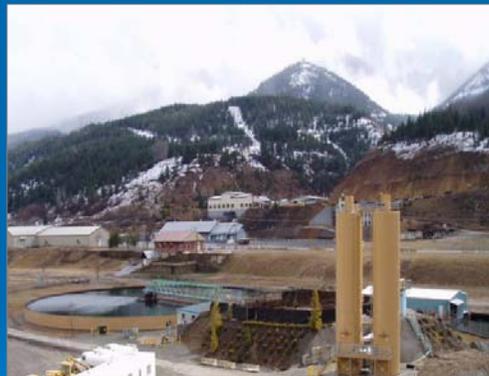
Hydraulic Isolation

- Stream lining in key gaining reaches
- French drains for groundwater collection
- Targeted source control actions
- Piping of groundwater to Central Treatment Plant

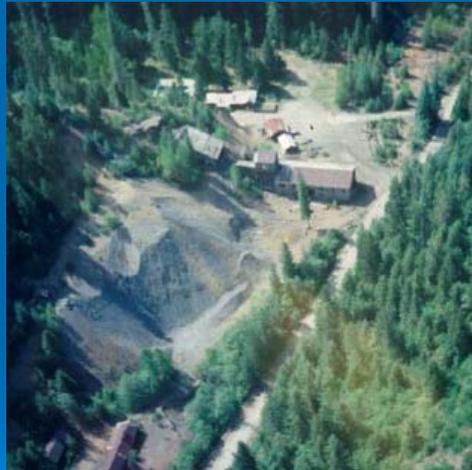


Central Treatment Plant Upgrades

- Expansion of CTP from 5,000 gpm up to 33,000 gpm depending on alternative
- Discharge pipeline to South Fork
- Expansion to be done in phases as source areas connected
- Provides greatest efficiency for treatment of all waters within existing plant area



Stream and Riparian Cleanups



Silver Crescent Mill and Tailings Site
US Forest Service project



1999 – Removal Action
Construction

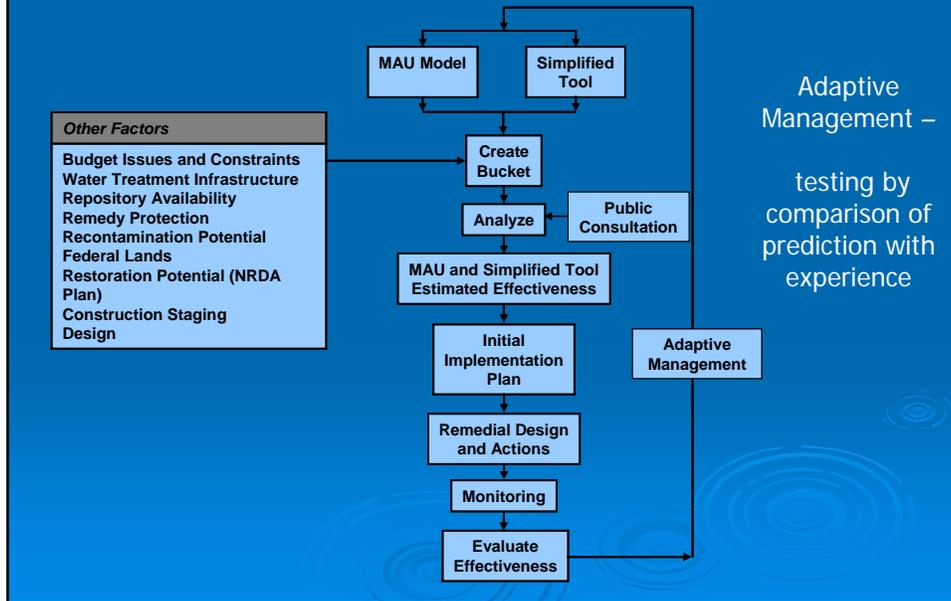


Summer 2009

Anticipated Benefits of Preferred Alternative

- **Reduce dissolved metals** in surface water and groundwater to improve conditions for fish and other aquatic life
- **Reduce particulate lead** in surface water
 - Reduce exposure and potential for recontamination downstream
 - Helps start cleanups in Lower Basin
- **Reduce direct contact** with heavy metals in mine waste by people and wildlife
- **Protect remedies** already completed from damage during tributary flooding and high precipitation

Implementation Plan Approach



Schedule

- **Fall 2010/Winter 2011** –
 - Evaluate and consider public comments
 - Develop Responsiveness Summary
 - Continue development of Implementation Plan

- **Mid-2011**– Issue Record of Decision Amendment

Conclusions

- **Significant measurable risks** exist today to people and the environment – the large cost and long time frame for cleanup is proportional to the magnitude of the problem
- **Upper Basin ROD Amendment is needed to:**
 - Provide a comprehensive set of actions to meet surface water quality standards and protect human health
 - Provide actions in local communities to protect human health remedies already in place from tributary flooding and heavy precipitation
- **Preferred Alternative** - \$1.3 Billion and decades to implement
- **Continual selection of highest priority and effective actions is critical**
- **Community input now and in the future is very important**

