



Mine Impacted Streams Task Force



COLORADO
Department of Public
Health & Environment

International Erosion Control Association
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Mining History

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

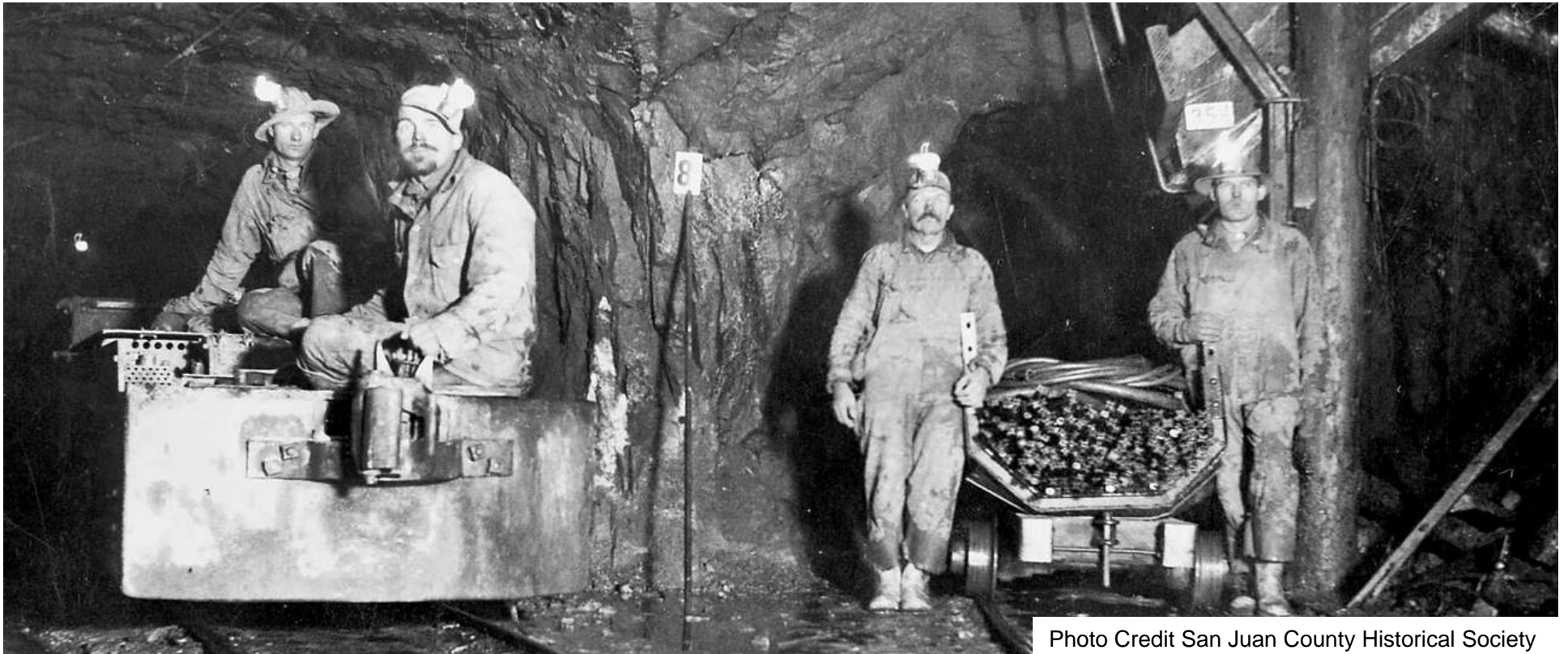


Photo Credit San Juan County Historical Society

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>

Study Results

Parameter	Minimum Value	Median Value	Maximum Value
Flow (GMP)	0.05	13.4	1,497
Cadmium (ug/l)	Below Detection	2.35	1,100
Cadmium (lb/day)	Below Detection	0.00042	0.065
Zinc (ug/l)	Below Detection	905	320,000
Zinc (lb/day)	Below Detection	0.14	14.13
pH (standard units)	2.21	6.55	8.66

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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Environmental Data Unit