



BUILDING UNITY FROM DISASTER: LESSONS LEARNED FROM A COMMUNITY FORUM

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Gold King Mine Spill: The Crisis

“On August 5, 2015, a U.S. Environmental Protection Agency (EPA) work crew digging into the Gold King Mine (GKM) Level 7 adit near Gladstone, Colorado, triggered a blowout and ongoing discharge of impounded mine water. The EPA reported that more than 3 million gallons of acidic mine water containing sediment, heavy metals, and other chemicals discharged into Cement Creek, which flows into the Animas River, and into New Mexico where the Animas River joins the San Juan River before flowing into the Navajo Nation and Utah. EPA also estimated that more than 400,000 Kg of metals entered the Animas River as a result of the GKM discharge.”

From the “Animas, San Juan Spring Runoff Preparedness Plan” drafted by 24 state, tribal, county, municipal and federal agencies. March 24, 2016.

Community Response to Gold King Mine Spill: Concerns

- Initial notification of spill was correct but not according to an official plan
- Communication breakdown: Agricultural community initially not in the loop; tribal notifications were not consistent
- Jurisdiction for closing river for recreational use was unclear
- Networks not well established prior to emergency
- Public information responses vary

Response to Gold King Mine Spill: Needs

We need to communicate.

We need to make a plan.

We recognize that we need to:

- Build trust – don't play the name and blame game
- Local plan – Local responses are in place and nimble
- Use local knowledge – institutional, public, and 'old timers'
- Build community networks BEFORE an incident

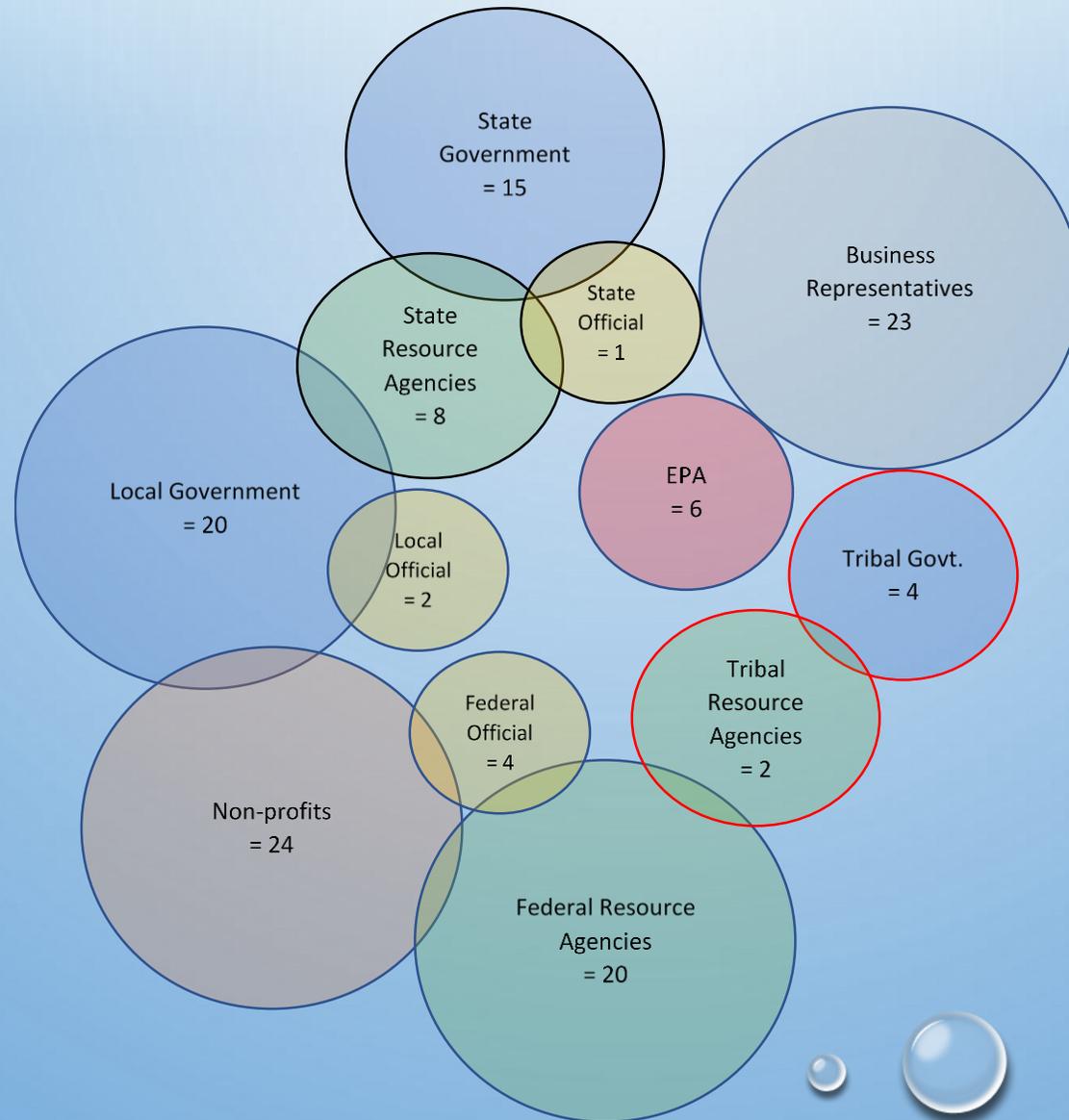
Animas River Community Forum: Mission

- **Promote** communication, coordination and collaborative action;
- **Foster** public confidence;
- **Support** resiliency in our communities; and
- **Enhance** planning, improved public safety and health for the future

All while honoring the institutional authorities and decision making of governmental and community organizations.

Animas River Community Forum: Members

**Total Members
= 129**



Animas River Community Forum: Outcomes

- Emergency response improvement
- Public engagement
- Monitoring gaps analysis
- Facilitate dialogue

Outcomes: Emergency Response Improvement

“Animas, San Juan Spring Runoff Preparedness Plan”
drafted by 24 state, tribal, county, municipal and
federal agencies. March 24, 2016.

Ongoing Challenges:

- Communication network must be kept up to date due to staff changes
- Crises in the watershed include more than mine spills (fire and floods are imminent)

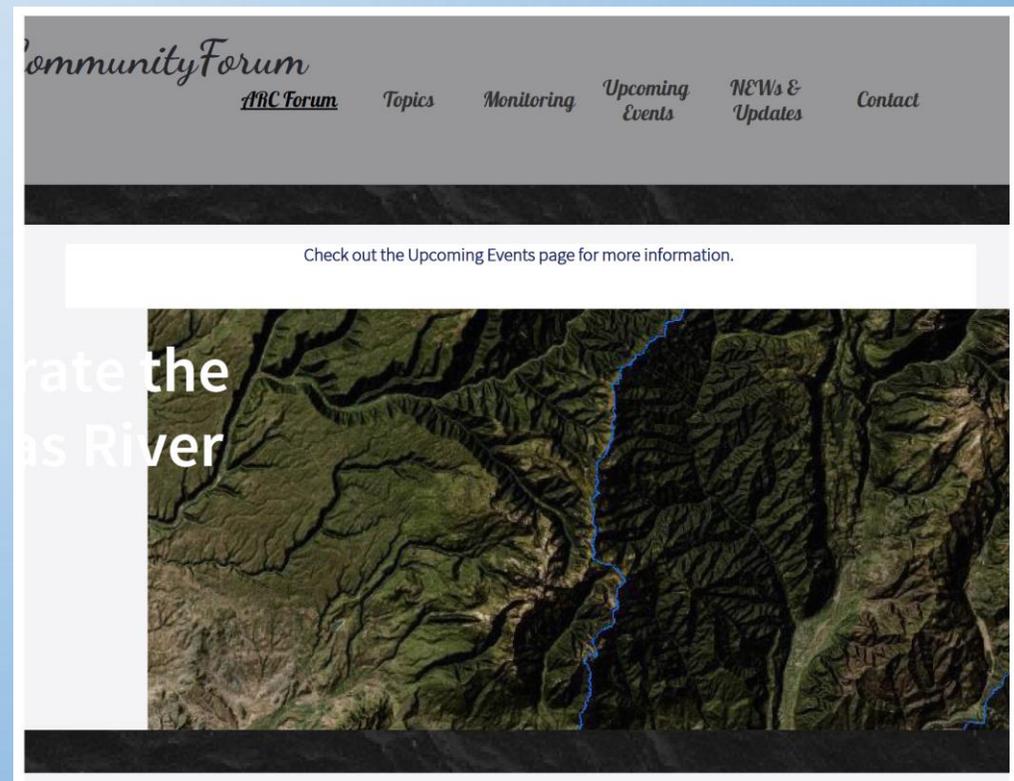
Outcomes: Public Engagement

- 2 forums regarding Gold King Mine spill information with question and answer sessions (fall 2015)
- 3 forums targeted information to specific user groups (rafting, recreation, and irrigation) regarding water quality (prior to Spring runoff 2016)
- One Year Anniversary event Celebrating Community Response to GKM Spill (August 2016)
- Presentations at 2 conferences and for 3 community groups (2017)

Outcomes: Public Engagement

Web page development
animasrivercommunity.org

Challenge: Requires funding for personnel to maintain – an ongoing challenge.



Outcomes: Public Engagement

Engagement Committee: formed to develop a communication plan for the ARCF

Accomplishments:

- Refining most effective communication methods
- Re-designing website
- Developing effective resource leveraging among partners

Outcomes: Monitoring Gaps Analysis Committee

Committee Goals:

Identify and make available timely and important information for decision makers and the public

Identify our resources and community in order to establish a resilient community that is able to avoid and/or respond to disasters impacting our environment, economy and quality of life

Monitoring Gaps Analysis Committee: Plan

Resilient Community - Response Adequate to Avoid Disaster

Data to Information to Decision/Story



Create Monitoring Collaboration

Geographic Scope: Animas
Watershed

Data Objective: Baseline

Replicable



Survey to identify monitoring questions...

Final report...

Process to Get to Information/Decisions/Stories

Define Scope 1

Existing/Gap 2

Obtain 3

Access 4

Analyze 5

Communicate

6

Data Swap...

Monitoring Gaps Analysis Committee: Community Survey

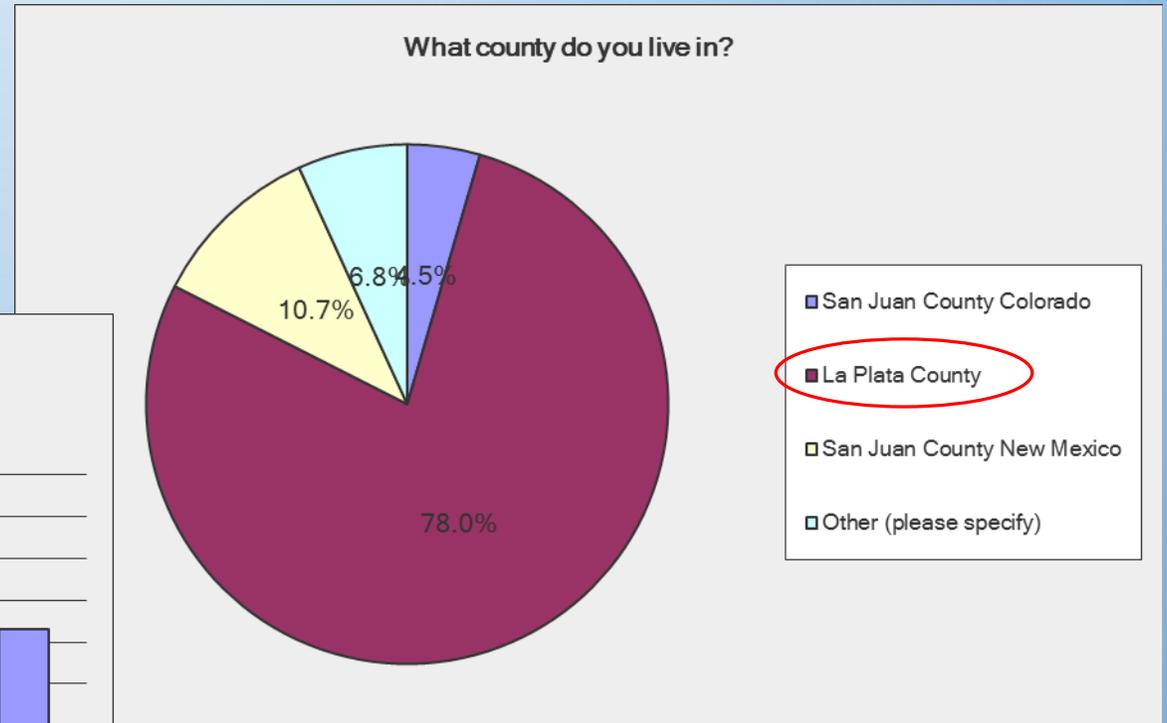
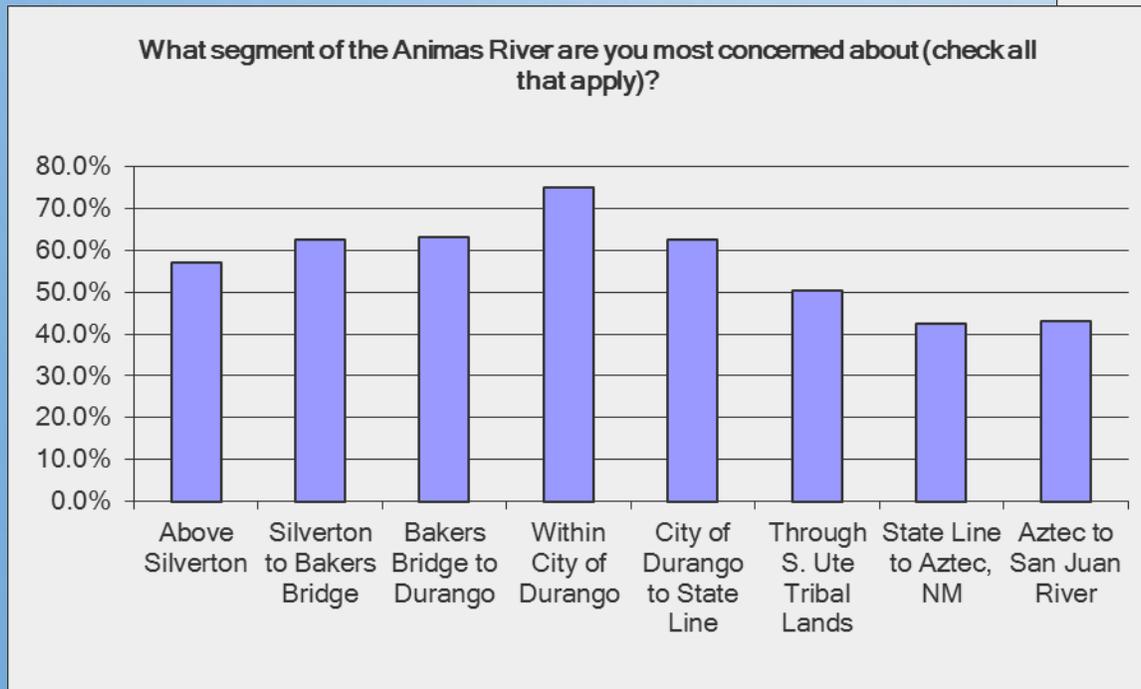
1. How **do you use** the Animas River?
2. What **segment of the Animas River** are you most concerned about?
3. How would you **rate the health or resilience** of the Animas River?
Why?
4. What **concerns** do you have about the Animas River regarding: **public health; health or resilience of the river; and other concerns?**
What **information would help you evaluate** those concerns?
5. How would you prefer to **access information** about your concerns?
6. **Who should be included** in this conversation?

Who responded to the survey....

Female: 41%

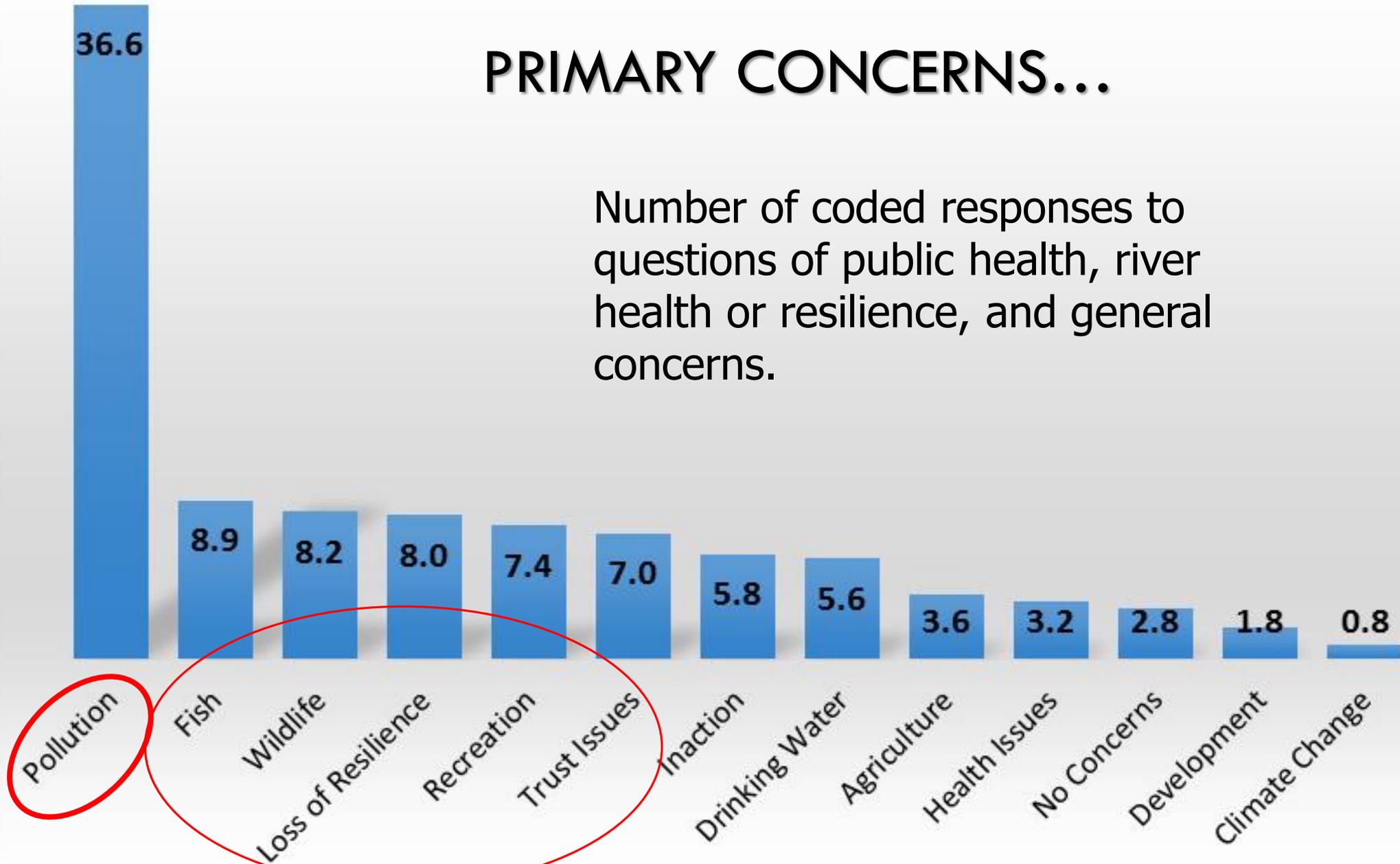
Male: 59%

188 total responses



PRIMARY CONCERNS...

Number of coded responses to questions of public health, river health or resilience, and general concerns.



Survey Results: Monitoring Priorities

Short term priority: Is the river safe for users in real time?

Long term priority: Is the river maintaining overall sustainability of physical and biological parameters impacting resilience?

1. Monitoring **quantifies and documents** river use (daily and weekly), river health (quarterly and yearly), and agricultural use (quarterly)
2. **Trends** in river measures followed over long periods of time (decades) and changes in river and environmental health identified and addressed
3. **Quality of life** questions identified and addressed

Survey Results: Communication Priorities

1. Data sharing: **cooperative and collaborative.**
2. Transparent monitoring methods: **multiple sources and reliable**
3. **Accessible** data: understandable and available online and in news media
4. **Usefulness:** What does it mean for people's use and enjoyment of river, and what are the 'implementation' factors?

Monitoring Exchange

1. Opportunity to learn about current monitoring efforts
2. Gather information from data providers that address →
3. Goal is to provide the right information to the right people at the right time for timely response and quality of life

Why Monitoring-for what decisions, decision makers?
What you are collecting
Where collecting
When collecting
How collecting/analyzing
Where store data/format
Availability – How can we obtain

Report: Questions and Potential Monitoring Indicators

Concerns about the Animas River:	Potential monitoring indicators:
Is my water safe to drink?	Clean Water Act (CWA) Drinking Water Standards (DWS)
Is my water safe to play in?	CWA Recreational Use Standards (E. coli), EPA Region 8 Recreational Screening Levels (water and sediment)
Is food produced with my water safe to eat?	CWA Agricultural Use Standards (crops and livestock), Fish ingestion standards
Is the river safe for fish and wildlife?	CWA Aquatic Life Standards, Colorado CWA Sediment Advisory Standards
How is the overall function (ecological) of the Animas River system?	Colorado CWA Multi Metric Index, Fishery Community Structure and Function Metrics

Report: Questions and Potential Monitoring Indicators

Concerns about the Animas River:	Potential monitoring indicators:
What is impacting the natural system?	Multiple impacts: flood, fire, development, mines, etc.
What is the trend in river system condition?	Multiple indicators: indicators for previous questions as well as Riparian Community Structure and Function Metrics, and flow regime
Can the river sustain impacts?	Not yet determined how this might be answered, but it is a question we are keeping in mind, and are open to suggestions.
How is the river supporting community quality of life or not? Economics, aesthetics?	Recreation, business interests. Currently working on defining the quality of life parameters.
What is my impact and what can I do?	Each report section addresses possible individual actions

Animas River Community Forum: Facilitate Dialogue

We need to talk, and we are...

- Coordinated exchange of information
- Ongoing collaboration between Forum partners
- Citizen Superfund Workgroup

Animas River Community Forum: Facilitate Dialogue

Coordinated exchange of information

Outcomes:

- Emergency management updates
- Helpful for cost reimbursement

Animas River Community Forum: Facilitate Dialogue

- Regular meetings
- Email updates and website
- Promote and support watershed events and partner initiatives
- Support committee initiatives and collaborative efforts

Animas River Community Forum: Facilitate Dialogue

Citizen Superfund Workgroup

Why?

- Potentially over \$100 million taxpayer funds utilized in cleanup efforts of the Bonita Peak Mining District Superfund site over the next 15-20 years.

Goals:

- Help the community better understand the issues involved in the cleanup
- Develop recommendations or community goals

Animas River Community Forum: What Next?

Partner goals:

- Dialogue and Communication
- Collaboration to leverage resources

Requirement = ARCF sustainability:

- Evolution of organization structure to maintain networks
- Financial security to support endeavors

ARCF Partner Support

Financial Support:

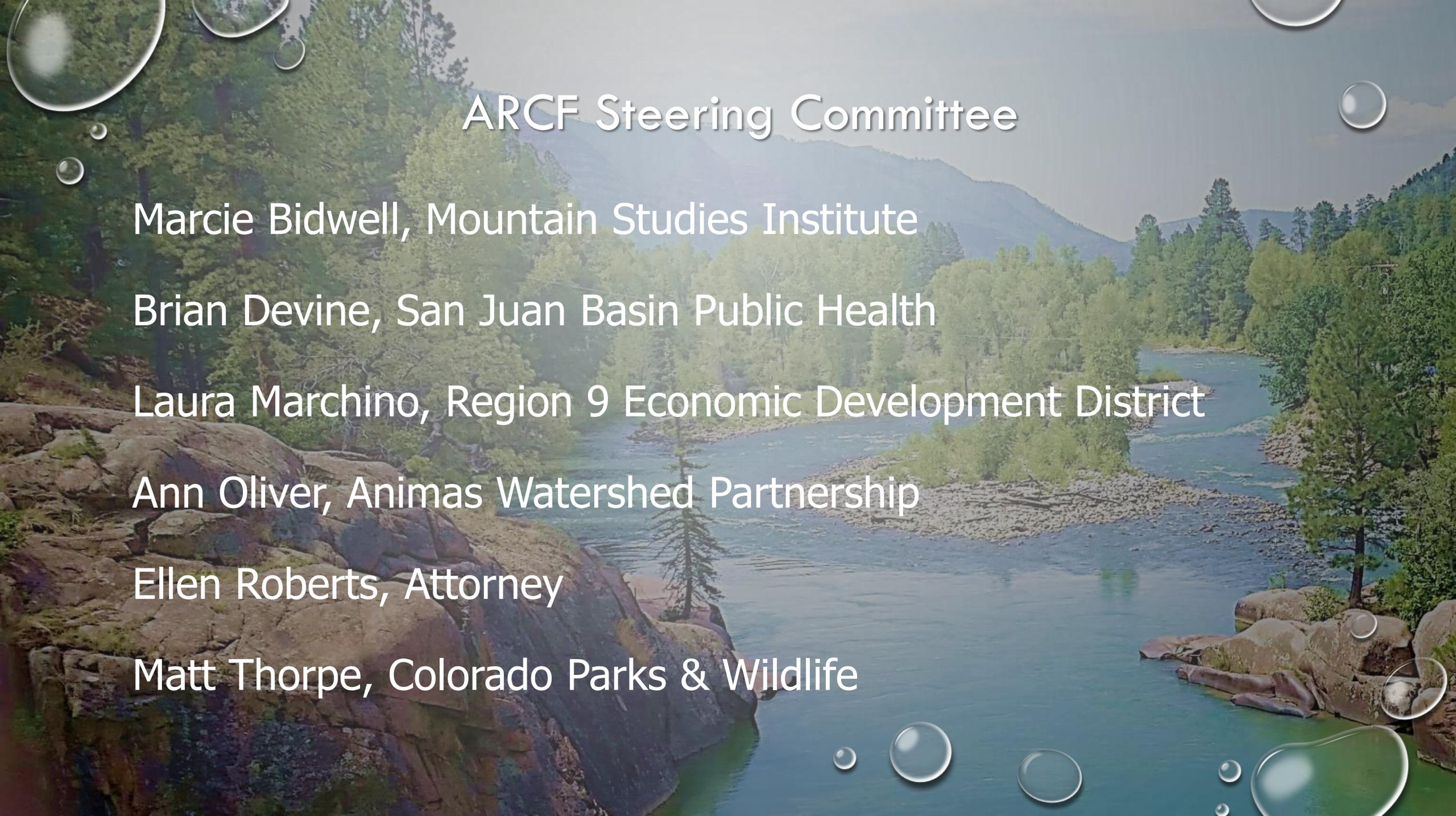
Southwestern Water Conservation District

Colorado Water Conservation Board through the Water Supply Reserve Account

Division of Reclamation, Mining & Safety, a division of the Colorado Department of Natural Resources

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In Kind Contributors: San Juan Public Lands Center (NFS and BLM), La Plata County, Town of Silverton, City of Durango



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