Animas River Stakeholders Group
A Collaborative Partnership
Animas River Stakeholders Group (ARSG)

- Formed in 1994 as a collaborative Process to Improve Water Quality in the Animas River Basin.

- Remediate Legacy Mine Sites in the Headwaters of the Animas River in Southwest Colorado.
Stakeholders of ARSG
Anyone who Comes to the Table

Government –
• **Federal Agencies**: BLM, USFS, USGS, EPA, BOR

• **State Agencies**: DRMS, DOW, WQCD, CDPHE, Colorado Geological Survey

• **Local Government**: San Juan County, La Plata County, Southwestern Water Conservation District, Town of Silverton, City of Durango, Southern Ute Indian Tribe
Stakeholders of ARSG
Anyone Who Comes to the Table


- **Other Entities:** San Juan Citizens Alliance, Trout Unlimited, Friends of the Animas River, San Juan Historical Society, Mountain Studies Institute, River Watch, Trust for Land Restoration.

- **Individuals:** Interested citizens of the Animas River Basin.
ARSG Approach

- ARSG is not a formal entity. Use San Juan Resource Conservation and Development Council for 501 (c) (3).

- Anyone can be a stakeholder and participate

- Make decisions by informal consensus.

- Don’t try to assign blame – solution focused.

- Don’t get involved in permitted sites.
Characterize abandoned and inactive mine sites (~185 draining mines and ~ 200 mine waste piles sampled).

Determine feasibility of remediation of sites and prioritize top candidates for remediation.

Propose water quality standards based on remediation feasibility. (standards were adopted in 2001)

Remediate sites – over 50 Projects Completed.
All entities agreed upon using the same sampling protocols.

Water Quality

Biological Monitoring of Macro Invertebrates and Fish

Problem: Lab reports were in various forms making it difficult to load results in ARSG database.
Advantages to a Collaborative Approach to Building a Water Quality Data Base

1. Participating gets you a seat at the table in how the data is collected and analyzed.

2. By pooling resources or coordinating, the various water quality objectives of different entities can be met less expensively.

3. Collecting data systematically makes it more useful, especially over the long term.

4. Data collection is a good way to build community trust and understanding amongst stakeholders.

5. Working collaboratively can reduce conflicts over data, and potentially the expense of having to collect more data.
Advantages (cont’d)

6. Having a good database can demonstrate “truth on the ground”, where metal loading is actually occurring, whether it is from natural sources, legacy mines, or newer mine sites.

7. A good database can help prioritize where more data collection or investigation should be targeted.

8. Good baseline data gives a reference to determine the impacts or lack of impacts of new operations or new remediation.

9. Having a good database can help prevent the setting of unrealistic water quality standards.
Some Remediation Examples

Before and After
Mineral Point Area

Between Animas Forks & Engineer Pass
(Opposite Denver Lake)
Lucky Jack Mine Wastes

Aerial View

Before Remediation
Lucky Jack Mine Wastes

6 months after

After Remediation

12 months later

6 months after
Headwaters of Mineral Creek

Red Mountain Pass
East Side
Koehler Tunnel

Before

After
San Antonio Mine

Before

After remediation
Carbon Ditch Mine Infiltration Control

Before

After
Did it make a difference?
Cadmium

Dis Cd at M34

Dis Cd (µg/l)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

85th Cd 1992-95
85th Cd 2006-10
Std. 2006-10
Another Example

Open Stope – Pride of the West Mine
Cunningham Gulch
Pride of West Stope Infiltration Control Project
Questions
(Anytime)

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