

COBRE VALLEY SMALL TOWN FORUM ON WATER



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BACKGROUND

The Water Resources Research Center has been working with stakeholders in Cobre Valley since 2015 on projects intended to build awareness of local water resources and build capacity to plan for and manage water resources challenges. In 2017, the US Bureau of Reclamation funded the WRRRC for an effort to assess water resources planning and management needs. Recommendations from the stakeholder-driven Needs Assessment included the organization of Small Town Forums to increase coordination and communication among natural resources managers and stakeholders.

The Small Town Forums are part of a yearlong project funded by the US Bureau of Reclamation to assess water supply and demand in the region and incorporate findings, along with stakeholder priorities, into a Water Resources Objectives report. This report will be open to the public, intended as a helpful planning tool with transferable information for stakeholders and natural resources managers.

Water is essential to community and economic health in Arizona, but many people do not think about this resource until it is endangered by scarcity or other threats. It is necessary to foster cooperation among water users, as well as increase understanding of limited water supplies. This cooperation is particularly critical in rural areas with limited resources. One mechanism for cooperation is through watershed partnerships, which, if provided the right tools, can be powerful mechanisms for improved management of water resources. With recent funding from US Bureau of Reclamation’s WaterSMART Program, a new watershed partnership will be created for Cobre Valley by 2020. The results of the Small Town Forums and other work undertaken by the WRRRC will be available to the new watershed partnership and kick start engagement on watershed issues.

FORUM GOALS

- 1) Build a common understanding of water resources management and water supply/demand in Cobre Valley
- 2) Draft a vision for the watershed with consideration of social, environmental, and economic resilience
- 3) Set and rank priorities in the following categories:
 - system efficiency and conservation
 - economy and development
 - recreation and environment
- 4) Form working groups to focus on specific areas, including community awareness, water supply and demand data, and recreation

INTRODUCTION TO THE DAY

The Cobre Valley Small Town Forum on Water was organized by the University of Arizona Water Resources Research Center (WRRC) with the assistance of a steering committee representing local water interests, including: Tri-city Regional Sanitary District, Town of Miami, City of Globe, Gila County, UA Cooperative Extension of Gila County, Capstone Mining Corp., BHP, Gila County Industrial Development Authority, Central Arizona Governments, and the Water Infrastructure Finance Authority of Arizona. The event was co-facilitated by Rural Communities Assistance Corporation (RCAC), which also is represented on the steering committee.

On September 6, 2018, over 50 community members and regional partners came together to support the long-term sustainability of the region by sharing ideas and transferring knowledge about our most precious resource - water. The Cobre Valley Small Town Forum on Water focused on a watershed-wide approach to resolving water issues, which has benefits that individual efforts cannot provide. This Forum was a first step in addressing regional water resources issues and enhancing regional decision-making capacity. It is hoped that the new watershed partnership will build on the achievements of the Small Town Forums.

In order to pursue watershed improvements in a coordinated manner that accounts for multiple values, different partners must agree upon how and what they are working toward. At the Forum, speakers presented their water resources goals and vision for Cobre Valley, which facilitators then synthesized to create the following draft watershed vision:

Create and maintain vibrant and healthy Cobre Valley's communities, environment, and economy by fostering collaboration, transparent decision-making, and cooperative projects that will benefit the watershed for generations to come.

This vision incorporates ideas that we heard from Forum participants throughout the day, but it is only the first iteration. The statement will be revised as we continue to work in the region and receive further feedback.

This report summarizes the presentations in the first half of the day, along with the in-depth discussion groups in the afternoon. By the end of the day, the participants selected a list of seven priorities that were ranked by importance. Water awareness was added as a seventh priority, because it was ranked as a top priority in more than one category.

TOP PRIORITIES BY CATEGORY

System Efficiency/Conservation

- 1) Develop a comprehensive water budget
- 2) Expand management practices of land to better utilize stormwater flows and quality

Economy/Development

- 3) Set framework for private-public partnerships for longterm water supply resilience;
- 4) Explore the feasibility of matching water quality to use

Recreation/Environment

- 5) Foster ecological stewardship to preserve, enhance, and manage natural resources for resilience, adaptation, and restoration
- 6) Combine and share both knowledge and resources under guiding philosophies for collective impact

Water Awareness

- 7) Education of the public and decision-makers to increase awareness and motivate action

A second Cobre Valley Small Town Forum will be held in April, 2019 and participants will share the results of research and working group progress. To continue coordination until the next forum, participants signed up for working groups, including Water Supply and Demand, Recreation, Community Engagement, Funding Opportunities, and Infrastructure and Fire/Flood Management. The WRRC will lead the Water Supply and Demand Working Group and coordinate the Recreation and Community Engagement groups. The second Forum will also present the water resources objectives report and detail how different partners might contribute to a larger vision with the work that they are already doing or seek to do.

All presentations and resources from the Small Town Forum are available at: wrrc.arizona.edu/Cobre-Valley

RECAP OF MORNING SESSIONS

The co-facilitators for the day, WRRRC and RCAC, began the Forum with a welcome to participants and thanked partnering organizations, whose contributions were essential in making the Forum possible. Mayor Darryl Dalley from the Town of Miami and Sharon Megdal, director of the WRRRC, also welcomed the Forum participants. Dr. Megdal works throughout Arizona and internationally, studying how regions can make the most of their limited supplies of water. She emphasized the WRRRC's commitment to assisting communities in finding water management solutions for their unique situations and needs, such as Cobre Valley, the Upper Gila, and elsewhere around Arizona. The most important element of this work is to engage people in their water decisions, because everyone has a stake in water.

Deborah Patton from the RCAC introduced the concept of the watershed and how we are all linked by water. With so little fresh water on this earth – less than 2% of the earth's water is fresh water, and most of that amount is stored in the ground – we must treat this resource wisely or we will face scarcity and competition. Deborah introduced the first morning session and speakers, which were comprised of presentations from various local and regional partners.

Brief summaries of the presentations are provided in the sections below. Slides, if available, are posted at: wrrc.arizona.edu/Cobre-Valley

Past, Present, Future of Cobre Valley Water

The presentations and speakers in this section provided context and assessment of water supplies, legal status, and the future outlook for the region. By inviting state experts, such as Arizona Department Water Resources and Salt River Project, as well as research from the University of Arizona College of Law, Forum participants had the opportunity to ask questions and build a common understanding of water resources in the region.

Brian D. Conway, Arizona Department of Water Resources – *Water Resources in the Cobre Valley Watershed*

Brian Conway presented current data about water resources in Cobre Valley, located in the Salt River Lakes Sub-basin, which is part of the larger Salt River Groundwater Basin. Natural recharge to the groundwater in this region occurs primarily along the mountain front and through stream infiltration. Conway presented an overview of the ADWR Groundwater Monitoring Program for this watershed. He indicated that two index wells are measured annually that supply water to Globe in Cobre Valley; these wells are located in the Cutter Well Field, San Carlos Valley Sub-basin of the Safford Groundwater Basin in adjacent Upper Gila Watershed. Based on its inventory, there are 2484 registered groundwater wells. Since this watershed is located outside an Active Management Area, there are no requirements to measure or report water use and volumes.

Joel Rose, Jennifer Wendel, and Professor Bethany Sullivan, University of Arizona James E. Rogers College of Law – *Overview of the Arizona General Stream Adjudication*

Joel Rose presented a synopsis of the Gila adjudication. In 1974, Salt River Valley Water Users Association filed a petition with the State Land Department and in 1979 the legislature consolidated into In re the General Adjudication of All Rights to Use Water in the Gila River System and Source. There are approximately 40,000 claimants and 85,000 claims in the General Adjudication. Currently the Gila adjudication is moving forward. Cobre Valley's surface water and stream subflow are part of the Court's process for quantifying and

prioritizing water rights claimed in the Gila River System. The intended outcome of the adjudication is to secure, clear, quantified paper water rights, which will have benefits for planning and understanding water supplies and demands.

Charles Ester, Salt River Project – SRP Perspective

Charles Ester provided a historical overview of the Salt River Project (SRP), which is a water and power supplier to approximately 1 million retail customers in a 2,900-square-mile service. The greatest threats for Arizona are expected to be drought, flood, and wildfire. To face the current climate scenario (extreme and unpredictable), we have to plan for the future, be prepared for extremes, and protect our water supplies to be resilient. For instance, 2018 was registered as the lowest January-May inflows to their reservoir. There is significant uncertainty about the future of the Salt-Verde, as the natural drought cycle will likely continue to be the biggest contributor to flow variability.

Watershed Vision

This session helped the facilitators and participants formulate a draft a watershed vision with the perspectives and visions of local jurisdictions and water users. Speakers were asked to share: 1) vision for the region, 2) opportunities, and 3) suggestions or best practices for overcoming a challenge.

Mayor Al Gameros, City of Globe

Mayor Gameros proposed to evaluate natural resources and infrastructure to support development. Regarding water facilities, he commented that rehabilitation, modernization and replacement of infrastructure are needed. Recent collaboration and work among communities has been encouraging and he would like to see this work continue.

Paul Buck, San Carlos Apache Tribe

Paul Buck stressed the importance of partnerships and collaboration. He related how the San Carlos Apache Tribe is open to working off-reservation in coordination with other aligned efforts in the region. He proposed maintaining rural lifestyle (open lands) with respect to economic development. Based on experience with other watershed partnerships in the Upper Gila and San Pedro, these organizations can be an effective conduit for communication and working together.

Daphne Place-Hoskie, BHP

Daphne Place-Hoskie reminded us of the importance of stewardship and transparency in all work and coordination in Cobre Valley. She related BHP's five pillars of water stewardship strategy to work in the watershed: risk, technology, valuing water, disclosure, and collective action. More information about these pillars can be found in the BHP Water Report 2018: <https://www.bhp.com/environment/water-report-2018>

W. M. ("Bill") Garfield, Arizona Water Company (AWC) – Cobre Valley Water: Watershed Vision

Bill Garfield presented a historical perspective of the Arizona Water Company in this region that mainly depends . The interconnection of the AWC's Miami, Claypool, Central Heights, and Bandy Heights Water Systems and development of nearly 30 wells since 1955 have helped to provide sufficient supplies of water to these communities. For the most part, water supplies within the alluvium along Bloody Tanks Wash and Miami Wash, as well as parts of Pinal Creek are not useable due to poor water quality, although groundwater cleanup is underway in these areas. AWC recently constructed a water treatment plant to remove arsenic, a naturally

occurring constituent commonly found in groundwater, in the north central part of the company's service area. Garfield proposed strategies to ensure a reliable and adequate supply of water. See his presentation to read more about the proposed strategies, posted at: wrrc.arizona.edu/Cobre-Valley

Sandy Palmer, Gila County Industrial Development Authority – *Water Smart-Cooperative Watershed Partnership*

Sandy Palmer announced the forming of a watershed partnership for Cobre Valley through WaterSMART program funding awarded by the US Bureau of Reclamation. There are a number of grants available for projects that spur economic growth and improve quality of life such as walking trails, riparian areas, etc. Also, a watershed partnership is recognized by federal agencies as the voice of the community with regard to identifying and vetting the projects, and is often the lead applicant or co-applicant pursuing funding and implementing projects.

Examples of Successful Approaches to Local Water Challenges

While rural water situations can be difficult to address due to smaller tax bases and aging water systems, this session highlighted local examples of bridging interests and building innovative solutions. Speakers shared success stories and lessons from previous experiences with water planning and watershed work. Our final morning session set the stage for discussing priorities in the afternoon.

Myron Smith, KGHMI/Carlota Copper Company - Carlota Mine – *Managing Carlota's water resources*

Myron Smith works at the Carlota Mine, which uses no surface water, besides stormwater that falls directly on the mine site. The company is applying a mitigation system in HC, minimizing groundwater usage by using onsite stored storm water, retention ponds, pit lake water, wobblers on the leach pad that put out a "larger/heavier" droplet than a finer mist, and using mist balls to reduce evaporation.

Bob Zache, Tri-city Regional Sanitary District

Bob Zache presented an update from the Tri-city Regional Sanitary District and recent progress to install wastewater infrastructure. There is \$54 million available for upgrades from the USDA. It is an 8-year process and will be split into 3 phases, phase 2 to start soon.

Timothy Ralston, Capstone Mining Corp. – *Water: Yesterday's Successes and Tomorrow's Challenges*

Timothy Ralston gave operational history of Capstone Mining Corp., which currently has a workforce of 567 full-time employees and approximately 50 full-time contractors. Future challenges regarding water resources include: adequacy and sustainability of water supply; aging infrastructure (pipeline maintenance and wellfield maintenance); and closure, reclamation and contingency planning, among other challenges.

Mayor Darryl Dalley, Town of Miami

Mayor Dalley presented an overview of the wastewater infrastructure upgrades. While this project is costly and takes time, covered by a \$25 million grant over 11 years, it will have a positive impact on the community that can already be observed. Securing the funding and implementing the project have required extensive work on behalf of the Town and partners.

AFTERNOON DISCUSSION OF CHALLENGES AND SOLUTIONS

After the presentations, participants organized themselves into three breakout groups to discuss different categories of water issues in the Cobre Valley and develop ideas for implementing cooperative solutions. The topics for the group discussions were 1) System Efficiency/Conservation, 2) Economy/Development, and 3) Environment/ Recreation. Each group was charged with listing water-related challenges and potential strategies for addressing these challenges.

1. System Efficiency/Conservation

Challenges

- Data inconsistencies and divergent interpretations across the watershed
- Use of potable water supply where recycled or impaired water use is feasible
- Inadequate infrastructure to move effluent for treatment and reuse
- Low public awareness about water supplies and effluent and low motivation to conserve water, create water recycling programs, and increase water efficiency.
- Failure to adopt land management for storm water flows (quantity and quality)

Solutions

- Develop a comprehensive water budget, including environment requirements, based on a hydrologic data inventory conducted with clear instructions on what data is needed and how the information will be used
- Match water use and quality
- Identifying conflicting goals
- Increase public awareness and create conservation incentives (monetary and others)
- Assess both stormwater capture potential and flood control

2. Economy and Development

Challenges

- Inadequate and deteriorating infrastructure with insufficient funding for scale of challenges
- Communication silos inhibit coordinated action
- Physical water supply and water quality issues are limiting growth and development in some areas; the alluvial aquifer is not a practical resource because of contamination; and long-term sustainability of supply is a concern
- Economic uncertainty caused by the cyclical nature of mining
- Ecotourism has water costs
- Statutes and regulations limit the range of potential solutions
- Lack of knowledge/understanding of the whole water system

Solutions

- Create partnerships to match needs and resources
- Match water quality to use
- Set framework for public-private partnerships for infrastructure and long-term water supply

- Educate the public and decision-makers
- Increase benefits of water recycling by high quality treatment; use remediated water
- Use of graywater and small-scale, distributed systems
- Stoke the economy in ways that don't use water, e.g. partner on jeep trails, marketing, promoting retail, secondary uses of closed mines
- Use water management to help diversify the local economy, such as creating incentives for small businesses

3. Environment/Recreation

Challenges

- Invasive, overgrown forest sucking up water instead of letting water get back down to where it belongs
- Wildfire risk
- Need more mosaics of grassland
- Balancing public and private property rights
- Ranchers and recreationists have issues with the USFS as the land owner
- There are three reservations for one project and they don't talk to each other

Solutions

- Improve the health of the watershed to promote recreational development
- Conserve riparian corridors to protect endangered species
- Connect trails and build safe trails to expand tourism options and attract more people to the region
- Combine modern and traditional land management and promote well-managed grazing.
- Share knowledge and resources to advance common goals
- Combine stewardship of historical and ecological assets to increase tourism
- Create and build robust and diverse recreation opportunities to attract ecotourism development and generate economic opportunities that align with environmental and recreational values
- Manage for ecological services, including integration of green infrastructure and protection of riparian corridors
- Carry out prescribed burns to avoid catastrophic wildfire damage

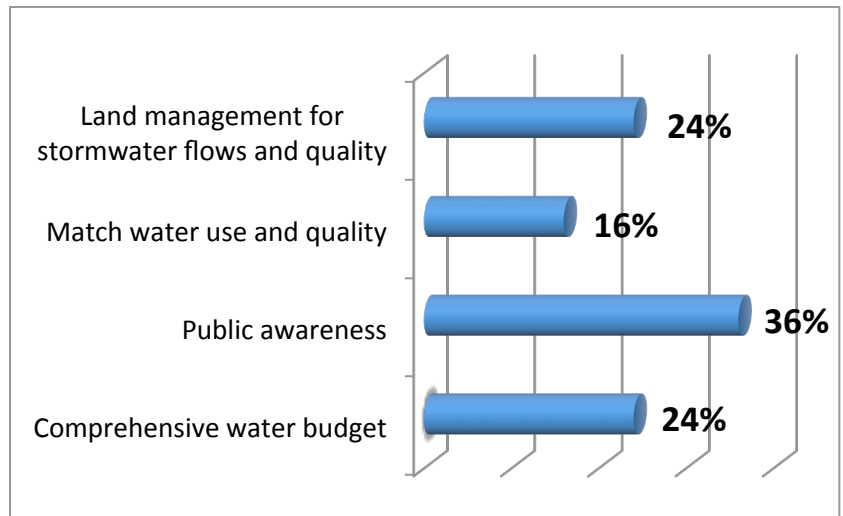
FINAL PRIORITIES

The ideas about regional water resources generated through these discussions laid the groundwork for next steps. Each group combined and refined their ideas in order to select four or five proposed actions to propose to the all of the Forum participants. The actions proposed by the breakout groups were assigned priorities based on the votes of participants. From these 14 proposals, forum participants selected seven for priority attention. There was some overlap in the actions proposed by each group, and building public awareness emerged as an overarching need.

All participants (32 people) were allowed to vote for their **top two choices** in each category. The final voting results and priority selections are shown below, with diagrams depicting that support was shown for all options.

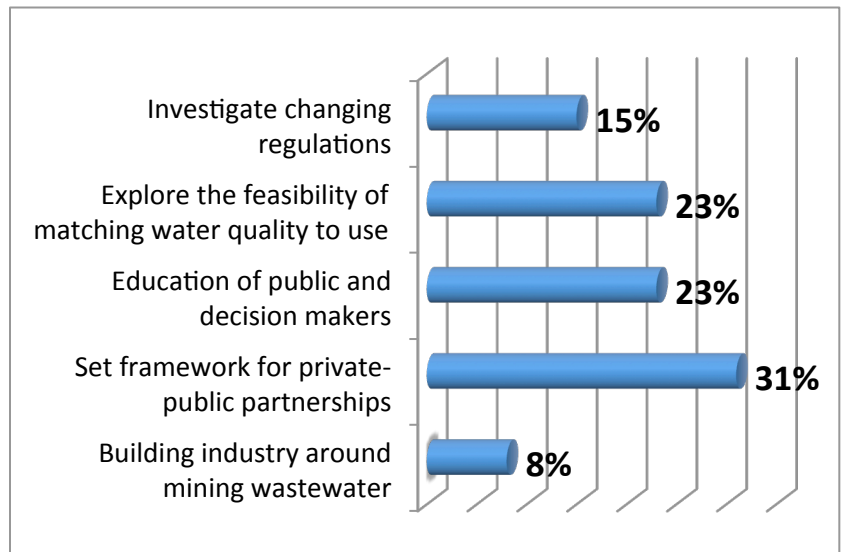
System Efficiency/Conservation Priorities

- 1) Develop a comprehensive water budget (24% - final selection)
- 2) Expand management practices of land to better utilize stormwater flows and quality (24% - final selection)
- 3) Increased public awareness (36% - new category)
- 4) Match water use and water quality (16%)



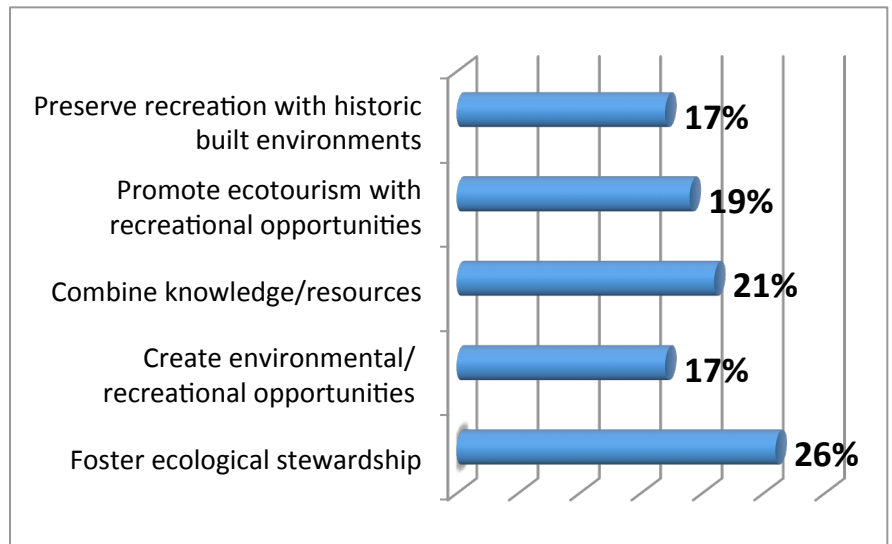
Economy/Development Priorities

- 1) Set framework for private-public partnerships for long-term water supply resilience (31% - final selection)
- 2) Explore the feasibility of matching water quality to use (23% - final selection)
- 3) Build industry around mining wastewater (8%)
- 4) Education of the public and decision-makers (23% - new category)
- 5) Investigate changing regulations (15%)



Recreation/Environment

- 1) Foster ecological stewardship to preserve, enhance, and manage natural resources for resilience, adaptation (26% - final selection) restoration/transformation
- 2) Combine and share both knowledge and resources under guiding philosophies for collective impact (21% - final selection)
- 3) Create and build robust and diverse recreational opportunities to attract and promote ecotourism (19%)
- 4) Create opportunities to align environmental and recreational interests (17%)
- 5) Utilize historic built environments and incorporate natural reaction and preservation (17%)



Water Awareness

- 1) Education of the public and decision-makers to increase awareness and motivate action (this new priority was created in response to overlap in multiple discussion groups and supported by polling of the entire group)

NEXT STEPS

The priorities defined during the Cobre Valley Small Town Forum on Water will be further evaluated through an online survey that will be sent to a broader audience in October 2018. All findings will be considered for incorporation into the Water Resources Objectives Report, but research will be conducted around the priorities ranked as “most critical” in order to provide examples and recommendations suitable to Cobre Valley. This report will be presented and available to participants in the second Cobre Valley Small Town Forum on Water in spring of 2019.

In the final part of the Forum, participants signed up for working groups, which are responsible for creating a goal, plan, and communication product to present at the second Small Town Forum. The groups that received the most interest by participants will be convened over the next six months. The WRRC will organize and convene the **Water Supply and Demand Working Group**, as well as coordinate or assist the **Community Engagement Working Group**. The **Recreation Working Group** will be coordinated with the RCAC-initiated Recharge Our Community Economy working group, which is focusing on similar goals. Other working groups also received interest, and could be convened by the Cobre Valley Watershed Partnership, or other community organizations: **Cobre Valley Watershed Partnership Steering Committee** (7 people), **Infrastructure and Fire/Flood Management** (9 people), and **Funding Opportunities** (9 people)