Mine Impacted Streams
Task Force

International Erosion Control Association
Nov 16, 2017
Mining History

- Gold Rush in Colorado 1850s
- Most mining prior to current environmental regs 1970s
- Acid Rock Drainage
- 1800 stream miles impaired

Photo Credit San Juan County Historical Society
Mine Impacted Streams Task Force

Gold King - August 2015
Questions:

• Where are the abandoned mines in Colorado?
• How many are there?
• Which ones impact water quality?

Mine Impacted Streams Task Force:

• WQCD
• Division of Reclamation Mining and Safety
• Hazardous Materials and Waste Management Division
Mining Impacted Streams Task Force

Developed Two Initiatives:

• Abandoned Mine Inventory

• Draining Mines Water Quality Study
Inventory

Goal - Publicly available comprehensive interactive map of abandoned mine sites in Colorado.

1. Contracted with Colorado Geologic Survey
2. Multi-agency Steering Committee:
   - DRMS
   - WQCD
   - Bureau of Land Management (BLM)
   - Department of Energy (DOE)
   - Environmental Protection Agency (EPA)
   - National Park Service
   - United States Forest Service (USFS)
   - U.S Fish and Wildlife
Inventory

- Started 2016
- Each agency had propriety data management tools
- Address concerns regarding data being publicly available
- Developed cloud based interactive Map
- Presents existing federal and state data sources
- 50,000 + Records

CO Abandoned Mine Lands Info Hub

https://erams.com/aml
Inventory

Benefits:
1. Calls regarding discolored stream water
2. Sick pets
3. Internal / external watershed planning

Next Steps:
• Interagency system functionality
• Stream assessment information
• Federal, State, NGO collaboration on restoration efforts
• Include Abandoned Mine Water Quality Study Data
Abandon Mines Water Quality Study

Goal - Survey and collect water quality data at mines suspected of impacting water quality without recent investigations or restoration
Draining Mines Study

1. Division of Reclamation Mining and Safety / Water Quality Control Division partnership

2. Study championed by Governor Hickenlooper in 2016 State of State address

3. Surveyed and sampled 145 mines (prioritized from 230)

[https://erams.com/co-abandoned-mines-water-quality](https://erams.com/co-abandoned-mines-water-quality)
# Study Results

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Minimum Value</th>
<th>Median Value</th>
<th>Maximum Value</th>
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</thead>
<tbody>
<tr>
<td>Flow (GMP)</td>
<td>0.05</td>
<td>13.4</td>
<td>1,497</td>
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<tr>
<td>Cadmium (ug/l)</td>
<td>Below Detection</td>
<td>2.35</td>
<td>1,100</td>
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<tr>
<td>Cadmium (lb/day)</td>
<td>Below Detection</td>
<td>0.00042</td>
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<tr>
<td>Zinc (ug/l)</td>
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<td>320,000</td>
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<tr>
<td>Zinc (lb/day)</td>
<td>Below Detection</td>
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<tr>
<td>pH (standard units)</td>
<td>2.21</td>
<td>6.55</td>
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</tbody>
</table>
Study - Next Steps

Continue federal, state and NGO collaborations - Mixed Mine Ownership Group

Group mines into water quality impact categories:
1 - Mine discharge exceeding water quality standards on impaired stream
2 - Mine discharge exceeding water quality standards on attaining stream
3 - Mine discharge attaining water quality standards

Other important factors:
Pollutant loadings, restoration funding, owner cooperation, access, etc.
Questions / Resources

MISTIF Website:
https://www.colorado.gov/pacific/cdphe/WQ-Mine-Impacted-Streams-Task-Force

Blog on Mining and Water Pollution:
https://blog.yourwatercolorado.org/tag/acid-mine-drainage/

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