



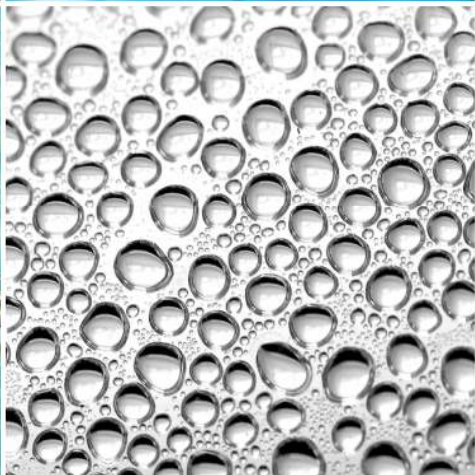
**Regional Water  
Assessment  
Task Force  
*ThinkTank*  
Report**

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**AUGUST 2011**

Madeline Kiser  
Sharon Megdal  
Mark Stratton  
Vince Vasquez  
Claire Zucker



# **Report of the Regional Water Assessment Task Force “ThinkTank” Process**

## **Conducted in the Tucson Active Management Area**

**August 2011**

Madeline Kiser, Sharon Megdal, Mark Stratton, Vince Vasquez, Claire Zucker

### **PURPOSE**

In order to assist the region in shaping its efforts to achieve a sustainable water future, the Regional Water Assessment Task Force (Task Force) gathered input and guidance from stakeholders throughout the Tucson Active Management Area on priority regional water issues as well as water management options. By recognizing areas of concurrence and divergence, the Task Force hopes to define possible routes toward improving regional cooperation. This report describes how and why the Task Force was formed and the ThinkTank process used to gain stakeholder input. This report will serve as the basis for a public meeting to gain additional input on our findings to date.

### **BACKGROUND**

Interest in water supply and demand extends beyond the water manager and regulator to individuals and organizations throughout our regional community. Specifically, those interested in economic development and the environment have expressed interest in becoming involved in formulating our region’s water management policy. In addition, citizens have questioned long-term availability of water supplies in light of anticipated impacts of climate change on Colorado River supplies.

#### **City of Tucson/Pima County Water Study**

In 2008, the City of Tucson and Pima County began the multi-year *Water and Wastewater Infrastructure, Supply and Planning Study* (Water Study), outlining a five-phase approach. The first two phases focused on the City and County metropolitan service areas. The final three phases suggested using similar methodologies, but expanding to the larger metropolitan area and involving neighboring municipalities as well as other water providers.

Phases I and II involved a series of public meetings, establishing baseline information about water resources, infrastructure, treatment, reuse and sustainability factors. Upon completing Phase II of the study, in January 2010, the City and County developed and adopted an action plan for their jurisdictions. In a joint memo from the Pima County Administrator and the Tucson City Manager, dated January 12, 2010, it was recommended that Pima Association of Governments convene an expanded regional water and wastewater study process.

([www.tucsonpimawaterstudy.com](http://www.tucsonpimawaterstudy.com))

## ***Pima Association of Governments***

In early 2010, Pima Association of Governments (PAG) received direction from its Regional Council to assess community interest in convening a regional water process. Upon examination, PAG staff found that most of the recommendations produced by the City/County study either impacted or would be of interest to the broader regional community if implemented.

PAG assessed interest in a regional process through interviews with representatives from jurisdictions, water providers, the business community, environmental activists, the Tohono O'odham Nation, the San Xavier District, the Santa Cruz Providers and Users Group, state agencies and many knowledgeable long-time participants in water management. Based on these interviews and other input, it was clear that running a process similar to the City/County Water Study would not work on a regional level. Feedback indicated participating entities would not be able to, or would not be interested in, devoting the extensive level of staff and resources necessary to complete Phases III-V as originally outlined.

## **Regional Water Assessment Task Force**

Based on the results of PAG's interviews and interest expressed by others in exploring options for undertaking a regional water assessment, the following representatives formed a Regional Water Assessment Task Force.

Carolyn Campbell, Community Water Coalition (July 2010-January 2011)  
Madeline Kiser, Community Water Coalition (January 2011-present)  
Sharon Megdal, University of Arizona Water Resources Research Center  
Mark Stratton, Southern Arizona Water Users Association  
Vince Vasquez, Tucson Regional Water Coalition  
Claire Zucker, Pima Association of Governments

Information gathered from the PAG interviews and initial Task Force discussions led the Task Force to conclude that the regional process should reflect the opinions and sentiment of a diverse group of regional participants rather than strictly follow the guidelines suggested in Phases III-V of the City/County Water Study. The Task Force chose to employ an Internet-based software tool called ThinkTank to gain input from regional participants. Pima Association of Governments (PAG) provided the ThinkTank equipment and guidance for this process and the sessions were held at PAG's offices and at the Water Resource Research Center. This software allowed the Task Force to collect information from the participants in an open, yet confidential environment with the use of laptops and a meeting facilitator. The objective was to collaboratively brainstorm and then to prioritize the ideas generated by the group. The rankings enabled the Task Force to identify those ideas with the highest level of consensus.

## **THINKTANK SESSIONS**

The four ThinkTank Sessions were held on Nov. 22, Dec. 8, 9, and 13, 2010. In total, sixty-four individuals attended, with each session including 15 or more participants. Every effort was made to have a diversity of perspectives represented at each session. Representatives from

the following community sectors and interest groups were invited to participate: Elected officials; municipal managers; public utilities including water and wastewater; private water utilities; Central Arizona Project (CAP) Board and staff; state and federal agencies; Indian nations; agricultural interests; mining interests; University of Arizona; environmental advocates; land management groups; economic development interests; and individuals with long-term involvement in water issues including attorneys.

The Task Force developed the following questions, which were distributed in advance, to solicit responses during the ThinkTank sessions:

1. What regional water issues need to be addressed?
2. What could our water use priorities be at a regional level?
3. How can water resources be managed at a regional level?
4. How can water use be managed at a regional level?
5. How can water infrastructure for the region be funded?

The Appendices to the report include the questions and other materials provided to participants.

## **Methodology and Data Analysis**

The data gathered from the four ThinkTank sessions resulted in 888 individual responses. Each session allowed fellow participants to rank each comment on a high, mid, low priority ranking scale. These rankings provided quantifiable statistics for further sorting of the responses. To identify the region's areas of agreement, the Task Force's analysis focused on those responses that received the highest level of consensus from participants. The Task Force defined high consensus responses as those that scored in the top 25 percent. The 222 responses above this cut off were then categorized into one of the ThinkTank Themes described in the next section.

The methodology for data analysis and all responses collected through the ThinkTank process are available for review in the Appendices to this report. In some cases, ideas were offered numerous times, but did not achieve high levels of consensus during the ranking portion of the session. In other cases, a particular idea polarized the ThinkTank session and future evaluation of these ideas can help us identify areas for further consensus building.

## **THINKTANK THEMES**

### **I. Coordination and Cooperation**

#### *Cooperation & Coordination Broadly Supported*

There was strong agreement among participants that greater coordination and cooperation under a shared vision would be beneficial and would help the region achieve a sustainable

water future. Participants would like to see a regional process where all regional entities participate and that is based on inclusiveness.

Participants generally supported the concept of standardizing conservation programs throughout the region as a form of cooperation. There was also general agreement that the region should explore ways to integrate land use and water resource planning, which will necessarily require a heightened level of cooperation among jurisdictions, water providers and others. Participants recognized that regional cooperation and coordination should be based on a shared vision regarding the desirable balance in the region of urbanization, agriculture, industry and natural desert. Coordination among political bodies, between governments and water bodies, and between entities that manage groundwater, surface water and effluent was supported by ThinkTank participants.

### *Structuring Cooperation*

While most agreed that cooperation and coordination benefit the region, there was a broad range of recommended structures. Some participants favored a loose affiliation of entities that would collectively uphold an agreed-upon water management framework, supporting continued primacy of individual entities' decision-making. Others favored cooperation on individual efforts, such as project-specific infrastructure development, supply acquisition or standardized conservation programs. Finally, participants supported evaluating the possible benefits of establishing a regional organization.

### *Linkages*

Given that regional planning will be impacted by state-wide decisions and institutions, participants felt the region would benefit by developing a unified and effective voice to express our region's concerns in dialogues that extend beyond our region.

## **II. Sustainability**

### *Balance and Priorities*

Participants emphasized that we must balance and prioritize the water needs of people, the economy and the environment in order to maintain a livable region. A related concern surfaced about the importance of living within our hydrological means, in balance with the physical limits of our desert environment. Participants expressed their perception that the uncertainty of current and future water supplies may jeopardize our ability to meet the water needs of future generations, as well as those of the natural environment.

### *Hydrologic Sustainability*

Participants expressed concern about the long-term health of regional groundwater supplies. Specifically, comments reflected concern regarding localized overdraft of the aquifer due to the lack of hydrologic connectivity between recharge and recovery. Participants also expressed concern about the effects on riparian habitat if there is localized drawdown in shallow aquifers. Similarly, many participants agreed that the region needs to focus on the measurable goal of achieving Safe-Yield, and expressed concern that the Tucson Active Management Area will not achieve Safe-Yield by 2025.

### *Integrated Management*

Participants raised the issue of managing water to gain sustainability through connecting water and energy management and by setting up a coordinated management system to link ground water, surface water and effluent.

### *Conservation*

There was broad agreement that consistent conservation goals and standards based on best practices should be set across the region. The group supported the idea that incentives and rewards should be provided to all water users to promote conservation and efficiency. In addition, it was noted that a coordinated campaign to educate the public about conservation should be established.

## **III. Supply**

### *Reliability and Availability*

Participants voiced strong support for building supply reliability into our region. Participants were concerned about the long-term reliability of the region's water supply given factors such as possible shortages on the Colorado River and population growth forecasts. Simply stated, participants want to know if the region's water supply portfolio will be sufficient—in a variety of possible supply/demand scenarios—to sustain current and future populations, accommodate expected growth, and maintain healthy ecosystems.

### *Full-Utilization of Existing Supplies/Entitlements*

Participants agreed that the region should focus on ways to improve the management of the existing water supply portfolio. Specifically, participants agreed that the region should collectively strive toward full-utilization and/or improved management of existing supply sources such as CAP allocations, effluent supplies, as well as alternative sources such as rainwater and stormwater.

Participants recognized that improved management of the region's water supply involves better utilization of and investments in regional infrastructure. Comments reflected a desire to improve physical access to CAP in growth areas and to improve the hydrologic connectivity between recharge and recovery. Participants expressed a desire to fully utilize effluent through direct delivery to non-potable uses and/or to maximize long-term storage credits.

### *Acquisition of Additional Supplies*

There was general agreement that ensuring a sufficient, reliable long-term water supply for the region will require the development and acquisition of additional supplies. Participants expressed interest in coordinating with other regional entities to acquire and/or develop water supplies for the region, including cooperative participation in CAP's ADD Water program and exploring desalination options. They suggested possibly developing a regional entity charged with acquiring new supplies. The attendees supported utilizing stormwater/rainwater as a potential resource and expanding the use of effluent and reused water and increasing public support for their increased use.

### *Water Quality*

People were concerned about having clean reliable water, particularly as it relates to emerging contaminants. In addition, matching the water quality used to the quality needed for specific uses was emphasized.

### *Natural Limits*

Participants expressed concern that both existing and new supplies be utilized in ways that are hydrologically sound, acknowledging natural limits of the desert environment. There was general agreement that the region should not promote growth in areas that lack sufficient water resources. Other participants stated a need to establish policy that connects the management of surface water and groundwater supplies.

## **IV. Cost, Pricing, Funding**

### *Cost*

Support was voiced for reflecting the value of water as an economic (scarce) resource when considering how it is used. There was considerable discussion regarding capturing the full cost of water and wastewater service in rates. Statements regarding “full cost pricing” were supported by a general view that under pricing of water/wastewater service is leading to misallocation and misuse of available resources, dilapidation of existing infrastructure, and an inability to plan effectively for the future. It was noted that a regionally cooperative effort can result in cost savings.

### *Pricing*

There was general agreement among participants that rates are low and will need to be increased as we seek a sustainable water future. Participants viewed higher rates as a means to support traditional utility objectives such as infrastructure maintenance and development, acquisition of new supplies, etc. Water rates that include all the costs of the water would also support conservation goals, better allocation of water, and environmental and social benefits.

### *Funding*

Participants agreed that those who create costs should pay them, and likewise those who benefit from regional resources should pay for those benefits. This theme was closely linked to the view that growth should “pay for itself,” a concept that received broad support among participants. There were a number of comments regarding evaluating and/or establishing funding mechanisms within the region for infrastructure development as well as acquisition/development of new supplies. Supported ideas included taxing groundwater use and providing incentives for successful water management.

Participants generally agreed that there should be some cooperative financial planning among regional entities. However, comments reflected a variety of opinions as to the degree of financial cooperation the region should explore. Sentiment ranged from a desire to exhaust individual efforts before looking to regional financial structures, to a desire to cooperate on specific projects that are regional or sub-regional in scale, to more comprehensive cooperative financial planning efforts such as a regional authority.

## **SUMMARY AND RECOMMENDATIONS**

A few priorities emerged through the ThinkTank process, based on a single underlying conclusion: *It is essential to ensure the region has a safe, reliable and sufficient water supply to meet the current and future needs of people, the environment and the economy. Therefore:*

- There needs to be more collaboration and cooperation in managing water resources at a regional scale.
- Current water resources should be fully utilized, including CAP water, effluent and rainwater/stormwater.
- New water supplies need to be acquired/developed.
- Conservation initiatives and education should be implemented at a regional scale
- The era of cheap water is over. Rates will need to be increased to build new infrastructure, meet water quality standards, acquire new supplies, and improve allocation of water resources.
- Regional water policy should be consistent with the natural limits of the region and should consider evolving climate conditions.

The challenges southern Arizona faces regarding water are not unique. However, the complexity of water management can create confusion among policymakers, the public and the press. Yet, water management decisions affect the social, environmental and economic well-being of the region. The Task Force therefore recommends that Best Management Practices be evaluated to help inform our future water policy making. In addition, we recommend that four working groups be formed to collectively develop workable solutions and strategies for the high priority areas identified in the ThinkTank process.

### **1. Best Management Evaluation**

Research and evaluate existing regional water management systems as case studies to inform the local process, providing possible methods and structures that have been implemented in other communities. In order to move forward, a full Scope of Work will need to be developed and funding will need to be secured. This study can be conducted concurrently with the other recommendations outlined below.

### **2. Regional Solution/Strategy Groups**

The purpose of these four suggested Regional Water Strategy Groups is to bring together those people who are working on, or concerned about, these issues in order to move forward in a cohesive way. The Task Force recognizes that many of the elements outlined below are being actively pursued by groups or members of our community. Identifying the following community supported goals and possible ways of implementing them can move us closer to joint actions that can benefit our region. All four groups should consider the economic, social, and environmental implications in their respective areas of study and work.

## **Group #1 – Supply**

Goals: To fully utilize existing supplies, whether by direct use or recharge/recovery.

- Develop solutions for improved utilization or full-utilization of existing supplies, including CAP allocations, excess CAP, effluent and stormwater/rainwater.
- Develop strategy for regional cooperation on acquisition and/or development of new supplies. The group should address regional participants' coordinated engagement in CAWCD's ADD Water process as well as all other possible sources of supply.
- Understand and develop strategy to monitor the region's vulnerabilities to supply shortages. Develop strategies designed to mitigate potential impacts of supply shortages.

## **Group #2 – Infrastructure**

Goal: To identify water infrastructure needs as well as potential funding mechanisms to pay for infrastructure or to compensate owners of existing infrastructure for capacity.

- Define and create inventory of existing "regional" infrastructure. Develop strategies designed to increase utilization of existing regional infrastructure such as building upon the success Tucson Water has had in developing wheeling agreements with local providers.
- Identify and prioritize new regional and sub-regional infrastructure projects that will advance regional water management objectives such as improving hydrologic connection between recharge and recovery as well as physical access to renewable supplies in growth areas.
- Develop equitable funding strategies for cooperative use of existing infrastructure as well as development of new regional and sub-regional projects.

## **Group #3 – Conservation/Demand Management**

Goal: To coordinate conservation programs to improve consistency and water use efficiency throughout the region. Programs and individual measures should consider associated costs and benefits.

- Evaluate existing water conservation programs of various water providers in the region as well as successful programs outside the region. Evaluation should include an overview of state requirements for water providers' conservation programs.
- Develop strategy to coordinate water conservation programs in the region. Strategies developed should be informed by cost-benefit and/or cost-effectiveness analysis, and should compare water conservation programs/measures to alternatives such as supply acquisition.

#### **Group #4 – Reliability, Sustainability and Aquifer Health**

Goal: To monitor and integrate information about the following topics, among others: Colorado River reliability and CAP availability, effluent, stormwater resources, local drought impacts, sub-regional aquifer drawdown, and riparian health to improve regional water decision making and to provide reliable information to the public and the press.

- Develop strategies to help the Tucson AMA achieve Safe-Yield by 2025, in the context of broader dialogue about long-term aquifer sustainability.
- Develop strategies to protect and restore the region's riparian areas, including reducing localized groundwater in environmentally sensitive areas.
- Serve as a liaison among sustainability and reliability initiatives in southern Arizona and at the state level.
- Prepare informational/press releases regarding these issues.

## TOP 25% RANKED COMMENTS

### COORDINATION AND COOPERATION

Coordination and Cooperation: Coordination, Cooperation, Governance, Policy and Planning	L	M	H	Avg. Score	Total	STD	Session #
Greater regional coordination and cooperation to ensure sustainable supplies of water for the future of the Tucson Region.	-	1	13	2.93	41	0.27	4
Invite other water providers (Marana/ others) to the table for policy making.	-	2	13	2.87	43	0.35	1
Individual jurisdictions cooperating together.	1	2	10	2.69	35	0.63	4
Coordination among all jurisdictions - this is already starting to happen, which is great.	1	3	12	2.69	43	0.60	1
Finding a unified an effective voice for the region at the state level.	-	6	10	2.63	42	0.5	3
Consider the entire AMA in the regional discussion.	-	5	8	2.62	34	0.51	1
First we must establish a common goal for water use priorities. The management should be controlled by water users and not done politically.	1	4	10	2.60	39	0.63	1
Developing an integrated comprehensive water resource management plan.	-	8	11	2.58	49	0.51	3
Jurisdictions should agree on how to integrate land use planning and water resource development; that will influence use.	1	4	8	2.54	33	0.66	4
Groundwater is managed at a state level. Regional jurisdictions can only manage effluent and stormwater runoff. Cities and county should work together on efficient use of these resources.	2	2	9	2.54	33	0.78	1
We need to utilize our wastewater effluent in a more efficient manner. Too much valuable resource is being lost from the region. Regional cooperation between the water companies and PCWW needs to consider the complete and best use of this resource, and then actually use it within the region.	2	2	9	2.54	33	0.78	4
Utilize what the AZDWR Tucson AMA has already developed and build upon it.	1	5	9	2.53	38	0.64	1
Have the same conservation programs throughout the region.	-	7	8	2.53	38	0.52	2
Reconciling building codes, regulations, and technological innovation.	1	6	9	2.50	40	0.63	3
Have the same conservation ordinances throughout the region.	1	5	8	2.5	35	0.65	2
Rational plan for growth is needed for if/when we start growing again.	1	5	8	2.5	35	0.65	4
Water providers working together.	1	5	8	2.5	35	0.65	4

<b>Coordination and Cooperation: Coordination, Cooperation, Governance, Policy and Planning</b>	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Regional water management offers the opportunity to make better decisions and save money over time.	1	4	7	2.5	30	0.67	4
We have made progress but still need stronger links between land use planning and water resource planning. While water should not be used to control growth, neither should it be used to drive growth. They need to develop synergistically.	-	8	7	2.47	37	0.52	2
This is a suitable area for regional planning efforts. Prioritize projects, identify suitable funding sources - bonding/revenue streams, then start building. Some expansion of reclaimed system might fit well in this mold. Maybe regional stormwater harvesting and reuse also.	1	6	8	2.47	37	0.64	2
Cooperation between regional governments and the regional water community.	2	5	10	2.47	42	0.72	3
Tribe must be included.	2	4	9	2.47	37	0.74	1
We need to build trust and establish that we have some common goals and values as a region and can work together - let's take some baby steps.	1	5	7	2.46	32	0.66	4
Because of the various diverse needs for water resources a regional water resource plan must be developed and agreed to by the impacted stakeholders, which could be an impossible task. All available water resources, such as ground water, CAP water, reclaimed water, storm water must be considered in developing the regional plan. A strong educational component must also be included.	1	4	6	2.45	27	0.69	4
Engineering development standards should be revised to allow harvesting, porous surfaces for percolation, less parking etc.	1	8	9	2.44	44.0 0	0.62	3
Investigate world-wide best practices for successful regional water management.	2	5	9	2.44	39	0.73	1
Ensuring all public and private water providers have a voice in "regional" water resource management discussions.	1	6	7	2.43	34	0.65	2
They could be achieved with greater regional cooperation among all stakeholders.	2	4	8	2.43	34	0.76	4
Large projects can be built with the cooperation of several jurisdictions.	1	5	6	2.42	29	0.67	4
Public/private partnerships.	1	8	8	2.41	41	0.62	3
Administrative agencies will never have the power to address the situation without a strong political will.	1	7	7	2.4	36	0.63	3
How do we include the interests of the future in our current discussions?	2	5	8	2.4	36	0.74	2
Water entities should agree to share resources to build infrastructure.	3	3	9	2.40	36	0.83	1

<b>Coordination and Cooperation: Coordination, Cooperation, Governance, Policy and Planning</b>	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Allocate centrally. Manage at the local level.	1	6	6	2.38	31	0.65	1
Less petty bickering between jurisdictions re effluent.	2	4	7	2.38	31	0.77	4
Lobby Legislature to more fully fund and prioritize water management entities like ADWR	1	8	7	2.38	38	0.62	1
Maintaining local control in a regional setting.	3	2	8	2.38	31	0.87	1
Develop mechanisms to bring mining and agriculture to the table to facilitate solutions	1	8	7	2.38	38	0.62	1
Regional management not truly feasible; regional cooperation and collaboration is essential.	1	8	7	2.38	38	0.62	3
Legislation and policy.	3	4	9	2.38	38	0.81	3
All stakeholders must have a seat at the table.	2	8	9	2.37	45	0.68	3
Education on the need for regional planning to reduce cost, increase sustainability.	3	6	10	2.37	45	0.76	3
Water supplies should be managed by the entity that has responsibility for delivering that supply, but with a common set of goals and standards established either by a regional body or by a state water plan.	2	5	7	2.36	33	0.74	2

## **SUSTAINABILITY**

<b>Sustainability</b> Sustainability, Safe Yield, Assured Water Supply, Groundwater Management Act, Conservation	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Sustainability.	-	4	12	2.75	44	0.45	1
Provide incentives for all sizes of users to conserve, reduce water use - households to industrial.	-	4	11	2.73	41	0.46	1
Stabilize the groundwater level with all resources available to reach sustainability.	1	3	12	2.69	43	0.60	1
Create economic incentives for conserving water in industrial sectors.	-	5	10	2.67	40	0.49	1
Hydrologic sustainability in TAMA where renewable supplies are equal to projected water demands and water delivery infrastructure exists. uniform or standardize water conservation measures for all jurisdictions or water providers. Emerging contaminants. Drought preparation. M&l recovery plan. Public education on water supply issues and conservation. AWBA having funds to meet M&l firming goals for TAMA. Protection of existing riparian areas.	-	4	8	2.67	32	0.49	1
Use all the tools: consistent regional ordinances, consistent regional messaging, conservation rate structures for all, incentives for water conservation enhancements, embrace new technologies, increase the understanding of what works via rigorous applied research, increase the training and certification of all who work with any water source, showcase good examples, etc.	1	4	13	2.67	48	0.59	3
Recharge of CAP in hydrologically useful places (upstream in aquifer).	-	6	11	2.65	45	0.49	3
Maintaining a sustainable community for future generations taking into account healthy economic growth.	2	1	11	2.64	37	0.74	4
The Tucson AMA needs to attain, and maintain, safe yield.	-	5	9	2.64	37	0.5	4
Making sure our regional water system is based on common sense and is aligned with current groundwater law to maximize every resource. There should be more concern about practical issues than political control of water resources.	1	3	10	2.64	37	0.63	1
Water efficient use of water for industry.	-	6	10	2.63	42	0.5	1
Priority One: Goal of safe yield.	-	5	8	2.62	34	0.51	4
For municipal uses - there should be common set of conservation goals, better management tools in AMA management plans.	-	6	9	2.6	39	0.51	2
Recharge facilities.	1	4	10	2.60	39	0.63	1

<b>Sustainability</b> Sustainability, Safe Yield, Assured Water Supply, Groundwater Management Act, Conservation	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Conservation	1	5	11	2.59	44	0.62	3
The need for consistent conservation measures across the region.	1	4	9	2.57	36	0.65	2
Water use needs to be a mindset of the people.	2	3	11	2.56	41	0.73	3
Conservation of the resource.	-	7	9	2.56	41	0.51	1
Economic sustainability	1	5	10	2.56	41	0.63	1
Efficient use of water	1	5	10	2.56	41	0.63	3
Best practices for conservation should be what is required, not what is best politically.	-	7	8	2.53	38	0.52	2
Set regional water conservation goals and standards.	-	7	8	2.53	38	0.52	2
A balance across people, economics, and the environment is essential.	1	5	9	2.53	38	0.64	3
Consider how we would plan for water demands in the region if we had no new water supplies coming in.	1	5	9	2.53	38	0.64	2
We need to become more efficient in use of our existing water supplies. Match uses to water type, i.e. potable, reclaimed, rainwater, greywater. invest in necessary infrastructure to use those resources efficiently. Price those sources provided by outside entities to encourage efficient use of each type.	2	3	10	2.53	38	0.74	2
ADWR's recent assessment of the region showed that the Tucson Active Management Area will not reach safe-yield by 2025. This will have economic and water management impact on the area. We need to look at how we can reach safe yield.	-	7	7	2.5	35	0.52	2
Incentives/rewards for conserving water.	-	8	8	2.5	40	0.52	1
Maintain livable community	2	3	9	2.5	35	0.76	4
Public preferences will influence water use outcomes--public education is essential.	2	6	11	2.47	47	0.70	3
Optimize water use/conservation with community values and desired quality of life.	-	8	7	2.47	37	0.52	2
We need to look at the water energy relationship. This particularly true for the desalination options. and climate change issues.	1	6	8	2.47	37	0.64	2
Being cognizant of where groundwater is being pumped and where it is being recharged.	1	6	8	2.47	37	0.64	1

<b>Sustainability</b> Sustainability, Safe Yield, Assured Water Supply, Groundwater Management Act, Conservation	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Initial investment in better wastewater filtration and purification creates effluent suitable for recharge and local food production.	1	6	7	2.43	34	0.65	1
Protection of our local streams and aquifer - wastewater treatment improvements.	2	4	8	2.43	34	0.76	4
Don't allow a loop hole that allows developers to get out of the fact they have to prove 100 year sustainability.	3	4	10	2.41	41	0.8	3
Sustainable for future generations needs to rethink water needs for all users.	2	5	8	2.40	36	0.74	1
Be willing to live and plan more in the reality of actual water that we have for the region.	2	5	8	2.4	36	0.74	2
Live more within our actual means (the water we have).	2	5	8	2.4	36	0.74	2
Problem that the Assured Water Supply rules allow for withdrawal/recharge of water from basins that are not hydrologically connected.	2	5	8	2.4	36	0.74	1
Continue water conservation efforts and priority--Individuals use 110 gallon per day in our area compared with 250 gallons elsewhere. Some areas in the world use as little as 25 gallons.	2	7	9	2.39	43	0.7	3
Link management of surface water, groundwater & effluent into a coordinated management system.	3	5	10	2.39	43	0.78	3
Safe yield by 2025	3	5	10	2.39	43	0.78	3
Get the city council and the Arizona Corporation Commission to understand the consequences of undervaluing water and not using the price for conservation and new resources.	-	8	5	2.38	31	0.51	4
Continue and expand our water conservation tools.	2	4	7	2.38	31	0.77	4
Understand where usage can be reduced.	-	5	3	2.38	19	0.52	4
Understand where usage can be reduced.	-	5	3	2.38	19	0.52	4
Look at watershed health. This means more recharge into surface and sub surface water supply.	2	6	8	2.38	38	0.72	3
Major obstacle: Mining permits have no hydrological impact requirements and have are exempt from any water transfer statutes.	3	3	8	2.36	33	0.84	2
Recharge where water being withdrawn.	2	5	7	2.36	33	0.74	4
Public education to value and conserve water.	3	3	8	2.36	33	0.84	4

## SUPPLY

Supply Supply, Renewable, Allocation, Effluent Re-use, Quality	L	M	H	Avg. Score	Total	STD	Session #
Drinking water supply.	1	1	12	2.79	39	0.58	4
Increase the use of effluent.	-	4	12	2.75	44	0.45	1
Infrastructure for renewable supplies (e.g., CAP, effluent) needs to be extended.	-	4	10	2.71	38	0.47	4
Necessary infrastructure to fully utilize existing renewable supplies.	-	4	10	2.71	38	0.47	2
Regional stormwater management and recharge needs to be integrated into the regional water portfolio.	1	2	11	2.71	38	0.61	2
Alternative water sources.	-	4	10	2.71	38	0.47	4
Development of renewable water resources.	-	4	10	2.71	38	0.47	4
Maximize groundwater credits under state law for effluent.	-	4	10	2.71	38	0.47	1
Recharge and reuse.	-	5	11	2.69	43	0.48	1
Match the use with the quality.	1	3	12	2.69	43	0.60	3
Water quality priority based on industry usage, i.e. potable for people.	1	3	12	2.69	43	0.60	1
High water quality for all residents, present and future.	-	5	9	2.64	37	0.50	4
Fully use the effluent in the region.	-	5	9	2.64	37	0.5	2
Increase effluent utilization that is publically acceptable.	1	4	11	2.63	42	0.62	1
Maximize our physical water to our region.	1	4	11	2.63	42	0.62	1
Water replenishment has to be in the hydrologic zone of the pumping. Otherwise we have ADWR representatives falsely claiming that the 100 year certification guarantees sustainability.	1	4	10	2.6	39	0.63	2
Delivering region's full allocation of CAP water to customers and reducing groundwater pumping.	1	4	9	2.57	36	0.65	4
Full utilization of all renewable resources.	1	4	9	2.57	36	0.65	2
Ensure water is available for economic growth.	2	2	10	2.57	36	0.76	1
Reuse of water many time by different users.	1	5	10	2.56	41	0.63	1
Bringing into the AMA water not currently available to it - more than natural recharge?	1	4	8	2.54	33	0.66	1
CAP acquisition of new supplies. Coordination with CAP's ADD water program.	1	4	8	2.54	33	0.66	1

<b>Supply</b> Supply, Renewable, Allocation, Effluent Re-use, Quality	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Highest priority needs to be safe drinking water. Other needs such as irrigation, agricultural, environmental protection and some commercial/industrial needs can be accommodated with reclaimed water.	1	4	8	2.54	33	0.66	4
Identifying additional water sources and associating costs with such.	2	2	9	2.54	33	0.78	1
We need to address supply issues and particularly prioritize uses. Prioritizing will probably be a community decision issue. The environment is important to people in our region, but how much water can be allocated for this use? And how will the water be used? Municipal use is stabilizing, thanks to some conservation mandates. Even if another person doesn't move here, we still have a local birth rate and that must be considered too in future water allocations. Not enough planning has been done in the region.	2	2	9	2.54	33	0.78	2
We need to manage actual water supplies, not paper water. Withdrawing water from one end of the AMA and recharging it in another doesn't really help the situation where the water is being withdrawn.	2	3	10	2.53	38	0.74	2
Match water use to water availability - don't encourage development where water supply/water resources are lacking.	1	5	9	2.53	38	0.64	1
Maintaining water quality and protecting public health.	2	5	12	2.53	48	0.70	3
Plans for shortages prioritizing uses.	-	8	8	2.5	40	0.52	1
Effluent needs to be used beyond golf course - used instead for industry.	1	6	9	2.5	40	0.63	1
Increase utilization of renewable supplies by use sectors currently exempt.	1	6	9	2.5	40	0.63	1
Match water quality to type of use.	1	6	9	2.50	40	0.63	1
Putting more effluent/reclaimed water to beneficial use.	1	5	8	2.50	35	0.65	4
Water quality.	1	5	8	2.50	35	0.65	4
On a long term basis, how much water do we actually have and how might that amount be augmented.	1	4	7	2.5	30	0.67	1
Public health.	2	3	9	2.50	35	0.76	4
Ensure potable supplies for current residents and future residents in the region.	2	3	9	2.5	35	0.76	2
Ensure that the region has the water it needs for its current residents.	2	3	9	2.5	35	0.76	2
Maximizing credits and use of all water resources available to the region.	2	3	9	2.5	35	0.76	1

<b>Supply</b> Supply, Renewable, Allocation, Effluent Re-use, Quality	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Maximizing effluent reuse.	3	2	11	2.5	40	0.82	3
Effluent reuse.	2	6	11	2.47	47	0.70	3
Water reuse.	1	7	9	2.47	42	0.62	3
New Water Needs should be required to provide actual "wet water" sufficient to meet their permanent needs.	1	6	8	2.47	37	0.64	2
We don't have enough regional water resources to continue to grow our water usage. This is especially true in outlying areas that are either outside our regional aquifer, in a shallow portion of the aquifer, or have no legal or physical access to CAP water.	2	4	9	2.47	37	0.74	2
Put the region's CAP allocation to full use.	3	2	10	2.47	37	0.83	2
Exempt wells throughout this region need to be taken into consideration when managing water use in the TAMA.	-	8	7	2.47	37	0.52	3
Delivery system of effluent and CAP for greater direct use.	1	6	8	2.47	37	0.64	1
Provide incentives, if necessary, to convert mining and agricultural to use water sources other than groundwater.	1	6	8	2.47	37	0.64	1
Put to full use, the region's CAP allocation.	3	2	10	2.47	37	0.83	2
How will water quality of the regional source of water be protected and maintained?	1	5	7	2.46	32	0.66	1
Golf courses on reclaimed water; all existing and new.	3	3	10	2.44	39	0.81	3
Recharge.	2	5	9	2.44	39	0.73	3
Water use should be prioritized to match the type of use (e.g., groundwater for human consumption; CAP for human, mining, agriculture or environmental restoration); effluent for recharge, environmental restoration, parks).	3	3	10	2.44	39	0.81	1
Colorado River reliability.	2	4	8	2.43	34	0.76	4
Development of stormwater recharge facilities.	1	6	7	2.43	34	0.65	2
Collaborate on the purchase of new water resources.	2	4	8	2.43	34	0.76	2
Introduce new water resources like effluent to offset currently used resources that are not as renewable.	2	3	7	2.42	29	0.79	4

<b>Supply</b> Supply, Renewable, Allocation, Effluent Re-use, Quality	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Better management and interception of stormwater runoff is critical - we send our water downstream to Marana and on to Pinal county as though it were a waste product.	3	3	9	2.40	36	0.83	1
Drinking water first.	3	3	9	2.40	36	0.83	3
Maximize water resource supply within and into the region.	4	1	10	2.4	36	0.91	2
Reclaimed a priority	2	7	9	2.39	43	0.7	3
Problem that there is a disincentive to allowing effluent to be discharged to the river channel b/c only get 50% recharge credit.	-	10	6	2.38	38	0.5	1
Supply	2	6	8	2.38	38	0.72	3
Greater value (including both economic and environmental) needs to be gained from the region's effluent.	2	5	7	2.36	33	0.74	4
State Land CAP allocation and how it can be fairly distributed.	1	7	6	2.36	33	0.63	4
Rely more on actual renewable supplies for new development - not the CAGR.	2	5	7	2.36	33	0.74	2
Replenishment.	2	5	7	2.36	33	0.74	3
Use effluent to replace current potable water uses - parks, schools, sports fields, golf courses - not for environmental restoration of questionable projects.	3	3	8	2.36	33	0.84	2

## **COST, FUNDING AND PRICING**

<b>Cost, Funding and Pricing Cost, Funding, Pricing, Growth, Taxes</b>	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
The era of cheap water is over - raise water rates.	-	2	9	2.82	31	0.4	4
Pump tax on all the straws, not just non-exempt wells.	1	1	13	2.8	42	0.56	3
Solicit and/or evaluate various funding mechanisms available (e.g., impact fees, contributions, etc.). Responsibility for protecting water resources should not fall on M&I users alone.	-	3	11	2.79	39	0.43	1
Who and how will the cost to bring in water to the AMA be paid for?	-	3	10	2.77	36	0.44	1
Rate structures typically include tiers to encourage conservation and should be a continued practice.	1	3	12	2.69	43	0.6	1
New water needs must pay full cost to provide both the infrastructure and the actual "wet water".	-	5	10	2.67	40	0.49	2
Recognize the true cost for water including infrastructure and power cost to deliver.	-	5	10	2.67	40	0.49	1
Rate structures based on a consistent, coherent water policy.	-	6	11	2.65	45	0.49	3
We have to be sure we are investing in existing infrastructure too.	-	5	9	2.64	37	0.50	2
Residents have to pay through increased rates, taxes.	-	4	7	2.64	29	0.5	4
Create the appropriate incentives to manage the resource which may mean higher prices.	-	5	8	2.62	34	0.51	4
Promote (true) cost-of-service accounting in rate setting for "group members".	1	3	9	2.62	34	0.65	1
Low cost financing options such as AZ WIFA are doing a great job! But rates and fees still need to be set to pay off the debt.	1	2	7	2.6	26	0.7	4
Pay as you go, including the full cost reimbursement for all extensions into growth areas.	1	5	11	2.59	44	0.62	3
A funding plan for new water resources and infrastructure investment should be broad-based, new customers/developers and existing ratepayers should share in the cost.	-	5	7	2.58	31	0.51	4
Establish conservation based water use rate structures.	-	6	8	2.57	36	0.51	2
Paid for by end users.	1	4	9	2.57	36	0.65	1
Pricing of water - getting people to understand the value of water.	1	4	9	2.57	36	0.65	4
Water rates must reflect infrastructure maintenance, future planning and a cost of water instead of delivery of water. Everyone that moves here from elsewhere is amazed at the low water rates.	1	4	9	2.57	36	0.65	2
Value water as a vital economic resource.	2	2	10	2.57	36	0.76	2

<b>Cost, Funding and Pricing</b> Cost, Funding, Pricing, Growth, Taxes	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Developers must pay for growth.	1	5	10	2.56	41	0.63	3
Regional benefits warrant a regionally based allocation of costs to prospective beneficiaries. Such allocation can be achieved through property taxes or assessments, water rates priced to reflect full recovery of costs, etc.	1	3	7	2.55	28	0.69	4
Balance can be accomplished to a degree by selling water at its true value, not just the cost of supply. We are selling a valuable commodity way too cheap.	2	2	9	2.54	33	0.78	4
Infrastructure, like all public goods, needs to be paid for by the beneficiaries of the project. This puts burden of repayment on the water user, encouraging increased water efficiency. Burden shifting weakens the connection between the user and the true cost.	-	8	9	2.53	43	0.51	3
Water costs should be born ratably by its beneficiaries.	-	7	7	2.5	35	0.52	1
Pricing that incentivizes conservation.	1	7	10	2.5	45	0.62	3
Continue CAP's Taxing effort County wide after their authority runs out in 2016.	1	5	8	2.5	35	0.65	1
Ensure that each water provider's water rate covers the cost of operation, repair and maintenance as well as debt. The infrastructure is mainly below ground and needs to be replaced regularly. Funds need to be adequate to do this.	1	5	8	2.5	35	0.65	2
Growth must pay for itself.	1	5	8	2.5	35	0.65	2
Cost based on benefits received considering capacity used.	1	5	8	2.50	35	0.65	1
Regional cooperation on financing major investments.	3	3	11	2.47	42	0.80	3
Fees for industrial and residential development should cover all immediate costs and a portion of regional costs.	-	9	8	2.47	42	0.51	3
Insuring that additional water uses pay the full cost of additional water supply.	1	6	8	2.47	37	0.64	2
Prices	2	5	10	2.47	42	0.72	3
Tiered rates are already having an impact on water use. Stronger economic incentives for ag & mining users would likely have a similar impact.	2	5	10	2.47	42	0.72	3
Tiered water rate to set water price to it's worth.	3	2	10	2.47	37	0.83	1
A combination of bonding, property tax, special assessment and rate design. Users should have some skin in the game.	1	6	8	2.47	37	0.64	1
Cost causation based on provider /users benefit	2	3	8	2.46	32	0.78	1

<b>Cost, Funding and Pricing</b> Cost, Funding, Pricing, Growth, Taxes	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Make certain mines and agriculture pay for the water they use and its delivery.	2	5	9	2.44	39	0.73	1
Infrastructure funding	1	6	7	2.43	34	0.65	4
Price water on true costs of the water resource and the infrastructure required to manage and deliver the water.	1	6	7	2.43	34	0.65	2
Proper pricing of commodity to reflect full value.	1	6	7	2.43	34	0.65	4
Establish financial mechanisms within the region to acquire added water resources when they become available.	3	2	9	2.43	34	0.85	2
First we need a comprehensive analysis of our needs and true cost estimates that is validated by industry experts from public and private sector.	1	6	7	2.43	34	0.65	2
The municipal and industrial sector bears the brunt of groundwater replenishment. Evaluate areas of greatest groundwater depletion and require entities directly contributing to the depletion to fund replenishment.	1	6	7	2.43	34	0.65	1
True cost pricing for the commodity that is provided will help entities do better.	2	4	8	2.43	34	0.76	3
Water to grow the economy and create jobs.	2	4	8	2.43	34	0.76	4
Regional infrastructure needs to be funded through regional structure only if more local system is not practical.	1	5	6	2.42	29	0.67	1
Regional water impact fees.	2	3	7	2.42	29	0.79	4
Impact fees.	1	8	8	2.41	41	0.62	3
Fees/taxes on groundwater use could generate a large fund while providing incentives for sound water management.	3	4	10	2.41	41	0.8	3
Water rates have been far too cheap in the past. a more ratable economic link to usage needs to be made across the board incorporating an add water factor.	2	5	8	2.4	36	0.74	1
Avoid unfunded mandates.	3	3	9	2.4	36	0.83	1
Use CAWCD's taxing revenue after 2016.	2	4	7	2.38	31	0.77	1
Cost of water remains "cheap" compared to other utilities.	3	2	8	2.38	31	0.87	4
Some water projects may have enough broad importance to justify regional or state funding by bonding and taxation.	1	8	7	2.38	38	0.62	3

<b>Cost, Funding and Pricing</b> Cost, Funding, Pricing, Growth, Taxes	<b>L</b>	<b>M</b>	<b>H</b>	<b>Avg. Score</b>	<b>Total</b>	<b>STD</b>	<b>Session #</b>
Metro Tucson does not have a comprehensive financial plan or financial capability to compete for the purchase of additional water resource acquisitions - and in fact is currently set up to bid against itself for the purchase of additional water resources.	2	4	7	2.38	31	0.77	2
Require developers to pay for infrastructure or renewable water supplies rather than the jurisdiction.	3	4	9	2.38	38	0.81	1
All uses and users are important in our economic mix; the priority must be more efficient use of the supplies at hand and a willingness to pay for the resource.	1	8	7	2.38	38	0.62	3
Create a charge (royalty) on the use of water by mines and agriculture and all other users who may export products beyond the AMA that require water to make their product.	2	5	7	2.36	33	0.74	1
Need to maintain the health and safety of the system, and meet all ADEQ requirements. They need to raise rate if needed.	2	3	6	2.36	26	0.81	4