

Assessment and Recovery of Natural Resource Damages

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U.S. Law Remedies for Environmental Damage

- Criminal fine or (for individuals) imprisonment
- Civil penalty
- Order to install pollution controls or perform cleanup work (can be administrative or judicial)
- Lawsuit to recover cleanup and investigation costs paid by the government
- Lawsuit for natural resource damages (NRD)

Objective of NRD Claim

- Restore injured natural resources to “baseline” or provide (create or preserve) equivalent resources
- Compensation for interim losses to the public from the time of injury (or 12/11/80) until return to baseline
- The U.S. and States must use damages only to restore, replace, and/or acquire equivalent natural resources.

Relationship between Cleanup and Natural Resource Damages

- Cleanup seeks to eliminate exposure to harmful levels of hazardous substances or oil – controlling risks of further harm to public health or environment.
- NRD addresses past harm and any continuing harm to natural resources that the cleanup work does not correct.
- NRD should generally be assessed after the cleanup plan is known – “residual” to cleanup.

Natural Resource Damages

- NRD claims address past harm and continuing harm to natural resources not corrected by the cleanup work
- Examples:
 - After EPA removes hazardous substances dumped into river, but fish killed by the spill are still absent, and habitat has been damaged.
 - Mangroves killed by oil spill need decades to re-grow even after all oil is removed.
 - Sediments in contaminated wetland removed, but native plants are removed and habitat features are altered.

U.S. Laws Providing NRD Claims

- Clean Water Act
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund)
- Oil Pollution Act
- National Marine Sanctuaries Act
- Park System Resources Protection Act
- Certain State Laws

Who May Bring NRD Claims?

- Designated Federal and State agencies acting as “Trustees” on behalf of the public,
- Indian tribes on behalf of their members
 - Federal and State Trustees usually have concurrent claims, which may also overlap the claims of Indian tribes
- Citizens have no accepted right to bring NRD claims
 - However, citizens have rights to notice and comment on proposed settlements and restoration plans

Federal Natural Resource Trustees

- Trustees With Broad Jurisdiction:
 - U.S. Department of the Interior (DOI), for migratory birds, wetlands and freshwater resources, and endangered species
 - National Oceanic and Atmospheric Administration (NOAA), within U.S. Department of Commerce, for marine resources and anadromous fish
- Land-manager Trustees: Department of the Interior, Department of Agriculture-Forest Service, Department of Defense, and Department of Energy

Definition of “Natural Resources”

- Broadly defined
- “Land, fish, wildlife, biota, air, water, ground water, drinking water supplies” and other such resources
- “Other such resources” tends to include sediments, soils, specific habitat types.




Liability

- Damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release. (CERCLA)
- “Or loss of use of natural resources (OPA).

Measure of Damages

- (1) Costs of restoring, [rehabilitating,] replacing, or acquiring the equivalent of the injured natural resources,
- (2) Compensation for interim lost “services” – lost benefits to the public from the onset of injury until restoration is complete, *plus*
- (3) Reasonable costs of damages assessment.

Elements of Natural Resource Damages Cause of Action

- **Release** of hazardous substances
 - From a **facility**
 - Defendant is within one of 4 classes of **responsible parties**
 - **Injury** to natural resources within trusteeship
 - Injuries **resulted from** release
 - **Damages**
- 

Who are responsible parties?

- Present Owners and Operators of the contaminated site
- Owners and Operators of the site at the time of disposal
- Transporters – e.g., Haulers that picked up waste and chose the disposal site
- “Arrangers” - Anyone who arranged for the disposal of a hazardous substance that winds up at the site.

What is “Injury?”

- CERCLA definition: “A measurable adverse change, either long- or short-term, in the chemical or physical quality or viability of a natural resource.”
 - *Per se* injuries
 - Levels that exceed regulatory standards
 - Fishing closures or consumption advisories
 - Endocrine markers that confirm exposure

Natural Resource Damage Assessment Regulations

- CERCLA rule for large cases (“Type B rules”) issued by Department of the Interior.
- Simplified model (“Type A rule”) to compute damages in small CERCLA cases – issued for marine ecosystems and the Great Lakes only.
- Separate rule for NRDA under Oil Pollution Act, issued by National Oceanic Atmospheric Administration.

Phases of Natural Resource Damage Assessment under Type B Rules

- Preassessment Phase
- Assessment Plan Phase
 - Injury Determination Phase
 - Quantification Phase
 - Damage Determination Phase
 - Post-Assessment Phase

The Concept of Services

- Natural resources are viewed as assets that provide a flow of services
 - Human use or direct enjoyment
 - Human non-use (or passive use) values : option value, bequest value, existence value
 - Ecological benefits to other resources
- NRD can focus either on restoring natural resources or on providing replacement services

One Method Used for Determining Natural Resource Damages

Damages Measured by Determination of Restoration Costs

- Primary Restoration – projects to return natural resources and services to “Baseline”, *plus*
- Compensatory Restoration – projects to compensate public for interim losses, from time of initial injury to time primary restoration is complete.

>> Pure economic valuation of loss allowed only when it is not practical to develop restoration plan

Habitat or Resource Equivalency

- Equation or model that scales compensatory restoration to match estimated ecological losses
- Habitat Equivalency Analysis (HEA) or Resource Equivalency Analysis (REA)

Great Lakes Dredge and Dock

- Vessel ran aground in Florida Keys National Marine Sanctuary, after a pipe hanging from the barge it was towing dug a long scar in sea grass beds
- Sea grass in the pipe scar took 3 years to recover.
- Estimated sea grass recovery time at the grounding site was 70 years even after restoration; hundreds of years without restoration

Great Lakes D&D Litigation

- HEA used to calculate the amount of *additional* area of sea grass planting needed to compensate for the years of interim loss, both in the pipe scar and at the grounding site
- Method was challenged at trial and upheld by both trial and appellate courts. See United States v. Great Lakes Dredge and Dock Co., 259 F.3d 1300, 1305 (11th Cir. 2001).

Coeur d'Alene Basin NRD Litigation

INTRODUCTION ▶ 1-5

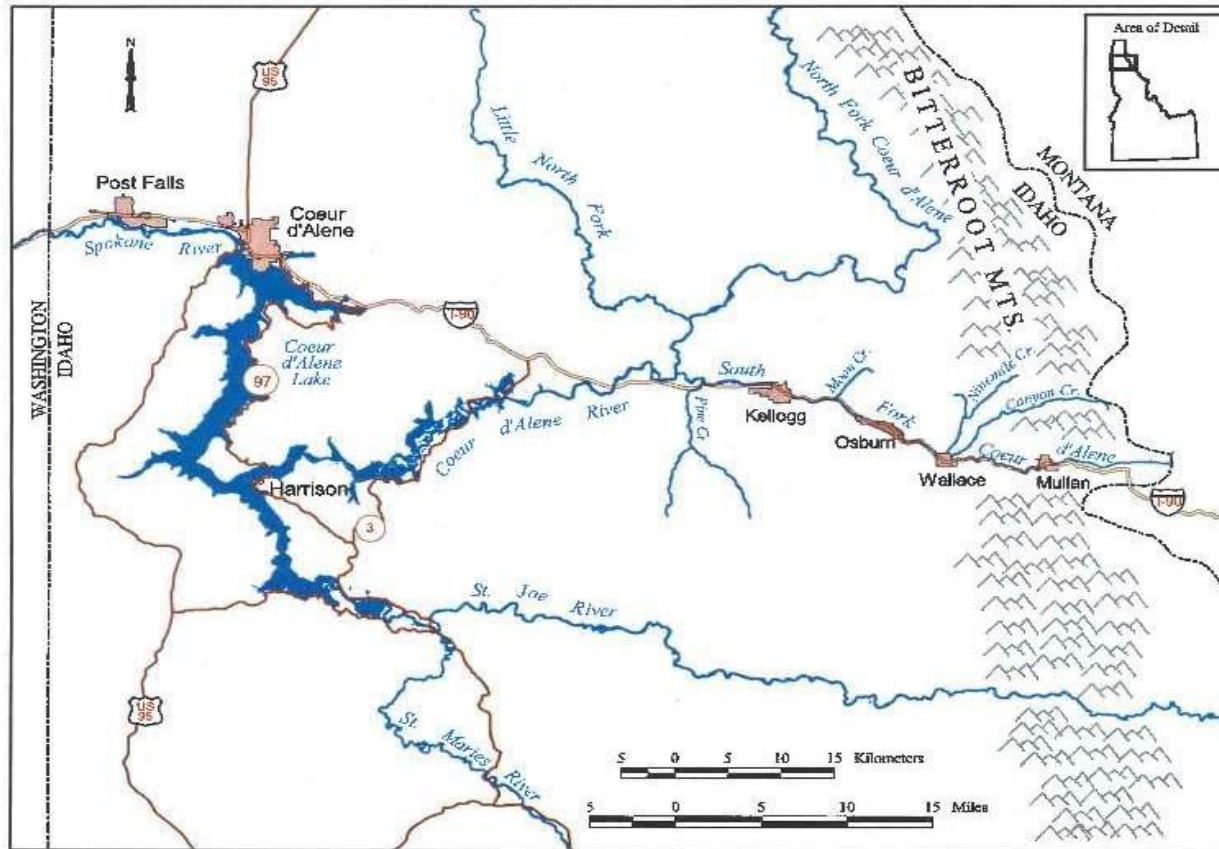


Figure 1-2. Map of Coeur d'Alene River basin.

Coeur d'Alene Basin Litigation



Historic Mining Operation

Tiger Pools. Bmp

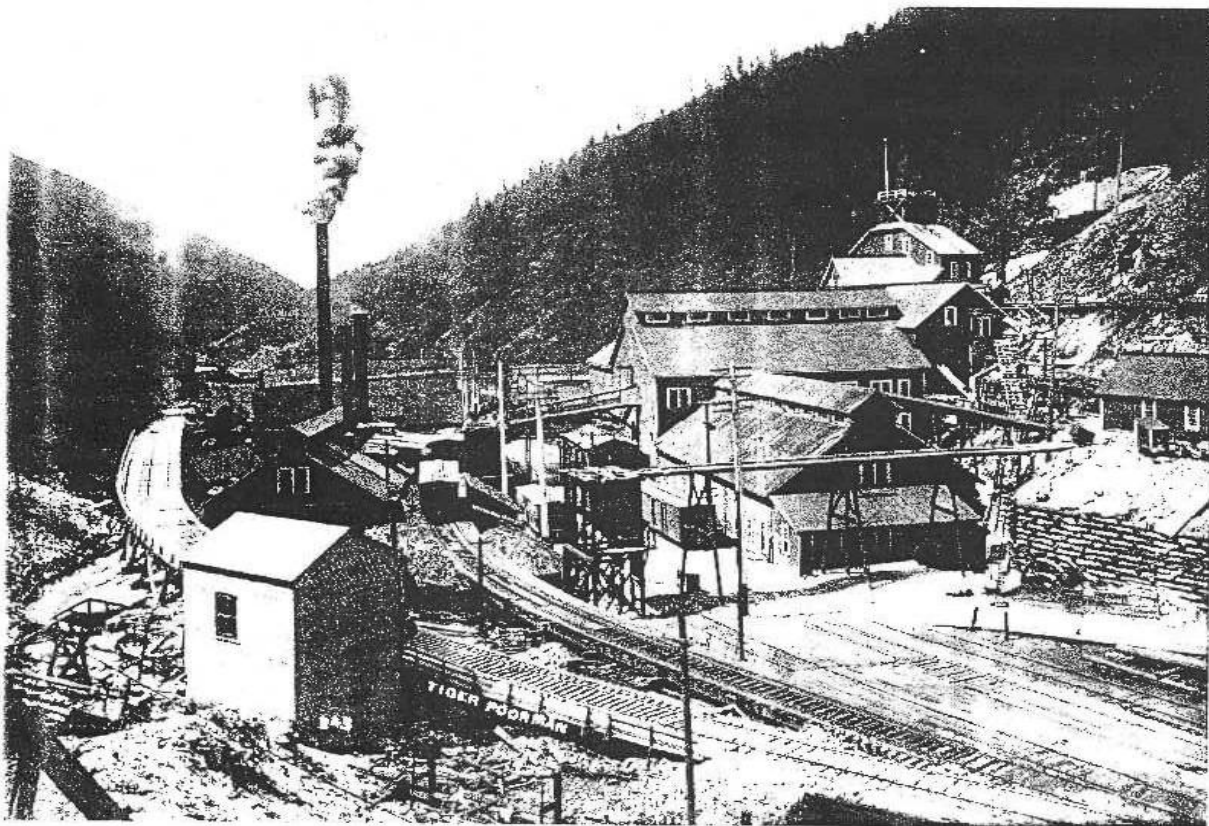
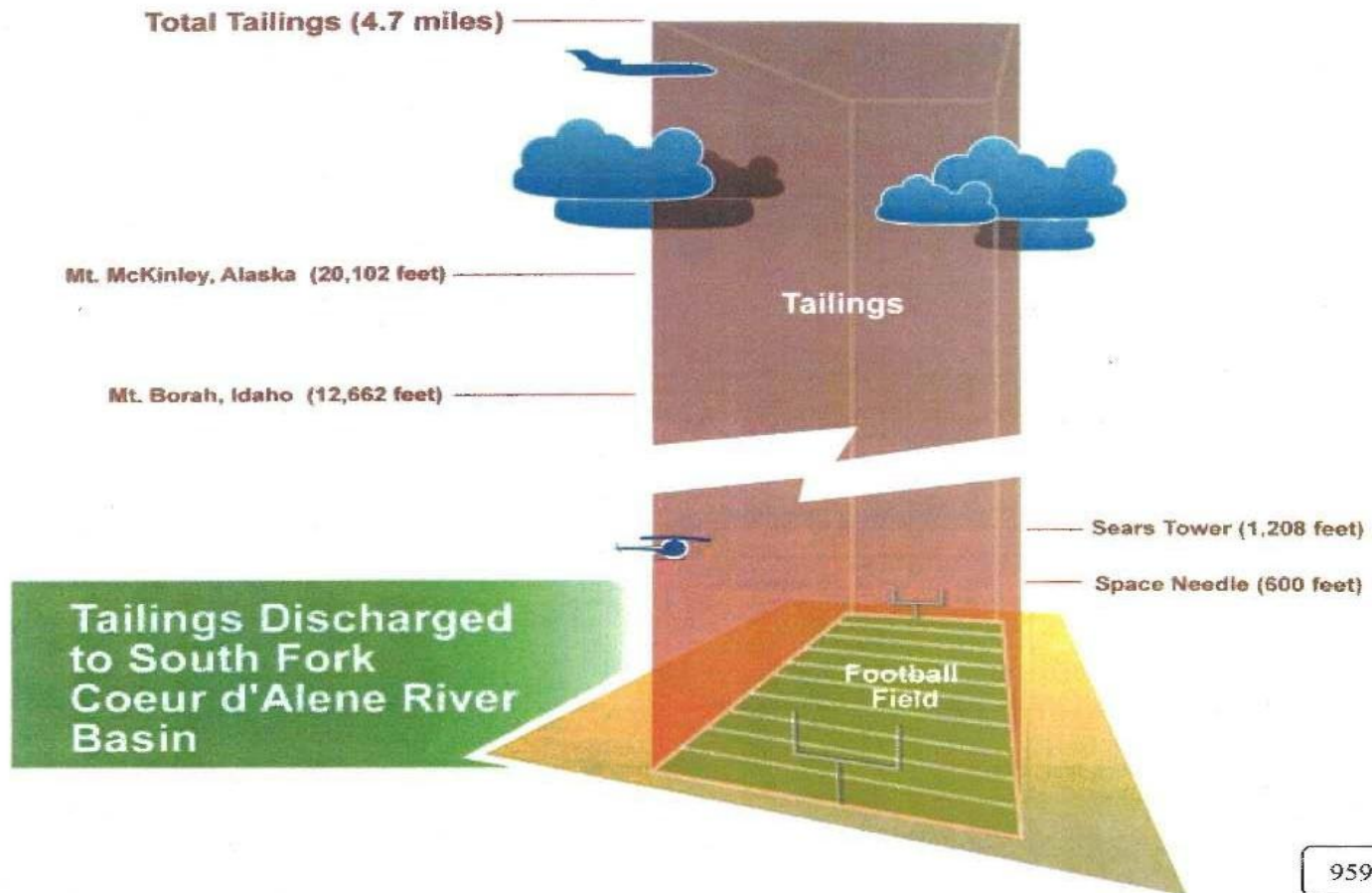


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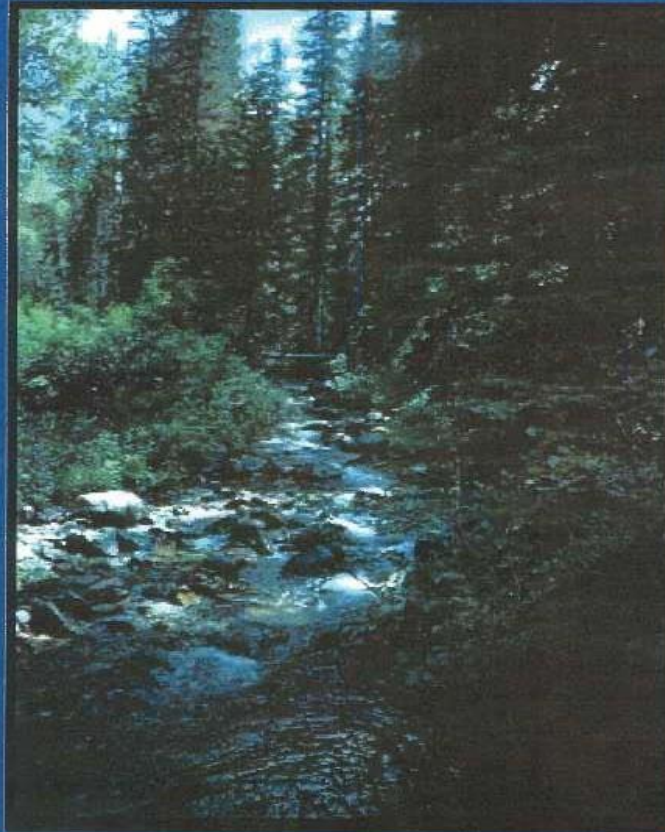
Releases of Mine Tailings



River Upstream of Mining Impacts

Upper Carli Creek

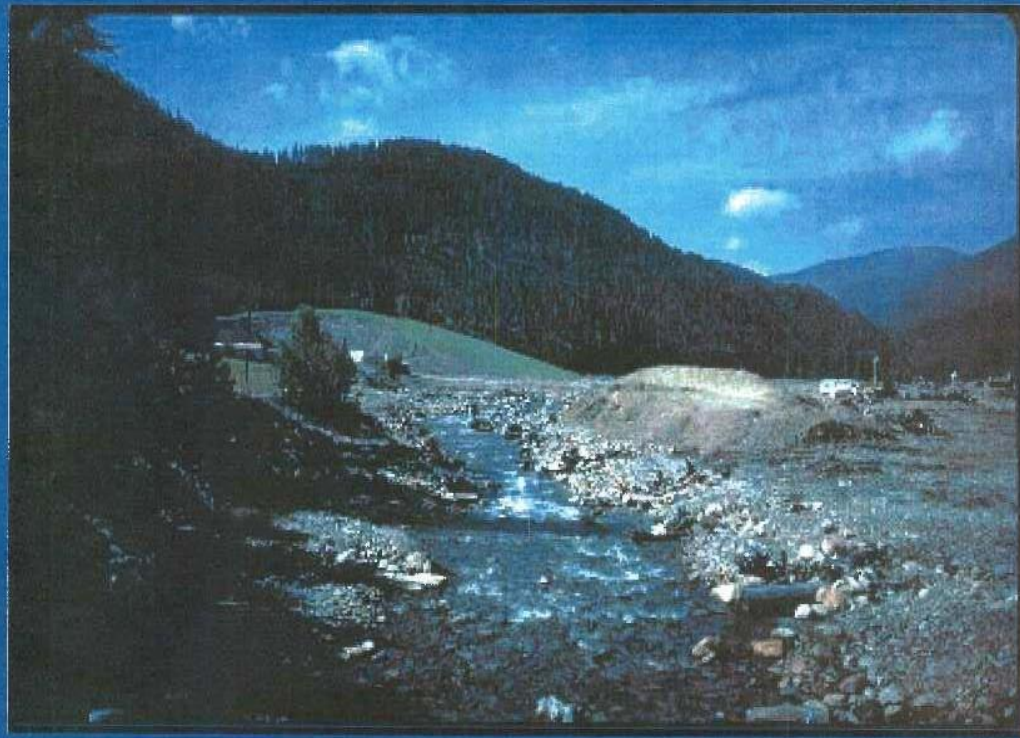
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River Downstream of Mining Impacts

Lower Canyon Creek



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Summary of Injuries Determined

▶ Surface Water

- Exceedences of Aquatic Life Criteria

▶ Sediments

- Sediment exposure injures wildlife, plants and invertebrates

▶ Riparian Resources

- Loss of streamside vegetation
- Reduced habitat for biota

▶ Fish and Aquatic Invertebrates

- Death
- Avoidance
- Physiological malfunctions

▶ Wildlife

- Death
- Physiological malfunctions and physical deformation

Settlements in Coeur d'Alene Basin Litigation

- Settlement with Asarco: bankruptcy settlement includes \$79.5 million for NRD and \$485 million for response costs.
- Settlement with Hecla: \$65.85 million for NRD and \$197 for response costs.

Restoration Actions



Acquisition Actions

