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**NOTICE AND FINAL AGENDA OF MEETING OF THE
ARIZONA WATER BANKING AUTHORITY COMMISSION**

Pursuant to A.R.S. § 38-431.02, notice is hereby given that there will be a meeting of the Arizona Water Banking Authority Commission on **June 18, 2014 at 10:00 a.m.** at the Arizona Department of Water Resources, 3550 North Central Avenue, Phoenix, Arizona 85012, Upper/Middle Verde conference room on the 2nd floor. The meeting is open to the general public. Members of the Commission will attend either in person or by teleconference.

The agenda for the meeting is as follows:

- I. Welcome/Opening Remarks
- II. Approval of Minutes
 - April 16, 2014 regular quarterly meeting
- III. Water Banking Staff Activities
 - Monthly deliveries through April
 - Colorado River developments
 - CAWCD 4¢ *ad valorem* tax levy and Board resolution
 - Inter-AMA storage proposal
 - Gila River Indian Community firming discussions
 - Other
- IV. 2013 Annual Report
 - Overview of 2013 Annual Report
 - Discussion regarding Ten-Year Plan 2015-2024
 - Action Planning Summary and Year-One Accomplishments
 - Potential approval of 2013 Annual Report and Ten-Year Plan
- V. Request for General Fund Appropriation
 - Discussion of potential request for a General Fund Appropriation for Indian firming
 - Potential action to approve a submittal for a General Fund appropriation for Indian firming
- VI. Fiscal Year 2015 Administrative Budget
 - Review of FY 2014 administrative budget
 - Overview and potential adoption of FY 2015 administrative budget

VII. Call to the Public

Future Meeting Dates:

Wednesday, September 17, 2014

Wednesday, December 3, 2014

Dated this 17th day of June, 2014

* This is a tentative agenda that is subject to change prior to the scheduled meeting date. Please contact the AWBA at (602) 771-8487 24 hrs in advance of meeting for final agenda.

All visitors must use the south elevators; please stop at the 2nd floor to sign-in and receive a visitor's badge. Badges are to be displayed at all times. Visitors are also required to sign out and return their badges. Thank you for your assistance.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Michelle Moreno at 602-771-8530 or 602-771-8501 (TDD). Requests should be made as early as possible to allow time to arrange the accommodation.

I. Welcome/Opening Remarks

NOTES:

II. Approval of Minutes of Meeting

NOTES:

Move approval of April 16, 2014 AWBA meeting minutes

ACTION:

Approve the minutes with any needed corrections.

ARIZONA WATER BANKING AUTHORITY
Draft Minutes

April 16, 2014
Arizona Department of Water Resources



AUTHORITY MEMBERS
Michael J. Lacey, Chairman
Maureen R. George, Vice-Chairman
Clifford A. Neal, Secretary
Jim Hartdegen
John Mawhinney

EX OFFICIO MEMBERS
The Honorable Andy Tobin
The Honorable Gail Griffin

Welcome/Opening Remarks

Chair Michael Lacy welcomed the attendees. All members of the Authority were present. *Ex-officio* members, Senator Gail Griffin and Speaker of the House Andy Tobin, were not in attendance.

Approval of Minutes

Chair Lacey asked for a motion to approve minutes from four separate meetings conducted since the last regular quarterly AWBA meeting. Vice-Chair Maureen George moved to approve the minutes from the December 4, 2013 regular quarterly meeting, the February 4, 2014 Joint Recovery Plan Workshop and the February 14, 2014 and March 7, 2014 special meetings. Cliff Neal seconded the motion and the minutes were approved.

Water Banking Staff Activities

Monthly Deliveries. Ms. O'Connell gave an overview of deliveries in 2013 stating the AWBA started the year expecting to store around 52,000 acre-feet and finished the year storing a little over 77,000 acre-feet. In June, the AWBA received an additional 8,000 acre-feet storing 6,500 acre-feet in Tucson AMA and the remainder in the Phoenix AMA. In November, there was an additional 19,000 acre-feet of turn back water available. The AWBA was able to store 17,000 acre-feet. Of that amount, 3,300 acre-feet was stored, using the remaining capacity, in the Tucson AMA. Roughly 14,000 acre-feet were stored in the Phoenix AMA. By year end, the AWBA delivered 31,000 acre-feet to the Phoenix AMA, slightly under 20,000 acre-feet to the Pinal AMA and just less than 27,000 acre-feet to the Tucson AMA.

Ms. O'Connell explained that Arizona did not use its full entitlement in 2013 leaving approximately 23,000 acre-feet in Lake Mead. Mr. Mawhinney asked if this unused water is placed in an Arizona account or if it became system water. He also asked if this is the first time Arizona has left water in Lake Mead since 2005. Ms. O'Connell responded saying that it became system water. Because of how the River is operated there is uncertainty about the actual volume of water still available at the end of the year. In recent years however, the lower basin states have agreed to leave water in Lake Mead in order to benefit the system as a whole. Tom McCann, CAWCD, explained further that because of potential shortage conditions, CAWCD did not make heroic efforts to get all the water off the river last year. He stated that CAWCD consciously operated with the anticipation that 20,000 to 30,000 acre-feet would be left in the system. He explained that even though the water does not go into an account for Arizona, it does help protect specifically Arizona and others against future shortage. In this case, the water becomes unused apportionment. Over the last several years, CAWCD joined with the Southern Nevada Water Authority (SNWA) and the Metropolitan Water District of Southern California (MWD) to ask the Secretary not to make unused apportionment available to other states. To date, the Secretary has granted that request. The result of these efforts is about 1 foot of elevation increase in

Lake Mead.

Regarding 2014 deliveries, Ms. O'Connell indicated the AWBA is scheduled to store about 60,000 acre-feet. Overall deliveries through March are close to projected except that deliveries to the Pinal AMA are a little behind because the Gila River Indian Irrigation Drainage District (GRIIDD) decided to take the Southside Replenishment Bank (SSRB) deliveries at a rate of 1,000 acre-feet per month over five months instead of the full 5,000 acre-feet in February. Deliveries to the Tucson AMA are slightly behind due to maintenance at the Tucson facility. Ms. O'Connell explained that she does not anticipate any issues, but will inform the Authority if any should arise.

Meetings. Ms. O'Connell described two meetings of interest attended by staff: ADWR's February 19, 2014 Enhanced Aquifer Management (EAM) meeting and CAWCD's Rate Setting Workshop. The EAM meeting focused on the types of storage and recovery, including AWBA activities that are included in the proposal. Ms. O'Connell described the purposes of the EAM proposal and explained the proposal only applies to future credits. In summary, the proposal envisions a 0% cut to the aquifer for recovery within the area of impact of a recharge facility or within the boundaries of a groundwater savings facility (GSF), a 10% cut for recovery outside the area of impact or outside the GSF boundary but inside the same sub-basin and a 20% cut for recovery outside the area of impact or outside the GSF boundary but outside the same sub-basin. The Arizona Municipal Water Users Association (AMWUA) has a similar concept but applies only to the Phoenix AMA. This proposal includes the concept of Special Enhancement Areas (SEAs) designated by ADWR. Under the AMWUA proposal, recovering outside a SEA would continue to have a 5% cut to the aquifer for recovery within the same sub-basin and a 20% cut for recovery outside the sub-basin. Both proposals have incentives for storing in areas of need. For example, under the AMWUA proposal, storing inside a SEA and recovering outside that same SEA would allow recovery up to 115% of the volume stored. ADWR's proposal indicates some allowance for those storing and recovering for drought purposes.

Ms. O'Connell requested the AWBA be exempt from the EAM proposal for the reasons she noted in her letter to ADWR December 18, 2012 in addition to other reasons. She noted that the AWBA is not a water utility or municipal water provider. The AWBA's goals are to provide back-up supplies during shortages. While the AWBA supports recovery in the area of impact and holds an intention to do so, the AWBA is not authorized to recover water and must rely on others to do the recovery. Consequently, there may be occasions when flexibility is needed.

Ms. O'Connell also told ADWR that a goal of the AWBA is to assist ADWR in meeting water management objectives through, for example, extinguishment of credits in key areas. Given that credits are limited, the AWBA could also agree that credits would not be recovered in certain areas, having them recovered instead in areas that would not impact physical availability. She offered that AMWUA's proposal accounts for this second alternative somewhat under the SEAs, but there could be locations not identified as a SEA that could still benefit or where recovery would be undesirable.

Ms. O'Connell continued saying the AWBA's recovery agents would be encouraged to recover within the area of impact (AOI) to preserve the AWBA's credits. However, this may not always be the best course of action. For example, there could be water levels

issues within the AOI of a GSF since they encompass a large area. In those cases, the AWBA may want recovery of some of that water to occur remotely from areas where more water is available. Ms. O'Connell explained that depending on where recovery occurs, additional credits may be required stretching resources further. She noted that while there have been comments suggesting the proposal will have limited impact on the AWBA because excess CAP water supplies are dwindling, things could turn around. Increasing rates could potentially result in additional supplies. There could also be opportunities for the AWBA to store water for interstate purposes using Nevada's unused apportionment.

Ms. O'Connell further pointed out that under the Storage and Interstate Release Agreement, the AWBA needs to report how many credits it accrues. If the number of credits cannot be known until recovery, then the AWBA cannot accurately report the number of credits accrued to the USBOR. Moreover, Nevada will want certainty on this point as well.

Ms. O'Connell explained that the AWBA is already providing a significant water management benefit. She added that the topic of water storage locations comes up in various discussions and while the AWBA is also concerned about storage location, she reminded everyone that the AWBA has always been last in line in terms of priority for storage facilities. She explained that CAWCD adopted a new policy that gives the AWBA higher priority at CAWCD facilities. Still, the AWBA does not want to be in competition with others for storage capacity as those entities also want to store and recover in the area of impact. For example in Tucson, the AWBA wants to do more storage at the Tucson Water's facilities, but capacity is limited. The AWBA has met with Tucson area interests. As a result of those discussions, the parties established a strategy for storing water according to a priority system where storage at Tucson's facilities is first and storage at LSCRP is last. Mr. Neal offered that the Southern Arizona Water Users Association submitted a proposal; he thinks this proposal will address some of the AWBA's concerns about storing at Tucson facilities. Ms. O'Connell concluded her remarks saying ADWR is evaluating the comments received and the AWBA is waiting to hear back.

Ms. O'Connell stated that on April 10th, staff also attended CAWCD's recent Preliminary 2015-2020 Rates: Customer Workshop. This year's rate is \$166 per acre-foot. CAWCD reported that the proposed rate for 2015 will increase by 8% to \$179. Starting in 2016, rates will increase at roughly 3% per year until 2020 when rates will take another significant increase of 11% up to \$221 per acre-foot. According to Ms. O'Connell increases are due primarily to energy and Navajo Generating Station cost impacts. She described what these increases mean to the AWBA is fewer credits for the same dollar. She informed the members that the rates would be presented to the Finance, Audit & Power Committee on April 17, 2014. This Committee will make a recommendation to the Board where action will be taken at the regular CAWCD Board meeting in May.

Colorado River Status. Ms. O'Connell explained that the USBOR's August 24 Month Study, published in 2013, projected a significant chance that a shortage could be declared for 2016. While such a declaration was not expected to trigger a firming requirement, under such conditions the Bank would not have water available for

storage. However, based on the most current information also from the USBOR, Lake Mead elevations are projected to be above the 1,075 foot elevation level in January of 2015 and 2016 and consequently no shortage declarations are anticipated in those years. Ms. O'Connell also mentioned that snowpack in the basin (mostly the upper basin) is slightly better than average at 111%.

With regards to the impact on the AWBA's Ten-Year Plan, Ms. O'Connell explained that CAWCD staff has provided water supplies projections for the AWBA's Ten-Year Plan. The cumulative amount for the 10 years is a little over 520,000 acre-feet, which is about 168,000 acre-feet less than last year's projections of approximately 690,000 acre-feet. She reminded the members that the numbers in the Ten-Year Plan are long-term projections. The AWBA would continue to look at short-term projections like the USBOR 24 Month Study data. If this data shows there will be a shortage, then the AWBA would address that in the annual Plan of Operation process. If the AWBA has the ability to purchase credits, the members could decide at that juncture whether or not to purchase credits.

Mr. Neal asked why the total volume available in the Ten Year Plan dropped 20% from the number CAWCD provided for the Ten-Year Plan last year. Ken Seasholes, CAWCD, explained that the data and the assumptions have remained the same between the two sets of projections except CAWCD has updated the three-year projections from its customers and they have incorporated some use assumptions associated with customers taking Non-Indian Agricultural water.

Mr. Mawhinney commented that the water availability is getting more limited, price is going up and the AWBA's obligations are staying firm if not increasing. He expressed concern about Mr. McCann's statements regarding leaving 23,000 acre-feet of water on the River indicating that such a volume represents 50% of the entire amount the AWBA was provided to store last year. He recognized there are external pressures to keep the level in Lake Mead up. At the same time, however, he was reminded that the original purpose of the AWBA was to take Arizona's remaining entitlement off the river. He suggested the AWBA send a message to CAWCD saying the 23,000 represents a significant loss to the AWBA and that perhaps steps should be taken in the future to ensure full use of Arizona's entitlement.

While Ms. George agreed with much of what Mr. Mawhinney said, she described the situation as having two options: leave water on the River and help delay a shortage or take 100% of the entitlement and perhaps risk bringing shortage on sooner. Between the two less than desirable options, she would favor keeping the water in Lake Mead. She concluded her remarks saying the importance of not going into shortage outweighs the need to get more credits in the ground.

Action Planning. Ms. O'Connell explained the AWBA started an action planning process last year as a result of last year's Ten Year Plan. There were two items identified for immediate action: seek legislation authorizing AWBA to purchase long-term storage credits and request a general fund appropriation for meeting Indian settlement obligations.

Regarding the legislation, SB 1478 passed third read in the house. The bill has been

forwarded to the Senate for concurrence. Regarding the general fund appropriation, the \$664,000 request to pay for delivery of 4,000 acre-feet to the Southside Replenishment Bank was not included in the Fiscal Year 2015 budget signed by Governor. Staff will instead use Pinal AMA withdrawal fees carried over from last year to offset these costs. Because carryover funds will be exhausted this year, any withdrawal fees used for this purpose in 2015 will reduce the amount that can be used for water storage.

The Commission members discussed the appropriation process used last year, how well it worked, or failed to work, and what other potential options the AWBA has for seeking an appropriation. Ms. O'Connell offered the AWBA has the authority to seek an appropriation outside ADWR's budget. The Commission members indicated the AWBA should attempt to secure a general appropriation for Indian firming again in the next legislative session and to start that process sooner.

Regarding continued work with the Gila River Indian Community, Ms. O'Connell indicated that the two staffs are a little behind but progress is being made and staff is working toward having draft IGA language for the June meeting.

Ms. O'Connell asked Terri Sue Rossi to describe the focused implementation and stakeholder review step of the action planning process. Ms. Rossi described two work products: a summary of the AWBA's action planning process and a table of one-year accomplishments linked to the AWBA's strategic commitments. She explained that staff would like to seek feedback from stakeholders on these two items. Mr. Neal had questions on the timing of the one-year accomplishment. Ms. Rossi explained the action planning envisioned the one-year accomplishment clock starting at the beginning of the upcoming fiscal year consistent with the Annual Report and budget. Because many of the actions items have already been started, there is more of a ragged edge.

Ms. George stated that the documentation is ready to go out. She expressed her appreciation for the efforts and stated that it is good to have a written plan to keep us on focus. Mr. Neal expressed concern about one of the success indicators regarding the 4¢ tax being extended beyond 2016. His concerns were two-fold: has the Commission made a policy decision on this point and if so what is the timing for staff action on this action item. Staff responded saying the commitment is to participate in discussions with CAWCD and others on extension of the 4¢ tax levy. Through the course of these discussions, the AWBA will decide its position on extending the tax.

Staff was directed to send the documentation to stakeholders for feedback and to bring it back for further consideration in June.

Joint Draft Recovery Plan

Ms. O'Connell described the status of the draft Joint Recovery Plan indicating the draft was first made available to the public on January 23rd. On February 4th, CAWCD, ADWR, and the AWBA held a joint workshop where CAWCD staff presented the plan and the members of the Interagency Recovery Planning Group responded to questions.

The deadline for submitting comments was March 7, 2014. Five formal letters were received and posted to the CAWCD and AWBA websites. Several verbal and electronic comments were also received. There were a number of comments

supporting the accomplishments that have been made toward developing a recovery plan. In general, the following comments were made:

- coordinate storage and recovery efforts
- move forward on developing agreements with recovery partners
- include stakeholders in any infrastructure decisions, particularly in the Pinal AMA
- have more detail on implementation and costs
- RWCD also stated its interest in being a recovery partner

The interagency group reviewed and incorporated the comments where applicable. A red-line and clean copy of the draft are posted on the CAWCD and AWBA websites. Ms. O'Connell described the plan as providing a basic framework for recovery that will be updated as things move forward. As an example, she referred members to a proposal from Phoenix and Tucson AMA entities on inter-AMA firming. Based on the outcome of this proposal, there could be changes to the Joint Recovery Plan. She also indicated there are still procedures that will need to be fine-tuned and policies developed. Several members expressed their appreciation for the work product.

Ms. O'Connell then directed members to the draft preface of the Joint Recovery Plan noting that the members had asked the Interagency Group to work with legal staff on recommending a vehicle that recognizes the Recovery Plan. Based on those discussions, the Group proposed the formal approval of a preface to the Joint Recovery Plan that sets forth the purpose of the Plan and acknowledges that it meets the objectives of the IGA among ADWR, the AWBA, and CAWCD to develop a coordinated and cooperative process for recovering the AWBA's long-term storage credits. She pointed out that the Commission would not be adopting the Joint Recovery Plan, but rather recognizing that staff will follow the procedures in the Plan and the IGA.

Members expressed concerns about the binding nature of the preface and whether the Joint Recovery Plan is a guideline or a law. Nicole Klobas, attorney for the AWBA, responded describing the Joint Recovery Plan as a guideline suitable for adaption over time. Members indicated that the Plan should not be put on shelf and that when the AWBA staff deviates from the Plan the Commission should be informed. After further discussion, the Commission members described the Joint Recovery Plan as a guidepost for recovery activities going forward and as an indication of the willingness and ability for the three agencies to work together providing more stability to everyone involved.

Mr. Mawhinney made a motion to authorize the chair to sign the preface. Mr. Neal seconded the motion, and the motion passed.

Updated AMA Firming Goals

Mr. Henley gave a presentation on the AWBA Firming Goals and Obligations relative to the changes made to modeling and actual operation of the Colorado River. A copy of his presentation can be found on the AWBA website. He presented three scenarios:

Case 1: This scenario uses Arizona demand schedules for upper basin and on-river Indian demand and a CAP build-out of 2045. This scenario assumes the Interim

Surplus Guidelines continue indefinitely and uses the ADWR Director's Recommended Shortage Sharing Formula.

Case 2: This scenario uses the same demand schedules as Case 1, but replaces the Interim Surplus Guidelines with the 80P1050 operating criteria after 2026 and assumes the pro-rata shortage sharing formula replaces the Director's recommendation after 2026.

Case 3: This scenario uses the Upper Colorado River Commission demands and the Ten Tribes Demand Schedule instead of Arizona's schedules. This scenario also assumes a CAP build-out in 2035 instead of 2045. This scenario replaces the Interim Surplus Guidelines with the 80P1050 operating criteria after 2026 and assumes the pro-rata shortage sharing formula replaces the Director's recommendation after 2026 as well.

Mr. Henley then described the results of the study. The probability of shortage under Case 1 was 45-50%. For Case 2, the probability of shortage was around 30% and for Case 3, the probability of shortage started around 60% and leveled out at around 85%.

Mr. Henley reminded the members of how the AWBA goals were established indicating the AWBA was required to identify a reasonable amount of water for On-River users. In the course of establishing what was eventually a volume of 420,000 acre-feet, goals for other responsibilities were quantified including 2.7 million acre-feet for M&I firming and 550,000 acre-feet for the Indian firming, for a combined total of 3.6 million acre-feet.

Mr. Henley presented a comparison of the three cases relative to the original goals. Case 1 came in at a combined 1.3 million acre-feet with the goal for M&I firming being substantially lower than the original goal. Case 2 results were comparable and Case 3 showed markedly higher results for a combined total of over 9 million acre-feet. Mr. Henley explained some details of the analysis and described a fourth scenario called Trace 95 that takes climate into account by representing a particularly poor hydrology. Under Trace 95, the combined total was approximately 1.9 million acre-feet.

Ms. George asked for clarification on the number of years used in this analysis versus the 1997 modeling. Mr. Henley indicated that this analysis assumes 85 years instead of 100, but because the 1997 modeling results did not show any shortages until the 2017 timeframe about the same number of years was used in both cases. Mr. Neal asked if the 20% cap on M&I firming was a factor in any of the cases. Mr. Henley responded that it was not a factor in case 1. Because the 80P operation criteria was used in cases 2 and 3, the 20% was a factor. Commission members expressed concern about the modeling understating the demands of M&I subcontractors by capping demands at the 20% level. Mr. Henley cautioned members not to get too concerned about the assumption to shift to the 80P operating criteria. The River has never been operated according to that criteria and there are operating strategies can be done three years out to manage against those shortages.

Mr. Neal asked Mr. Henley if there was a run that included the Interim Surplus Guidelines, the optimistic Upper Colorado River Commission demands and the Ten Tribes Demand Schedule instead of Arizona's schedules. Mr. Henley responded yes

and that he would make that information available to members and added that the probability would likely fall between the Case 1 and Case 3 levels.

Mr. Neal asked for clarification about what the AWBA was hoping to do with this information. Mr. Mawhinney asked if the idea here was to evaluate the models and examine them against our firming goals and obligations with the idea of either authenticating our goals or changing them. Mr. Henley reminded the members that the AWBA was only supposed to identify a reasonable number of credits for on-river and not for any other obligation because the real goal is if the AWBA has money, capacity and water, then keep storing water. The members can decide to change their goals or not based on this new information. Mr. Mawhinney responded saying the AWBA is looking to see if the numbers are in the ballpark, and at least one of them appears very close. Ms. George indicated her objective was to see where our goals are relative to the new modeling and whether we need to adjust if our goals large enough to cover the shortage given our current reality.

Mr. Hartdegen suggested we should keep the 4¢ tax in place, but keeping the tax will take a lot of effort. Mr. Lacey indicated we would participate in those discussion, but there are many participants and we need a strategy for working with others. Ms. George recommended that topic be placed on the next agenda.

Call to the Public

There were no comments from the public. Chair Lacey announced the next meeting dates and asked for a motion to adjourn. The meeting adjourned at 11:48 a.m.

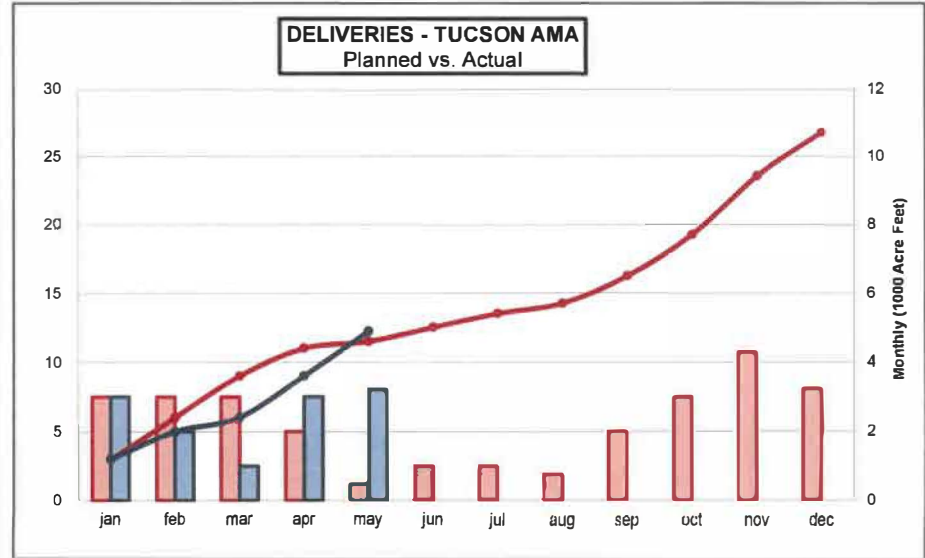
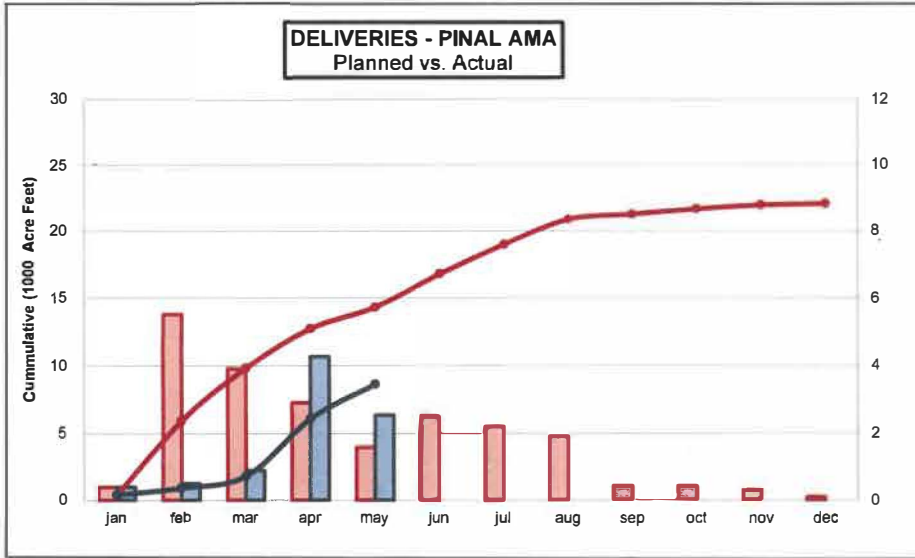
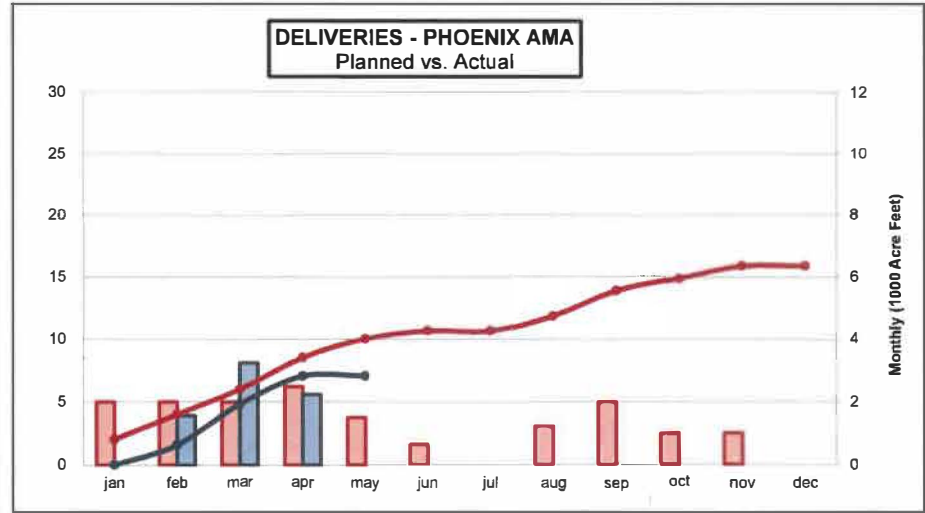
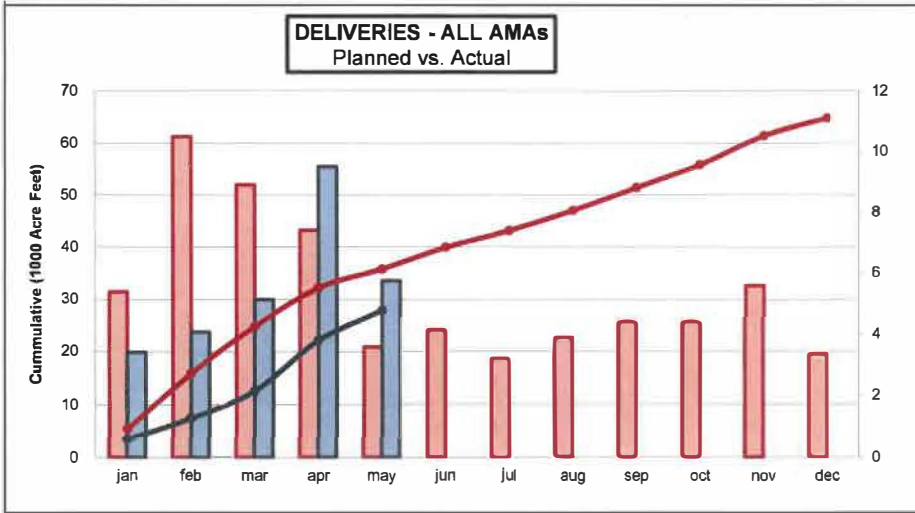
III. Water Bank Staff Activities

NOTES: (No action required, agenda item for discussion only)

- Call on **Virginia O'Connell** to update members on monthly water deliveries
- Call on **Chuck Cullom** to give presentation on Colorado River developments
Call on **Tom Buschatzke** to give follow-up discussion
- Call on **Virginia O'Connell** to provide updates on the following:
 - CAWCD 4¢ *ad valorem* tax levy resolution
 - Inter-AMA storage proposal
 - Gila River Indian Community firming discussions

ACTION: No action

2014 Plan of Operation - INTRASTATE



■ PLANNED (MONTHLY)
 ■ ACTUAL (MONTHLY)
 —●— PLANNED (CUM)
 —●— ACTUAL (CUM)

Actual Deliveries 2014
Plan of Operation

18-Jun-14

Phoenix AMA

	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	total
HIEROGLYPHIC MTNS			1,320	680									2,000
	500	500	500	500	0	0	0	0	0	0	0	0	2,000
AGUA FRIA		548											548
	500	500	500	500	1,500	647	0	0	0	0	0	0	4,147
TONOPAH DESERT													
	0	0	0	0	0	0	0	0	0	0	0	0	
SUPERSTITION MTNS		1,020	1,921	1,559									4,500
	1,000	1,000	1,000	1,500	0	0	0	0	0	0	0	0	4,500
QCID													0
	0	0	0	0	0	0	0	1,230	2,000	1,000	1,000	0	5,230
Subtotal	0	1,568	3,241	2,239	0	0	0	0	0	0	0	0	7,048
Total to date	0	1,568	4,809	7,048	7,048	7,048	7,048	7,048	7,048	7,048	7,048	7,048	7,048
Projected total to date	2,000	2,000	2,000	2,500	1,500	647	0	1,230	2,000	1,000	1,000	0	15,877

Pinal AMA

CAIDD													0
	0	0	3,000	2,000	700	0	0	0	0	0	0	0	5,700
HIDD													0
	0	0	0	0	0	2,000	2,000	1,700	0	0	0	0	5,700
MSIDD	400	500	900	900	900								3,600
	400	500	900	900	900	500	200	200	400	400	300	100	5,700
SSRB				3,361	1,639								5,000
	0	5,000	0	0	0	0	0	0	0	0	0	0	5,000
Subtotal	400	500	900	4,261	2,539	0	0	0	0	0	0	0	8,600
Total to date	400	900	1,800	6,061	8,600	8,600	8,600	8,600	8,600	8,600	8,600	8,600	8,600
Projected total to date	400	5,500	3,900	2,900	1,600	2,500	2,200	1,900	400	400	300	100	22,100

Tucson AMA

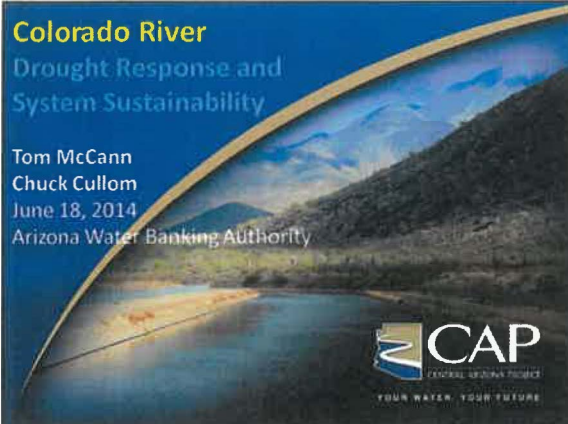

AVRA VALLEY													0
	0	0	0	0	0	0	0	0	0	0	300	700	1,000
LOWER SANTA CRUZ	1,000	1,000											2,000
	1,000	1,000	1,000	0	0	0	0	0	1,000	1,000	1,500	0	6,500
PIMA MINE ROAD													0
	0	0	0	0	0	0	0	0	0	1,000	500	544	2,044
CAVSARP													0
	0	0	0	0	0	0	0	0	0	0	0	0	0
SAVSARP	2,000	1,000	1,000	3,000	3,000								10,000
	2,000	2,000	2,000	2,000	0	0	0	0	1,000	1,000	2,000	2,000	14,000
CMID					211								211
	0	0	0	0	482	1,000	1,000	750	0	0	0	0	3,232
KAI FARMS - Red Rock													0
	0	0	0	0	0	0	0	0	0	0	0	0	0
BKW FARMS													0
	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	3,000	2,000	1,000	3,000	3,211	0	0	0	0	0	0	0	12,211
Total to date	3,000	5,000	6,000	9,000	12,211	12,211	12,211	12,211	12,211	12,211	12,211	12,211	12,211
Projected total to date	3,000	3,000	3,000	2,000	482	1,000	1,000	750	2,000	3,000	4,300	3,244	26,776

TOTAL	3,400	4,068	5,141	9,500	5,750	0	0	0	0	0	0	0	27,859
Total to date	3,400	7,468	12,609	22,109	27,859	27,859	27,859	27,859	27,859	27,859	27,859	27,859	27,859
Projected total to date	5,400	10,500	8,900	7,400	3,582	4,147	3,200	3,880	4,400	4,400	5,600	3,344	64,753

Colorado River

Drought Response and System Sustainability


Tom McCann
Chuck Cullom
June 18, 2014
Arizona Water Banking Authority





Colorado River System Storage

Total System Capacity 60 MAF

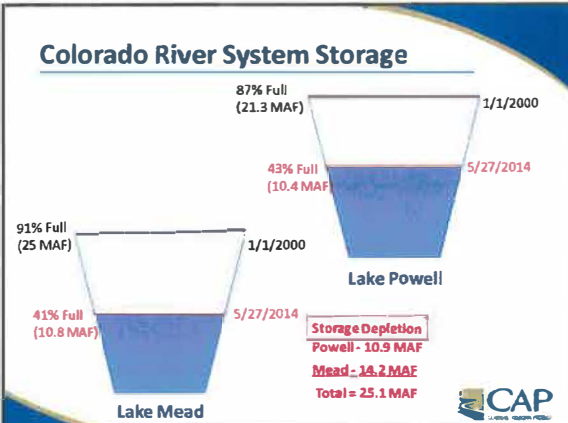
Lake Mead - 26 MAF



Lake Powell - 24 MAF



Colorado River System Storage



91% Full (25 MAF) 1/1/2000

41% Full (10.8 MAF) 5/27/2014


87% Full (21.3 MAF) 1/1/2000

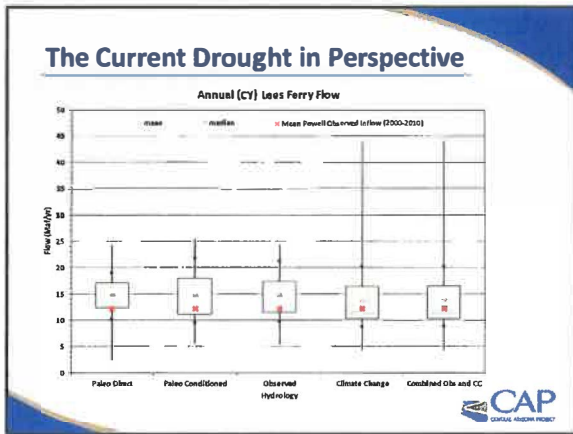
43% Full (10.4 MAF) 5/27/2014

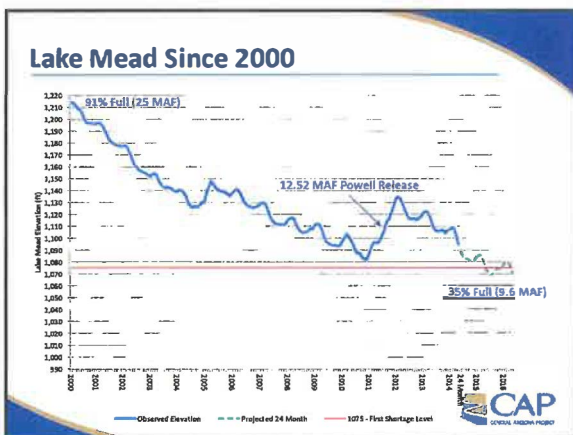
Lake Powell

Lake Mead

Storage Depletion Powell - 10.9 MAF
Mead - 14.2 MAF
Total = 25.1 MAF







Shortage Sharing – '07 Guidelines

- Arizona and Nevada share Lower Basin shortages under the 2007 Guidelines
- Mexico voluntarily agreed in Minute 319 to accept reductions in its deliveries at the same elevations


Lake Mead Elevation	Arizona Reduction	Nevada Reduction	Mexico Reduction
1075'	320,000 AF	13,000 AF	50,000 AF
1050'	400,000 AF	17,000 AF	70,000 AF
1025'	480,000 AF	20,000 AF	125,000 AF

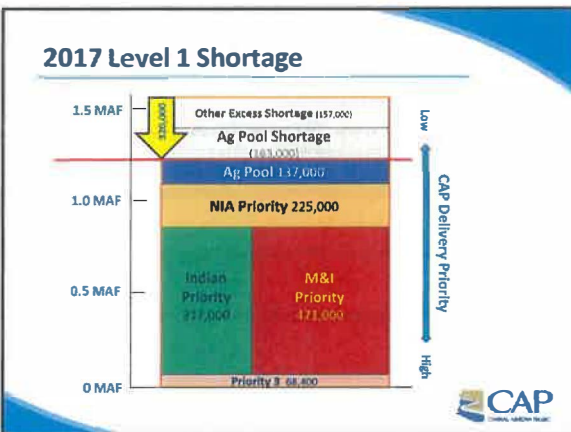
- No reductions to California under 2007 Guidelines

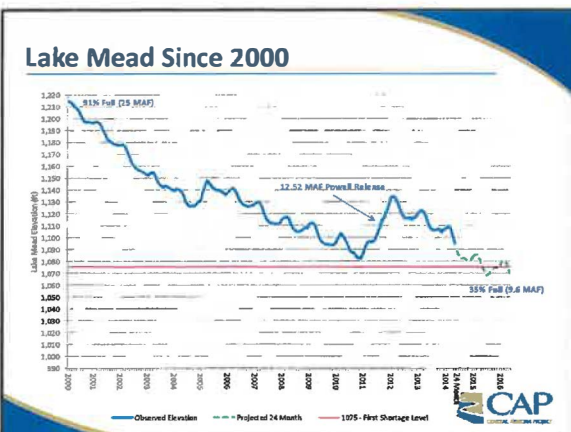
CAP CENTRAL ARIZONA PROJECT

Shortage Impacts Under Guidelines

- No water for AWBA and other excess users
- Significant impacts to Ag Settlement Pool
 - Reduced under early shortages
 - Eliminated when shortage deepens and long-term CAP uses grow
- Some impact to NIA priority deliveries in deeper shortages as long-term CAP uses grow
- **No anticipated impact to CAP M&I or Indian priority**
- Possible recovery for on-river M&I or Indian NIA







Water Budget at Lake Mead

- Inflow (release from Powell + side inflows) = 9.0 maf
- Outflow (AZ, CA, NV, and Mexico delivery + downstream regulation and gains/losses) = - 9.6 maf
- Mead evaporation losses = - 0.6 maf
- Balance = - 1.2 maf

Given basic apportionments in the Lower Basin, the allotment to Mexico, and an 8.23 maf release from Lake Powell, Lake Mead storage declines about 12 feet each year.

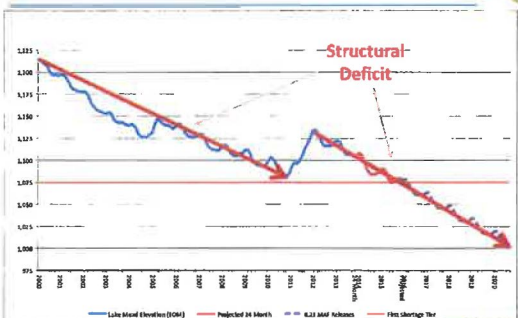
RECLAMATION

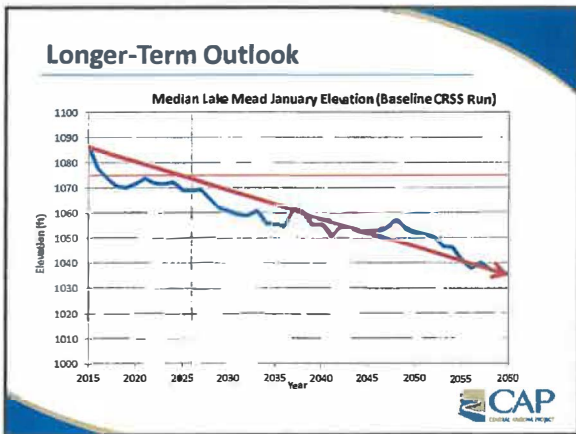
Impact of Structural Deficit

- Results in a decline of 12+ feet in Lake Mead every year when releases from Powell are "normal" (8.23 MAF)
- Undermines effectiveness of the 2007 Guidelines
- Drives Lower Basin to shortage
- CAP forced to bear obligations of others
 - Evaporation and other system losses
 - Lower Basin's half of Mexican Treaty obligation
 - US failure to operate YDP



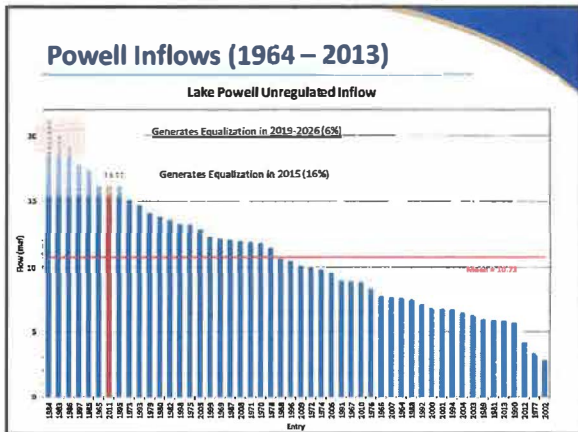
Near-Term Outlook





- ### Risk to All Colorado River Users
- Without equalization or corrective action, Lake Mead will fall below elevation 1000 in 5-8 years
 - If Lake Mead is below elevation 1000:
 - Impacts SNWA ability to withdraw water
 - Less than 4.5 MAF left in storage in Lake Mead
 - Reduced power generation and efficiency at Hoover Dam, potential cavitation or vibration damage
 - **What will the Secretary of the Interior do?**
- CAP COLORADO ARIZONA PROJECT

- ### Chances for Equalization
- Equalization trigger under the 2007 Guidelines goes up every year
 - For 2015, requires 17 MAF in storage in Lake Powell
 - By 2019, almost 18 MAF
 - By 2026, more than 19 MAF
 - Current storage in Lake Powell is 10.8 MAF
 - Powell inflow required for equalization in 2015:
 - 6.2 MAF (storage increase) + 9.0 MAF (release to Lower Basin) = **15.2 MAF**
- CAP COLORADO ARIZONA PROJECT



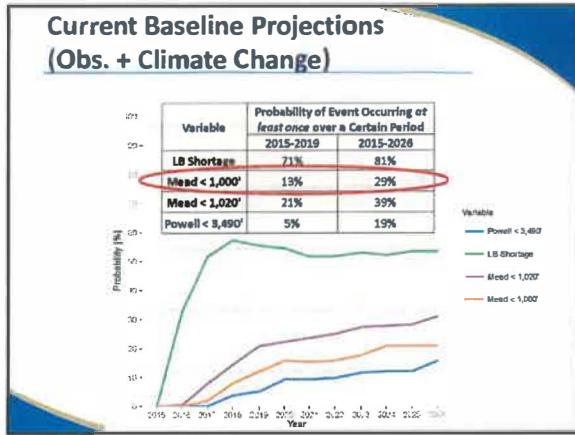
When Lake Mead is at 1,000'

- Lake Mead storage ~ 4.4 MAF
- Lake Powell
 - < 3490' 75% of time (below power pool)
 - < 3525' 84% of time (at or near power pool)
 - Storage ~ 4.0 to ~ 5.93 MAF respectively
 - Requires significant volumes, > 20 MAF, to reach equalization elevations

Lake Mead Elevation Response After Falling Below 1,000'

Hydrology	Average Years to Reach Threshold Elevation		
	1,025 ft	1,050 ft	1,075 ft
Observed	7.1	14.3	15.2
Climate Change	10.8	12.5	14.6
Combined	9.5	13.2	14.9

Hydrology	Number/Percent of Futures Below 1,000 ft by 2026	Number of Futures Reaching Threshold Elevation by 2060		
		1,025 ft	1,050 ft	1,075 ft
Observed	18/105 = 17%	0	5	6
Climate Change	46/112 = 41%	14	24	31
Combined	64/217 = 29%	14	29	37



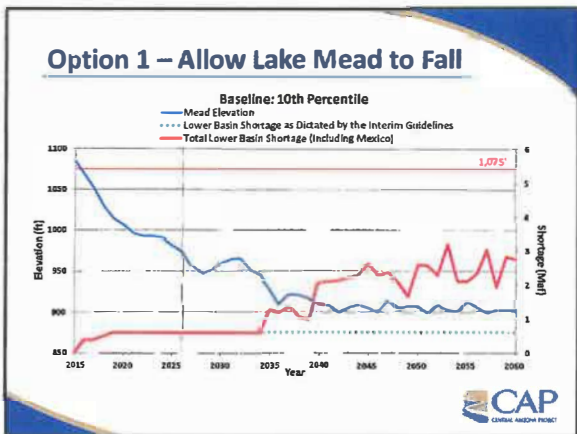
What will the Secretary Do?

Option 1
Allow Lake Mead to continue falling below elevation 1000, potentially to dead pool

Option 2
Take emergency action to protect elevation 1000

Option 1 – Allow Lake Mead to Fall

- Secretary continues making all scheduled deliveries until there is insufficient water available
- When orders exceed available supply, Secretary follows Law of the River priority system
 - CAP and post-1968 users reduced first
 - Pre-1968, non-PPR users reduced next
 - PPRs and federal reserved rights reduced last
- When Lake Mead reaches dead pool, deliveries are limited to run of the river—i.e., annual inflow




- ### Option 1 - Consequences
- Southern Nevada may be unable to withdraw any water below elevation 1000
 - Diversions for CAP M&I and Indian users are reduced to zero, along with on-river P4 users
 - Mead reaches dead pool in at least 10% of traces, forcing additional reductions of 1 MAF or more
 - Hoover powerplant capacity is reduced from installed rating of 2079 MW to:
 - 1046 MW at elevation 1000
 - 696 MW at elevation 950
- CAP
 CENTRAL ARIZONA PROJECT


- ### Option 2 – Protect Elevation 1000
- Secretary intervenes to protect level of Lake Mead, reducing Lower Basin diversions as needed
 - Secretary applies discretion in determining who gets water, regardless of priority, e.g.:
 - Nevada allotted 230 KAF to meet health and safety needs
 - CAP allotted 950 KAF to meet core municipal needs and U.S. tribal responsibilities
 - Other uses reduced as necessary
- CAP
 CENTRAL ARIZONA PROJECT


Protection Volume Analyses: "Absolute Protect" 1,000'

Hydrology	Lake Mead Elevation 1,020'			Lake Mead Elevation 1,000'		
	Minimum in any year (MAF)	First Year that Maximum Occurs	Average through 2026 (MAF)	Minimum in any year (MAF)	First Year that Maximum Occurs	Average through 2026 (MAF)
Observed	2.1	2019	0.74	1.9	2019	0.49
Climate Change	6.1	2025	1.7	6.0	2025	1.8
Combined	6.1	2025	1.5	6.0	2025	1.6

*Volumes are in addition to Shortages per the 2007 Interim Guidelines




- ### Option 2 - Consequences
- Secretarial discretion has replaced the Law of the River
 - Diversions by users other than SNWA and CAP are reduced by 2 to 6 MAF
 - Primary reductions to agricultural users
 - Additional reductions to Mexico lead to increased international tension
- 

- ### Proactive Alternative
- Based on principal that all Colorado River water and power users share risk
 - Structural deficit must be reduced by 600-900 KAF per year to "bend the curve"
 - Potential components:
 - Target volume (e.g., 600 KAF)
 - Funding mechanism (\$100M+ per year)
 - Joint system conservation/augmentation projects
 - States backstop if joint projects do not meet target
 - U.S. action to reduce system losses (100-200 KAF)
- 


Potential Cost of Proactive Plan

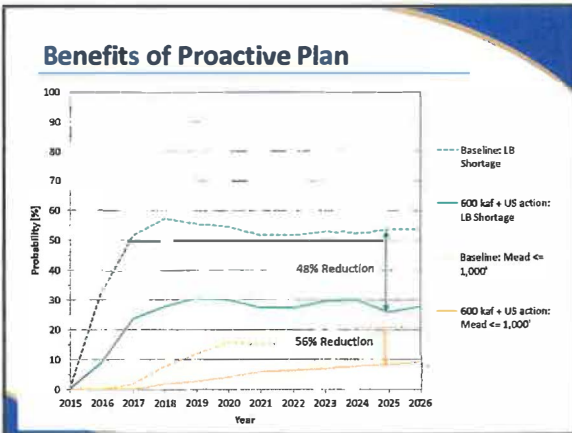
- Annual CAP diversions reduced
 - Impacts CAP Excess Water, potentially NIA
 - Increased fixed OM&R rates for all CAP customers
- Annual funding for conservation/augmentation projects (\$20M+)
- For comparison purposes, \$20M per year might be sufficient to generate
 - 10,000 AF from ocean desalination
 - 65,000 AF from brackish desalination



Benefits of Proactive Plan

- Preserves the Law of the River
- Provides greater certainty and predictability to all water and power users
- Reduces probability of Mead falling below elevation 1000 by 2026 from 29% to 12%
- Reduces likelihood of non-hydrologic supply reductions to CAP
- Increases chances of success when new operating guidelines are negotiated with Upper Basin in 2020
- Reduces likelihood of protracted litigation



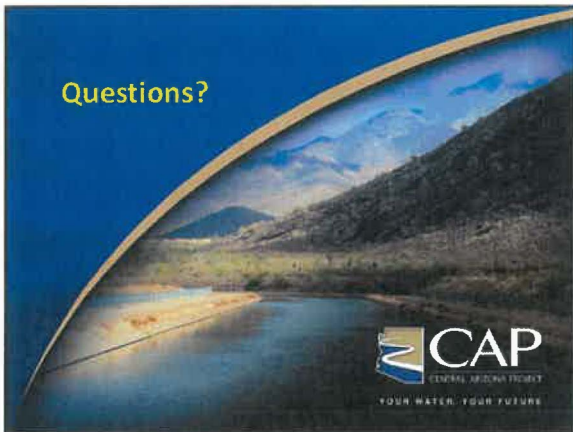


Current Status

- CAP and ADWR are working with Basin States and Reclamation to prepare a "Drought Response and Sustainability Plan"
- Ongoing efforts
 - Expand weather modification and tamarisk removal
 - System conservation pilot agreement
 - Long-term augmentation studies
- Basin States report to Secretary of the Interior anticipated in July



Questions?



RESOLUTION OF THE BOARD OF DIRECTORS
OF THE
CENTRAL ARIZONA WATER CONSERVATION DISTRICT
REGARDING AD VALOREM TAX FOR WATER STORAGE

(June 5, 2014)

WHEREAS, House Bill 2494 adopted by the Arizona Legislature in 1996 (Chapter 308, Laws of Arizona 1996, Forty-second Legislature, Second Regular Session) established the Arizona Water Bank and amended A.R.S. § 48-3715.02 relating to the tax levy for water storage; and

WHEREAS, A.R.S. § 48-3715.02, subsection B, provides that the Board of Directors (the "Board") of the Central Arizona Water Conservation District (the "District") shall fix the amount to be raised by direct taxation pursuant to its provisions, which amount shall not exceed four cents per one hundred dollars of assessed valuation; and

WHEREAS, the Board by separate action has fixed the tax rate pursuant to A.R.S. § 48-3715.02, subsection B, for the 2014/2015 tax year at four cents per one hundred dollars of assessed valuation; and

WHEREAS, A.R.S. § 48-3715.03 further provides that the Board shall determine annually by resolution whether any or all of the tax levied pursuant to A.R.S. § 48-3715.02, subsections B and C, shall be applied to the repayment of the construction costs of the Central Arizona Project ("CAP" or the "Project") or to the annual operation, maintenance, and replacement costs of the Project; and

WHEREAS, A.R.S. § 48-3715.03 further provides that those monies specified in such resolution for repayment of the construction costs or payment of the annual operation,

maintenance, and replacement costs of the Project shall be deposited in the District fund established pursuant to A.R.S. § 48-3712, subsection A, paragraph 5; and

WHEREAS, A.R.S. § 48-3715.03 further provides that a certified copy of such resolution shall be delivered to the Arizona Department of Water Resources;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Central Arizona Water Conservation District, as follows:

1. That all of the taxes levied pursuant to A.R.S. § 48-3715.02, subsections B and C, in the 2014/2015 tax year shall be applied to repayment of the construction costs or payment of the annual operation, maintenance, and replacement costs of the Project; and
2. That all taxes levied pursuant to A.R.S. § 48-3715.02, subsections B and C, in the 2014/2015 tax year be deposited in a designated District account in the District fund established pursuant to A.R.S. § 48-3712, subsection A, paragraph 5; and
3. That a certified copy of this resolution be delivered to the Arizona Department of Water Resources.

I, the undersigned, as Secretary of the Central Arizona Water Conservation District, hereby certify that the foregoing is a true and correct copy of the resolutions duly adopted by the Board of Directors of the Central Arizona Water Conservation District at a meeting thereof, duly called and held on June 5, 2014, at which a quorum was present and acting throughout. I further certify that said resolutions have not been modified or revoked since their adoption and are still in full force and effect.

SIGNED THIS 5th DAY OF JUNE 2014.

By: 

Lisa A. Atkins
Secretary

February 10, 2014

Tom Buschatzke
Assistant Director
Arizona Department of
Water Resources
3550 N. Central Avenue
Phoenix, AZ 85012

Virginia O'Connell
Manager
Arizona Water Banking
Authority
3550 N. Central Avenue
Phoenix, AZ 85012

Tom McCann
Assistant General Manager
Central Arizona Project
PO Box 43020
Phoenix AZ 85080-3020

Dear Mr. Buschatzke, Ms. O'Connell, and Mr. McCann:

Attached, for your information and review, is a document titled "Inter-AMA Water Storage and Firming Concepts." These concepts were developed jointly by the Arizona Municipal Water Users Association (AMWUA) and the Southern Arizona Water Users Association (SAWUA).

We believe that successful implementation of these concepts will result in additional water management flexibility for CAP M&I subcontractors in both the Phoenix and Tucson Active Management Areas who elect to participate in the proposed program. Clearly, however, the Arizona Department of Water Resources, the Arizona Water Banking Authority, and the Central Arizona Water Conservation District also have critical roles to play in ensuring the future viability of a successful program.

Those subcontractors interested in participating in the Phase 1 Pilot Program described in the document will be contacting you directly to discuss future actions required to implement the proposed pilot program.

Sincerely,



Kathleen Ferris, Executive Director
AMWUA
3003 N. Central Avenue, Suite 1550
Phoenix, AZ 85012
(602) 248-8482



Sheila Bowen, President
SAWUA
PO Box 35481
Tucson, AZ 85740-5481
(520) 344-7109



INTER-AMA WATER STORAGE AND FIRING CONCEPTS
February 7, 2014

I. GOALS

1. Provide CAP M&I subcontractors located in Maricopa County with the ability to store water in Pima county and obtain long term storage credits for the stored water.
2. Increase AWBA's ability and flexibility to store more water for use by M&I subcontractors in times of shortages of CAP water.

II. WATER STORAGE

1. Phase 1 Pilot Program

Phase 1 would be a pilot program that would recharge up to 5,000 AF in one year using the existing infrastructure located in the Tucson AMA. A Maricopa County M&I subcontractor(s) that is not using its entire CAP entitlement would have water delivered for storage in Pima County, and then call for the recovery of that stored water after DWR notification that the credits have been accrued. Participating Pima County M&I subcontractors would accept storage credits for direct delivery in-lieu of CAP water. In exchange, CAP water would be directly delivered to Maricopa County M&I subcontractors via the CAP canal.

The intent of the pilot program is to determine how or if a Phase 2 program consisting of larger volumes of water should be implemented. DWR and the CAWCD would need to agree that any unused entitlement could be delivered, stored and later recovered.

2. Phase 2 Program

- a. Based on the successful operation of the pilot program, including both storage and recovery, a second phase would be implemented. Phase 2 would be directed to providing a Maricopa County M&I subcontractor(s) that is not using its entire CAP entitlement with the ability to have a total of 50,000 af/yr for up to 20 years delivered for storage in Pima County, and then call for delivery of any stored water at any time after DWR notification that the credits have been accrued.
- b. In any year, when a participating Maricopa County subcontractor wanted to call on water stored in Pima County, participating Pima County subcontractors would agree to accept the credits in lieu of a like amount of CAP water they would have otherwise been entitled to receive in that year, and the CAWCD would deliver that amount of CAP water to the participating Maricopa County subcontractor.

- c. **Payment for, and ownership and maintenance of, any delivery and storage facilities located in Pima County, and the procedures for the delivery of water for storage in Pima County and the delivery of forborn water in Maricopa County, would be based on terms and conditions agreed to by the participating Maricopa County and Pima County subcontractors and the CAWCD.**

III. M&I FIRING

AWBA may participate in the Phase 2 program for the purposes of shortage year and emergency operation firing.

1. Expansion Facilities

- a. **At AWBA's direction, CAWCD would use monies collected from the four-cent water storage tax in Maricopa County to fund the construction of needed infrastructure as an expansion of capacity at Tucson Water's existing SAVSARP and the Metro Water District's (Metro) recharge facilities (Expansion).**
- b. **CAWCD would own the Expansion infrastructure, but Tucson Water would operate and maintain it in conjunction with the existing capacity at SAVSARP, and Metro would maintain and operate its portion of the Expansion infrastructure in conjunction with its recharge facility.**
- c. **CAWCD would hold a priority right to use the storage capacity created in the Expansion. (If others participate in the funding of the Expansion, they would have a pro-rated joint ownership and an equal priority-right to store water at the facility.) Tucson Water and Metro, in consultation with CAWCD, would establish and collect storage fees required to cover the cost of operating and maintaining the Expansion.**
- d. **AWBA would have the first priority to use CAWCD's share of the Expansion to store water in the Expansion on behalf of M&I subcontractors in Maricopa County.**
- e. **To the extent AWBA cannot use the available Extension storage capacity in any year, any Maricopa County M&I subcontractor could enter into an agreement to store water in the Expansion under CAWCD's recharge priority policy, similar to a state demonstration project.**
- f. **As an alternative to expending monies collected from the four-cent water storage tax in Maricopa County on expanded facilities, Tucson Water and Metro could expand the facilities and charge as appropriate for the expansion and**

storage in the facilities. AWBA would then use the tax monies to pay the appropriate charges as storage occurs.

2. AWBA Storage at the Expansion

- a. AWBA may use monies collected from the four-cent water storage tax in Maricopa County to store water in the Expansion for the benefit of M&I subcontractors in the Phoenix AMA. It is expected that there is a significant benefit to Maricopa County subcontractors by virtue of ensuring the continued delivery of water to water treatment plants constructed and operated in Maricopa County that would otherwise not be operated in whole or in part during a shortage year or during an emergency shortage. It is also anticipated that there would be a deferral or avoidance of significant capital costs in Maricopa County for the construction of recovery infrastructure.
- b. AWBA will use its best efforts to accrue at least _____ AF of credits at the Expansion between 2014 and 2023.

3. Recovery of Water Stored by AWBA at the Expansion

- a. During years of shortages to CAP M&I subcontract water or during extraordinary CAP system outages, AWBA may call on Maricopa county credits stored in the Expansion to offset reductions in water deliveries to Maricopa County M&I subcontractors.
- b. In such case, participating Pima County M&I subcontractors would agree to accept those credits in lieu of a like amount of CAP water that the Pima County subcontractors would otherwise have been entitled to receive in that year, and the water forborn by the Pima County subcontractors would be delivered by the CAWCD to Maricopa County subcontractors.

4. Other Provisions

- a. Any exchange/forebearance in any CAP shortage year shall not change the pro-rated share of the shortage between the Phoenix and Tucson AMAs in that year.
- b. Agreements will be necessary among the parties to ensure that all parties are fully protected.

BACKGROUND - AWBA TEN-YEAR PLAN PROJECTIONS

PHOENIX AMA

- 334,590 AF stored in Phoenix AMA with 4-cent tax revenues from 2014-2023
- 1,671,505 AF stored for M&I firming through 2023 using 4-cent tax revenues
- Excess of 105,505 AF above M&I firming target at the end of 2023
- \$75M (approximately) of Maricopa County 4-cent tax money remains in CAWCD's account at the end of 2023

TUCSON AMA

- 96,442 AF stored in Tucson AMA with 4-cent tax revenues from 2014-2023
- 17,489 AF stored in Tucson AMA with GW W/D fee revenues from 2014-2023
- 603,100 AF stored for M&I firming through 2023 using both 4-cent tax and GW W/D fee revenues
- Shortfall of 260,900 AF below M&I firming target at the end of 2023
- \$0 of Pima County 4-cent tax money remains in CAWCD's account at the end of 2023

IV. 2013 Annual Report

NOTES:

Call on **Virginia O'Connell** to give an overview of the Annual Report (Powerpoint presentation)

Call on **Terri Sue Rossi** to present the Ten-Year Plan (Powerpoint presentation) and Action Planning activities.

ACTION:

Move approval of the **2013 Annual Report and Ten-Year Plan** as submitted or with minor or technical changes, based on discussion and direct staff to submit to Governor, Speaker of the House, and President of the Senate pursuant to statute.



2013 Annual Report and Ten-Year Plan

AWBA Quarterly Meeting
June 18, 2014

Presented by
Virginia O'Connell, AWBA Manager
Terri Sue Rossi, Technical Administrator



Arizona Water
Banking Authority

Annual Report Requirements

- **Accounting of AWBA transactions and proceedings for previous year - 2013**
- **All monies expended from Banking Fund and monies remaining**
- **Amount of water stored**
- **Number of long-term storage credits distributed or extinguished**
- **Ten-Year Plan**



2013 Plan of Operation

- **Initial Plan – 52,546 AF**
 - 51,546 AF storage
 - 1,000 AF Southside Replenishment Bank
 - No Interstate storage
- **Final Deliveries – 78,230 AF**
 - includes 1,000 AF to SSRB
- **Arizona Consumptive Use – 2.78 MAF**
 - On-river 1.13 MAF
 - Central Arizona Project 1.65 MAF



Interstate Banking

- **Draft Third Amended and Restated Agreement presented in December 2013**
- **Public comment period**
- **Final Draft presented March 2014**
- **Agreement executed May 20, 2014**



Interstate Banking

- **Agreement Highlights:**
 - **AWBA is no longer obligated to accrue 1.25 MAF credits**
 - **SNWA and AWBA can agree to future storage, including storing Nevada's unused apportionment**
 - **Future storage is on a "pay-as-you-go" basis**
 - **Administrative costs – 15% of actual or \$20,000 in years when AWBA does not store for SNWA**



Interstate Banking

- **Term of agreement changes:**
 - Agreement terminates when all existing and future credits are recovered
 - Existing credits must be recovered by December 31, 2063
 - Future credits must be recovered within 50 years of date of storage
 - Existing credits are recovered first
- Any opportunities to reduce recovery costs will not burden Arizona water users



Indian Firming Program

- **Gila River Indian Community**
 - Firm up to 15,000 AF/yr when CAP NIA Priority supplies are insufficient to meet demand
 - Agreement between the Secretary and State executed November 15, 2007
 - Defines AWBA's responsibilities as the State's agent
 - Allows for separate firming agreements
 - Initiated discussions with the Community to develop an agreement for a firming plan



Indian Firming Program

- **Hualapai Tribe**
- **White Mountain Apache Tribe**
 - **3,750 AF firming obligation**
 - **Enforceability date April 30, 2021**
 - **Conform WMAT Water Rights Quantification Agreement to Federal legislation**
 - **Approval of Quantification Agreement by Gila River and Little Colorado River adjudication courts**
 - **State contribution of \$2 million toward construction of WMAT Rural Water System**



Indian Firming Program

- **Navajo Nation/Hopi Tribe**
 - **Legislation introduced to Congress Feb. 14, 2012 authorizing Little Colorado River Settlement**
 - **3,205.5 AF firming obligation**
 - **Hopi Tribal Council rejected the legislation in June**
 - **Navajo Nation Council rejected settlement in July**
 - **Navajo Nation filed amended complaint with U.S. District Court for Arizona on June 3, 2013**



Southside Replenishment Bank

- **AWBA Required to Deliver 15,000 AF to Gila River Indian Community to Establish Southside Replenishment Bank**
- **Requires Minimum Delivery of 1,000 AF per Year**
- **Can Be Used to Offset a Replenishment Obligation in Protection Zones**

Southside Replenishment Activities	2013 Deliveries (AF)	Cumulative Deliveries (AF)
Replenishment Obligations	0	0
Replenishment Bank	1,000	5,000
Total Direct Deliveries	1,000	5,000



Action Planning

- **Ten-Year Plan Projections**
 - **Decreasing Excess CAP Water availability (1.2 MAF in 2012 vs. 690,000 AF in 2013)**
 - **Increasing water delivery costs**
 - **AWBA effectively put further behind in achieving its firming goals**
 - **Multiple AWBA objectives competing for same limited resources**



Action Planning

- **Developed Special Action Planning Process:**
 - **Prioritize competing responsibilities**
 - **Identify actions to be implemented**
- **Two Solutions for Immediate Attention**
 1. **Evaluate ability to purchase credits accrued by others**
 2. **Evaluate use of general fund appropriation for Indian firming**
- **Requested input from stakeholders**



Action Planning

- **Bureau of Reclamation Releases August 24-Month Study**
 - Indicates release from Lake Powell for water year 2014 would be 7.48 MAF
- **With two consecutive releases of 7.48 MAF, elevations in Lake Mead could reach 1,050 feet, triggering a Tier 1 shortage (320 KAF) by 2016**
- **No Excess CAP water available to the AWBA**



Action Planning

- **In September, AWBA approved a proposal to pursue legislation allowing the AWBA to purchase credits using any funds in the Arizona Water Banking Fund**
- **In October, AWBA approved the submittal of a request for an appropriation of \$664,000 to pay for the delivery of 4,000 AF to the Southside Replenishment Bank**



Action Planning

- **Initiated 4-Step Facilitated Process to Further Prioritize Responsibilities:**
 - 1. Environmental Scan**
 - 2. Vision and Commitments**
 - 3. Stakeholder Feedback and Focused Implementation**
 - 4. Final Decisions**



Action Planning

- **Environmental Scan**
 - Answered the question: “What are the actions, trends, paradigms and approaches emerging for the AWBA and others relative to protecting against the impact of shortages?”
 - From four perspectives: On the Horizon, Emerging, Established, and Dying concepts



Action Planning

- **Highlights of Environmental Scan:**
 - **Increasing competition for diminishing resources**
 - **Possibility of near-term shortages**
 - **Falling below the 1,025 ft elevation**
 - **Recovery component must still be accomplished**
 - **Need for public outreach**



Action Planning

- **Focus question for entire Action Planning Process**

“What potential roles, responsibilities and functions should the AWBA pursue in the future to assist the water community in managing water resources in Arizona?”

- **Vision – What does the AWBA want to see in place in 3-5 years?**



Action Planning

- **Vision Elements:**
 - **New water supplies acquired**
 - **Access to and flexibility of funding**
 - **Indian firming agreements finalized**
 - **Adopted, implementable recovery plan**
 - **Improved storage plan**
 - **Alternative shortage management strategies**
 - **Decision on AWBA statewide role**
 - **Outreach efforts incorporated in annual reports**



Modeling

- **ADWR, CAWCD, and AWBA staff workgroup continued work on developing consistent baseline assumptions for the Arizona CRSS model that all agencies would use**
- **A planning tool for determining when shortages might occur**
- **Collaborative effort that will continue over time**



Re-evaluation of AWBA Firming Goals

- **Goals originally developed in 1997**
- **Changes in Colorado River operations**
- **Changes in modeling**
- **Staff asked to re-evaluate firming goals based on new criteria**



Re-evaluation of AWBA Firming Goals

- **Two Modeling Scenarios:**
 1. **Interim Guidelines Extended**
 - Extending current operating rules beyond 2026
 2. **Interim Guidelines Preferred Alternative**
 - Interim guidelines through 2026, followed by 80 P 1050 operating criteria
- **Two Variables Each:**
 1. **Director's Shortage Sharing Guidelines**
 2. **Pro rata sharing based on annual uses**



Joint Recovery Plan

- **ADWR, CAWCD, and AWBA staff continued to work collaboratively to develop a recovery plan**
- **Objective is to provide framework for recovering AWBA credits in the future**
- **Feedback solicited from ad hoc stakeholder group**
- **Sections were presented to the public as they were completed**



Joint Recovery Plan

- Roles and responsibilities of various groups
- Types of credits accrued and where they are located
- Methods of recovery and cost components
- When recovery may be needed, to what extent, and opportunities for recovery
- Implementation and activities that need to be accomplished



Joint Recovery Plan

- **Highlights**

- Recovery in near and mid-term is primarily for Indian and on-River firming
- Less than a 35 % chance for recovery before 2024
- Recovery for CAP M&I firming not expected before 2035
- Recovery for SNWA a key factor
- Majority of credits are in the Pinal AMA, but recovery methods are limited
- Important results are reassessed periodically



2014 Plan of Operation

- **Total Supplies Available to Pool – 84,408 AF**
 - CAGR Reserve 8,274 AF
 - Federal 11,381 AF
- **Projected AWBA Deliveries**
 - 59,753 AF deliveries for storage (no interstate)
 - 5,000 AF Southside Replenishment Bank
 - Least amount available for storage since 1997



Monies Collected and Expended in 2013

Source of Funds	Money Collected	Money Expended
General Funds	\$0	\$0
MCWA Prepayments	\$124,590	\$124,590
Interstate	\$6,130	\$0
Shortage Reparation	\$1,500,000	\$1,500,000
4-cent Tax		\$7,508,740
Maricopa County	-	\$3,903,720
Pinal County	-	\$1,305,480
Pima County	-	\$2,299,540
Withdrawal Fees	\$4,129,650	\$2,099,150
Phoenix AMA	\$2,106,520	\$728,000
Pinal AMA	\$1,619,020	\$997,600
Tucson AMA	\$404,110	\$373,550
TOTAL	\$5,760,370	\$11,232,480



Number and Location of Long-Term Storage Credits Accrued in 2013 (AF)

Funding Source	Phoenix AMA	Pinal AMA	Tucson AMA
4-Cent Tax	24,560	10,881	13,987
Withdrawal Fees	4,798	7,258	2,199
General Fund	-	-	-
Shortage Reparation	-	-	8,846
Intrastate Total	29,358	18,139	25,032
Interstate - Nevada	-	-	-
TOTAL	29,358	18,139	25,032



Monies Collected and Expended through 2013

Source of Funds	Collected	Expended	Available
General Funds	\$11,100,870	\$11,100,870	\$0
MCWA Prepayments	\$4,859,660	\$4,859,660	\$0
State Indian Firming	\$2,338,170	\$2,338,170	\$0
Interstate Water Banking	\$109,317,260	\$109,087,820	\$229,440
Shortage Reparation	\$4,499,750	\$4,499,750	\$0
4-cent Tax	\$283,316,660	\$144,237,000	\$94,079,660
Maricopa County	\$266,518,370	\$91,334,970	\$90,183,400
Pinal County	\$10,949,140	\$10,450,160	\$498,980
Pima County	\$45,849,150	\$42,451,870	\$3,397,280
Withdrawal Fees	\$47,233,420	\$44,956,840	\$2,276,580
Phoenix AMA	\$21,071,720	\$19,648,240	\$1,423,480
Pinal AMA	\$17,814,330	\$16,993,890	\$820,440
Tucson AMA	\$8,347,370	\$8,314,710	\$32,660
TOTAL	\$462,665,790	\$321,080,110	\$96,585,680



Arizona Water
Banking Authority

Identified Use of AWBA Credits through 2013

Objective	Funding Source	Goal (AF)	Credits Accrued (AF)	Progress Toward Goals/Oblig.	Estimated Remaining Costs (\$ Million)
M&I Firming					
Phoenix AMA	Maricopa 4¢	1,566,000	1,354,480	86%	\$39
Pinal AMA	Pinal 4¢	243,000	198,350	82%	\$2.4
Tucson AMA	Pima 4¢	864,000	404,320	47% W/Fees 58%	\$92.5 (\$4.2, \$10.3)
Groundwater Mgmt					
Phoenix AMA	Withdrawal Fees		121,800		
Pinal AMA	Withdrawal Fees		368,000		
Tucson AMA	Withdrawal Fees		95,370		
On-River M&I Firming	General Fund	420,000		96%	\$4.4



Identified Use of AWBA Credits through 2013

Objective	Obligation	Goal (AF)	Non- LTS Credit Obligation Achieved	Credits Accrued (AF)	Progress Toward Goals/Oblig.	Estimated Remaining Costs (\$ Million)
Indian Settlements:						
GRIC Firming	up to 15,000 AF/YR	350,000		105,390	30%	\$10.4
Future Settlements	up to 8,724 AF/YR	200,000		0	0%	\$15.6
Federal Assistance	\$3,000,000		\$3,000,000	34,102	100%	\$0
Southside Replenishment Bank	15,000 AF Direct Delivery		5,000		27%	\$1.7



Identified Use of AWBA Credits through 2013

Objective	Obligation	Goal (AF)	Non-Credit Obligation Achieved	Credits Accrued (AF)	Progress Toward Goals/Oblig.	Estimated Remaining Costs (\$ Million)
Interstate Water Banking - NV	600,651			600,651	100%	\$0
Other:						
Shortage Reparation		\$8,000,000	\$4,500,000	91,220	56%	\$3.5
Pinal Redirect Credits				14,125		



Credits Distributed or Extinguished

- **Cumulative Credits 3.897 MAF**
 - **Arizona Uses 3.296 MAF**
 - **Nevada .601 MAF**
- **No Credits Distributed during 2013**
- **No Credits Extinguished during 2013**
- **No development of Intentionally Created Unused Apportionment**



Questions?



Arizona Water
Banking Authority

Ten-Year Plan: Today's Agenda

- **Background**
 - Purpose of Plan
 - Guiding principles
 - Plan components
- **Ten-Year Plan**
- **Results**
- **Conclusions**
- **Recommended Actions**

Action
Planning



Purpose of Ten-Year Plan

- Support development of Annual Plan of Operation governing AWBA annual activities
- Support policy development
- Create strategy for meeting goals over time



Key Guiding Principles

- Covers 2015 to 2024
- Incorporates CAWCD 2014-2015 rate schedule
- Assumes a 3% increase in rates from through 2024
- Maximizes storage in Tucson
- No fund transfers
- 4¢ tax expires at end of 2016
- 4¢ tax monies available for water storage
- Continues CAWCD policies related to AWBA operation
- Assumes Excess CAP water will be available
- Withdrawal fees in Tucson used for M&I firming
- Withdrawal fees in Phoenix and Pinal used for Indian firming



Arizona Water
Banking Authority

Plan Components

- **Common Components**
 - Found in every Ten-Year Plan
- **Plan-Specific Components**
 - Specific to this Ten-Year Plan



Plan Components

- **Common Components**
 - **Components found in every Ten-Year Plan**
 - **Water available to AWBA**
 - **Funding**
 - **Storage Capacity**



Plan Components

- **Plan-Specific Components**
 - **Components specific to this Ten-Year Plan**
 - **Re-evaluation of firming targets**
 - **Indian settlements**
 - **Shortages and surplus**
 - **Intrastate recovery and ICUA**
 - **Water management objectives**
 - **Interstate banking**



Ten-Year Plan

ARIZONA WATER BANKING AUTHORITY - Ten-Year Plan																
2015 - 2024																
(Acre-feet)																
YEAR	(a)	(b)		(c)		(d)		(e)		(f)		(g)				
	CAP Water Available for AWBA	CAP M&I Firming (4¢ tax)		Water Management (Withdrawal Fees)		Appropriation from General Fund		Shortage Repairs (\$8 Million)		Indian Settlement		Interstate Banking				
		Delivery	Credits	Delivery	Credits	Delivery	Credits	Delivery	Credits	Delivery	Credits	Water Available	Delivery	Credits	ICUA	Remaining Credits
Pre-Plan ^(b)	n/a		1,989,462		579,561		403,630		98,381		236,925			600,651		600,651
2015	54,100	36,960	34,372	5,000	0	0	0	5,113	4,755	7,028	6,536	0	0	0	0	600,651
2016	38,600	27,793	25,847	0	0	0	0	4,973	4,625	5,834	5,426	0	0	0	0	600,651
2017	87,900	56,716	52,746	6,818	6,341	0	0	0	0	24,366	22,660	0	0	0	0	600,651
2018	77,800	58,338	49,604	1,868	1,737	0	0	0	0	22,994	21,012	0	0	0	0	600,651
2019	64,700	43,017	40,006	1,838	1,709	0	0	0	0	19,845	18,456	0	0	0	0	600,651
2020	51,800	33,691	31,332	1,665	1,549	0	0	0	0	16,444	15,293	0	0	0	0	600,651
2021	39,100	23,821	22,154	1,611	1,498	0	0	0	0	13,668	12,711	0	0	0	0	600,651
2022	29,700	16,571	15,411	1,560	1,451	0	0	0	0	11,569	10,739	0	0	0	0	600,651
2023	14,200	4,422	4,112	1,512	1,406	0	0	0	0	8,266	7,687	0	0	0	0	600,651
2024	64,300	44,736	41,605	1,467	1,365	0	0	0	0	18,097	16,830	0	0	0	0	600,651
TOTAL	522,200		2,306,652		596,607		403,630		108,361		374,294			600,651	0	



Arizona Water
Banking Authority

Water Available to AWBA

- 522,000 acre-feet available during Ten-Year Plan
- Volume of water available tightens until 2017
- Then gradually decreases again until 2024
- Expect variability

YEAR	(a) CAP Water Available for AWBA
Pre-Plan ⁽¹⁾	n/a
2015	54,100
2016	38,600
2017	87,900
2018	77,800
2019	64,700
2020	51,800
2021	39,100
2022	29,700
2023	14,200
2024	64,300
TOTAL	522,200



Water Available to AWBA

- Assumes 50% of water available can be stored in Tucson
- Assumes 25% of water available can be stored in Pinal and Phoenix each
- Assumes unused water cascades down Tucson-Pinal-Phoenix

YEAR	(a) CAP Water Available for AWBA
Pre-Plan ⁽¹⁾	
2015	n/a
2016	54,100
2017	38,600
2018	87,900
2019	77,800
2020	64,700
2021	51,800
2022	39,100
2023	29,700
2024	14,200
TOTAL	64,300
	522,200



CAP M&I firming

	(b)	
YEAR	CAP M&I Firming (4¢ tax)	
	Delivery	Credits
Pre-Plan ^(*)		1,989,462
2015	36,960	34,372
2016	27,793	25,847
2017	56,716	52,746
2018	53,338	49,604
2019	43,017	40,006
2020	33,691	31,332
2021	23,821	22,154
2022	16,571	15,411
2023	4,422	4,112
2024	44,736	41,605
TOTAL		2,306,652

- Assumes \$13.5 million collected per year in Maricopa County
- Assumes \$850,000 collected per year in Pinal County
- Assumes \$3 million collected per year in Pima County



	(b)	
YEAR	CAP M&I Firming (4¢ tax)	
	Delivery	Credits
Pre-Plan ^(H)		1,989,462
2015	36,960	34,372
2016	27,793	25,847
2017	56,716	52,746
2018	53,338	49,604
2019	43,017	40,006
2020	33,691	31,332
2021	23,821	22,154
2022	16,571	15,411
2023	4,422	4,112
2024	44,736	41,605
TOTAL		2,306,652

CAP M&I Firming

- Assumes 4¢ tax monies are used after shortage reparation funds in Tucson AMA
- Assumes 4¢ tax monies are used before withdrawal fees in Tucson and Pinal AMAs



Arizona Water
Banking Authority

	(b)	
YEAR	CAP M&I Firming (4¢ tax)	
	Delivery	Credits
Pre-Plan ^(*)		1,989,462
2015	36,960	34,372
2016	27,793	25,847
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2021	23,821	22,154
2022	16,571	15,411
2023	4,422	4,112
2024	44,736	41,605
TOTAL		2,306,652

CAP M&I Firming

- Assumes 80% of water available to store in Maricopa uses 4¢ tax monies
- Assumes 20% of water available to store in Maricopa uses withdrawal fees



CAP M&I Firming

	(b)	
YEAR	CAP M&I Firming (4¢ tax)	
	Delivery	Credits
Pre-Plan ^(*)		1,989,462
2015	36,960	34,372
2016	27,793	25,847
2017	56,716	52,746
2018	53,338	49,604
2019	43,017	40,006
2020	33,691	31,332
2021	23,821	22,154
2022	16,571	15,411
2023	4,422	4,112
2024	44,736	41,605
TOTAL		2,306,652

- 4¢ tax monies exhausted in Tucson and Pinal by 2017 (includes interest)
- Nearly \$70 million available in Phoenix AMA after 2024
- Expect around 320,000 acre-feet of credits accrued with 4¢ tax monies



Water Management

- Assumes \$1.7 million collected per year in Maricopa County
- Assumes \$1.5 million collected per year in Pinal County
- Assumes \$400,000 collected per year in Pima County

YEAR	(c)	
	Water Management (Withdrawal Fees)	
	Delivery	Credits
Pre-Plan ^(a)		
2015		579,551
2016	5,000	0
2017	0	0
2018	6,818	6,341
2019	1,868	1,737
2020	1,838	1,709
2021	1,665	1,549
2022	1,611	1,498
2023	1,560	1,451
2024	1,512	1,406
TOTAL	1,467	1,365
		596,607



Water Management

- Carry-over withdrawals fees exhausted in Pinal and Tucson AMAs by 2017
- Carry-over withdrawal fees available in Phoenix AMA throughout Plan
- \$3.8 million in withdrawal fees will remain in Phoenix at the end of the plan

YEAR	(c)	
	Water Management (Withdrawal Fees)	
	Delivery	Credits
Pre-Plan ^(*)		
2015		579,551
2016	5,000	0
2017	0	0
2018	6,818	0
2019	1,868	6,341
2020	1,838	1,737
2021	1,665	1,709
2022	1,611	1,549
2023	1,560	1,498
2024	1,512	1,451
TOTAL	1,467	1,406
		1,365
		596,607



Water Management

- Assumes withdrawal fee credits accrued in Tucson used for M&I firming
- Assumes withdrawal fee credits accrued in Pinal and Phoenix AMAs to be used for Indian firming

YEAR	(c)	
	Water Management (Withdrawal Fees)	
	Delivery	Credits
Pre-Plan ^(a)		
2015		579,551
2016	5,000	0
2017	0	0
2018	6,818	6,341
2019	1,868	1,737
2020	1,838	1,709
2021	1,665	1,549
2022	1,611	1,498
2023	1,560	1,451
2024	1,512	1,406
TOTAL	1,467	1,365
		596,607



Water Management

- Expect just over 17,000 acre-feet of credits accrued for Tucson M&I firming

YEAR	(c)	
	Water Management (Withdrawal Fees)	
	Delivery	Credits
Pre-Plan ^(*)		
2015		579,551
2016	5,000	0
2017	0	0
2018	6,818	6,341
2019	1,868	1,737
2020	1,838	1,709
2021	1,665	1,549
2022	1,611	1,498
2023	1,560	1,451
2024	1,512	1,406
TOTAL	1,467	1,365
		596,607



General Appropriation

- Assumes no general fund appropriation

YEAR	(d)	
	Appropriation from General Fund	
	Delivery	Credits
Pre-Plan ^(b)		403,830
2015	0	0
2016	0	0
2017	0	0
2018	0	0
2019	0	0
2020	0	0
2021	0	0
2022	0	0
2023	0	0
2024	0	403,830
TOTAL		403,830



Shortage Reparations

- Assumes remaining shortage reparation monies will be used to store water in Tucson
- Expect over 9,000 acre-feet of credits accrued

YEAR	(e)	
	Shortage Reparations (\$8 Million)	
	Delivery	Credits
Pre-Plan ^(*)		98,981
2015	5,113	4,755
2016	4,973	4,625
2017	0	0
2018	0	0
2019	0	0
2020	0	0
2021	0	0
2022	0	0
2023	0	0
2024	0	0
TOTAL	0	108,361



Indian Settlement

		(f)	
YEAR	Indian Settlement		
	Delivery	Credits	
Pre-Plan ^(*)		236,925	
2015	7,028	6,536	
2016	5,834	5,426	
2017	24,366	22,660	
2018	22,594	21,012	
2019	19,845	18,456	
2020	16,444	15,293	
2021	13,668	12,711	
2022	11,569	10,759	
2023	8,266	7,687	
2024	18,097	16,830	
TOTAL		374,294	

- Pre-plan credits:
 - 28,000 acre-feet federal assistance credits
 - 208,000 acre-feet of existing withdrawal fee credits
- Assumes Phoenix and Pinal AMA withdrawal fee credits accrued used for Indian firming
- Expect over 137,000 acre-feet of credits



Interstate Banking

(g)

Interstate Banking

	Water Available	Delivery	Credits	ICUA	Remaining Credits
			600,651		600,651
2015	0	0	0	0	600,651
2016	0	0	0	0	600,651
2017	0	0	0	0	600,651
2018	0	0	0	0	600,651
2019	0	0	0	0	600,651
2020	0	0	0	0	600,651
2021	0	0	0	0	600,651
2022	0	0	0	0	600,651
2023	0	0	0	0	600,651
2024	0	0	0	0	600,651
TOTAL			600,651		0

- Assumes no storage for interstate
- Assumes no requests for ICUA during this planning period



Arizona Water
Banking Authority

Ten-Year Plan Results

Table 8. AWBA Percentage of Goals Achieved through 2024

Location and Objective	Funding Source	Estimated Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits ² Accrued (AF)	Percent Goal/Oblig. Achieved
CAP M&I Firming Phoenix AMA ² Pinal AMA ³ Tucson AMA ⁴	Water Storage Tax (4¢ Ad valorem) collected by County	1,566,000 AF			1,619,862	103%
		243,000 AF			243,047	100%
		864,000 AF			586,850	68%
On-River M&I Firming ²	General Fund	420,000 AF			403,830	96%
Indian Settlement Obligations: ⁶ GRIC Firming Phoenix AMA Pinal AMA	Withdrawal Fees	350,000 AF	up to 15,000 AF/YR		350,000	100%
					86,313	
					261,687	
Future Settlements	Withdrawal Fees	200,000 AF	up to 8,724 AF/YR		200,000	100%
Federal Assistance Tucson AMA	Appropriation		\$3,000,000	\$3,000,000	34,102	100%
	Withdrawal Fees			\$2,338,171	26,482	
	Cost of Services			\$630,490	5,621	
				\$31,339	n/a	
Southside Replenishment Bank	Pinal AMA Withdrawal Fees		15,000 AF Direct Delivery		15,000	100%
Groundwater Management Phoenix AMA Pinal AMA ³ Tucson AMA ⁴	Withdrawal Fees collected by AMA				77,655	
					200,187	
					0	
Other: Shortage Reparations-Nevada	Agreement with Nevada			\$8,000,000	108,361	100%
Pinal Redirect Credits ^{2 and 7}	n/a				14,125	



Arizona Water
Banking Authority

Results: M&I Firming

Table 8. AWBA Percentage of Goals Achieved through 2024

Location and Objective	Funding Source	Estimated Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits ¹ Accrued (AF)	Percent Goal/Oblig. Achieved
CAP M&I Firming	Water Storage Tax (4¢ Ad valorem) collected by County					
Phoenix AMA ²		1,566,000	AF		1,619,862	103%
Pinal AMA ³		243,000	AF		243,000	100%
Tucson AMA ⁴		864,000	AF		586,850	68%
On-River M&I Firming⁵	General Fund	420,000	AF		403,830	96%



Results: Indian Firming

Table 8. AWBA Percentage of Goals Achieved through 2024

Location and Objective	Funding Source	Estimated Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits ¹ Accrued (AF)	Percent Goal/Oblig. Achieved
Indian Settlement Obligations:⁶						
GRIC Firming	Withdrawal Fees	350,000 AF	up to 15,000 AF/YR		350,000	100%
	Phoenix AMA				88,313	
	Pinal AMA				261,687	
Future Settlements	Withdrawal Fees	200,000 AF	up to 8,724 AF/YR		200,000	100%
Federal Assistance			\$3,000,000	\$3,000,000	34,102	100%
Tucson AMA	Appropriation			\$2,338,171	28,481	
	Withdrawal Fees			\$630,490	5,621	
	Cost of Services			\$31,339	n/a	
Southside Replenishment Bank	Pinal AMA Withdrawal Fees		15,000 AF Direct Delivery		15,000	100%



Results: Other

Table 8. AWBA Percentage of Goals Achieved through 2024

Groundwater Management							
Phoenix AMA	Withdrawal Fees collected by AMA					77,655	
Pinal AMA ³						200,187	
Tucson AMA ⁴						0	
Other:							
Shortage Reparations-Nevada	Agreement with Nevada				\$8,000,000	108,361	100%
Pinal Redirect Credits ⁷	n/a					14,125	



Conclusions



Arizona Water
Banking Authority

Conclusions

	CAP Water Available for AWBA (2011 10-YR Plan)	CAP Water Available for AWBA (2012 10-YR Plan)	CAP Water Available for AWBA (2013 10-YR Plan)
2013	82,800	78,230	78,230
2014	78,400	70,900	64,753
2015	72,400	64,600	54,100
2016	66,500	45,800	38,600
2017	155,700	112,500	87,900
2018	154,200	102,100	77,800
2019	152,800	83,200	64,700
2020	151,300	64,200	51,800
2021	149,900	57,500	39,100
2022	148,400	50,800	29,700
2023	n/a	38,100	14,200
2024	n/a	n/a	84,800
TOTAL	1,212,400	689,700	522,200

Current volume is 43% of water available in 2011

Current volume is 76% of water available in 2012



Conclusions

Expect to produce around 480,000 acre-feet of credits

Current volume is 43% of water available in 2011

Current volume is 76% of water available in 2012

	CAP Water Available for AWBA (2011 10-YR Plan)	CAP Water Available for AWBA (2012 10-YR Plan)	CAP Water Available for AWBA (2013 10-YR Plan)
2013	82,800	78,230	78,230
2014	78,400	70,900	64,753
2015	72,400	64,600	54,100
2016	66,500	45,800	38,600
2017	155,700	112,500	87,900
2018	154,200	102,100	77,800
2019	152,800	83,200	64,700
2020	151,300	64,200	51,800
2021	149,900	57,500	39,100
2022	148,400	50,800	29,700
2023	n/a	38,100	14,200
2024	n/a	n/a	64,300
TOTAL	1,212,400	689,700	522,200



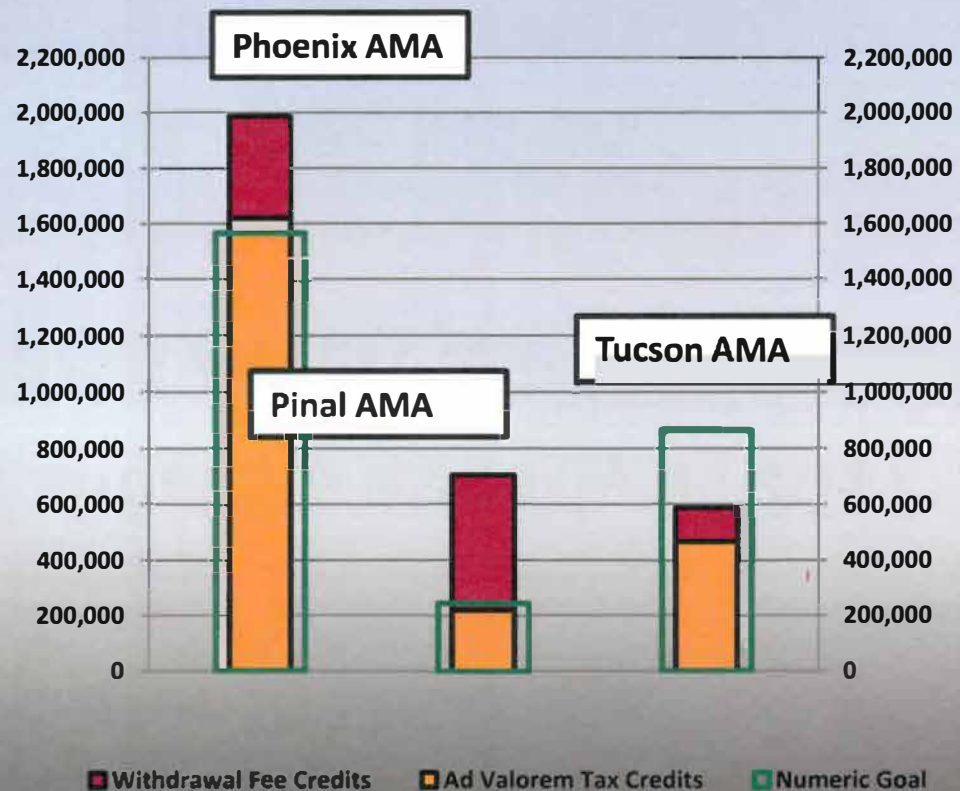
Conclusions...

- **Region is moving closer to shortage conditions**
- **High likelihood of shortage as early as 2017**
- **If shortage is declared AWBA will be without water to store**
- **If recovery is triggered, then Indian obligations are expected to be affected first followed closely by on-River obligations**



...more conclusions

- Numerically defined goals...
 - Met in Phoenix in 2021
 - Attainable in Pinal if withdrawal fee credits used
 - Not attainable in Tucson even if withdrawal fee credits used



...more conclusions

- **Southside Replenishment Bank fully subscribed for initial deposit of 15,000 acre-feet**
- **Indian firming goals can be met if withdrawal fee credits from Phoenix and Pinal AMAs are used**
- **275,000 acre-feet of withdrawal fee credits to address water management issues**



...more conclusions

- **Absent appropriations, withdrawal fees will become primary source of funding for Indian firming**
- **Funding impacts:**
 - **Nearly 90% of funding currently generated in Maricopa and Pima counties and around 35% of funding currently generated in Pinal county are water storage tax (i.e. 4¢ tax) funds**
 - **Water storage tax expected to be exhausted in Pinal and Pima counties by 2017**
 - **Water storage tax will be available to Maricopa county throughout this plan**



...last conclusions

- **Firming goal re-evaluation:**
 - **M&I goals fit within newly defined ranges**
 - **Indian firming below the newly defined range of 778,000 acre-feet to 1.3 million acre-feet**



Segway to Action Planning



Arizona Water
Banking Authority

Bring it on home
...recommended actions



Arizona Water
Banking Authority

Recommended actions...

- **Focus on Indian firming goals**
 - **Develop agreements for satisfying Indian firming obligations**
 - **Complete deliveries to SSRB**
 - **Seek general fund appropriations to support Indian firming**



...more recommended actions

- **Implement next step in Joint Recovery Plan**
- **Decide if numeric goals should be adjusted and if so how**
- **Establish policy on use of shortage reparation credits**
- **Apply Tucson AMA withdrawal fee credits to M&I firming**



...a few more

- **Continue evaluating Inter-AMA storage**
- **Supplement deliveries of Excess CAP water with purchase of LTSCs to leverage lower priced water today**
- **Pursue continuation of water storage tax beyond 2016**



...last recommended actions

- **Develop public outreach program**
- **Revise Action Plan Year-One Accomplishments to align with Ten-Year Plan**





2013 Annual Report and Ten-Year Plan

AWBA Quarterly Meeting
June 19, 2013

Presented by
Virginia O'Connell, AWBA Manager
Terri Sue Rossi, Technical Administrator

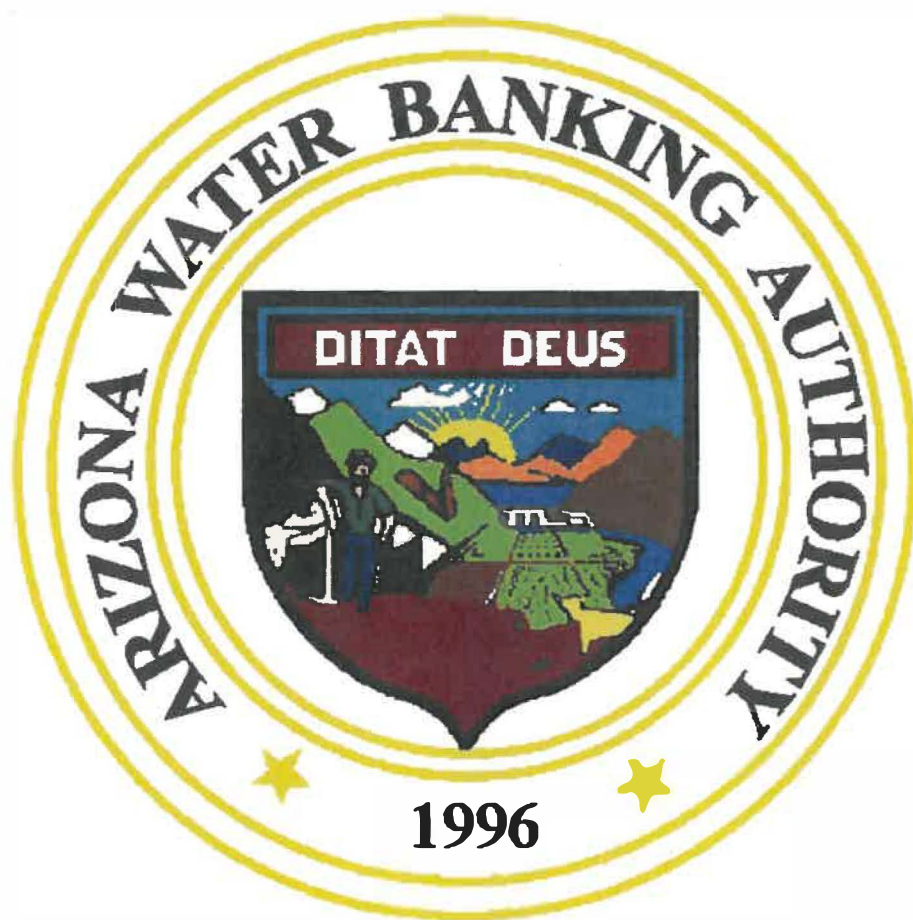


Arizona Water
Banking Authority

REVISED DRAFT 6-16-14

ARIZONA WATER BANKING AUTHORITY

ANNUAL REPORT
2013



Submitted

July 1, 2014

Arizona Water Banking Authority

Annual Report 2013

**Honorable Janice K. Brewer
Governor of Arizona**

Members

**Michael J. Lacey
*Chair***

**Maureen R. George
*Vice-chair***

**Clifford A. Neal
*Secretary***

**Jim Hartdegen
*Member***

**John Mawhinney
*Member***

***Ex officio*
Speaker Andy Tobin
Senator Gail Griffin**

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Acronyms and Abbreviations

ADWR	Arizona Department of Water Resources
Agreement to Firm	Agreement to Firm Future Supplies executed February 4, 2005 between the Arizona Water Banking Authority and the Mohave County Water Authority
Amended Agreement to Firm	Amended Agreement to Firm Future Supplies executed March 17, 2010.
AMA	Active Management Area
AWBA	Arizona Water Banking Authority
AWB Fund	Arizona Water Banking Fund
AWSA	Arizona Water Settlements Act
CAGRDR	Central Arizona Groundwater Replenishment District
CAP	Central Arizona Project
CAWCD	Central Arizona Water Conservation District
CRCN	Colorado River Commission of Nevada
Credits	Long-term storage credits
CRSS	Colorado River System Simulation Model
Decree	Consolidated Decree of the U.S. Supreme Court in <i>Arizona v. California</i>
GRIC	Gila River Indian Community
GRIIDD	Gila River Indian Irrigation and Drainage District
GSF	Groundwater Savings Facility
ICUA	Intentionally Created Unused Apportionment
Interagency Group	Interagency Recovery Planning Group
IGA	Intergovernmental Agreement
JLBC	Joint Legislative Budget Committee
M&I	Municipal and Industrial
MAF	Million Acre-feet
MCWA	Mohave County Water Authority
Metropolitan	Metropolitan Water District of Southern California
NIA	Non-Indian Agricultural
Plan	Annual Plan of Operation
Quantification Agreement	White Mountain Apache Tribe Water Rights Settlement Agreement
Reclamation	U.S. Bureau of Reclamation
SIRA	Storage and Interstate Release Agreement
SNWA	Southern Nevada Water Authority
SSRB	Southside Replenishment Bank
USF	Underground Storage Facility

Summary

The role of the AWBA has changed considerably since it was first established in 1996. The initial objective of the AWBA was to store Excess CAP water to mitigate the effects of future Colorado River shortages on municipal and industrial water users, provide groundwater management benefits, assist the State in the settlement of Indian water rights claims, and assist both California and Nevada through interstate banking arrangements. In time, what began as opportunities to beneficially utilize the state's full entitlement of Colorado River water ultimately grew in certain cases into obligations the AWBA must fulfill.

Through 2013, the AWBA has accrued approximately 3.9 million acre-feet (MAF) of long-term storage credits (credits) toward achieving its various goals. Of this amount, nearly 3.3 MAF of credits are for Arizona uses and 600,651 are for interstate purposes accrued on behalf of Nevada. While this has been a major accomplishment, the AWBA has not yet met all of its goals, and will be challenged to do so in the future with diminishing water supplies and financial resources.

In May of 2013, the AWBA executed the Third Amended and Restated Interstate Water Banking Agreement with the Southern Nevada Water Authority (SNWA) and the Colorado River Commission of Nevada (CRCN). Discussions were initiated by the parties in 2011 to evaluate alternative ways to structure the existing agreement so that all parties could benefit. The new agreement releases the AWBA from its obligation to accrue a specified amount of credits for SNWA, yet keeps in place a framework for future storage and more importantly, maintains the relationship that has been forged between the states.

In 2013, the volume of water that was available to the AWBA was the lowest since its operations began, starting the year with just over 52,500 acre-feet of water. In addition, the ten-year planning projections showed that future water availability was nearly half (690 KAF) of what had been projected in 2012 (1.2 MAF). Even these projections may be optimistic given the current status of Colorado River conditions. Last year, was the first year that the Secretary declared that releases from Lake Powell would be limited to 7.48 MAF for the following water year rather than the normal 8.23 MAF. Projections had also indicated that if drought conditions linger, Arizona could experience its first shortage by 2016.

These revelations prompted the AWBA to initiate a special action planning process to prioritize its competing responsibilities and identify actions to be implemented to address the pressing issues facing the AWBA. Two items emerged for immediate attention: 1) pursuing legislation to allow the AWBA to purchase long-term storage credits using funds in the Arizona Water Banking Fund and, 2) requesting a general fund appropriation to assist in meeting the State's Indian settlement obligations. The AWBA Commission participated in a facilitated process to develop additional elements of the action plan.

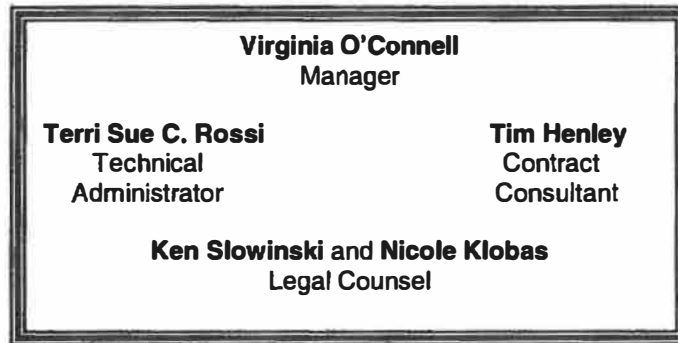
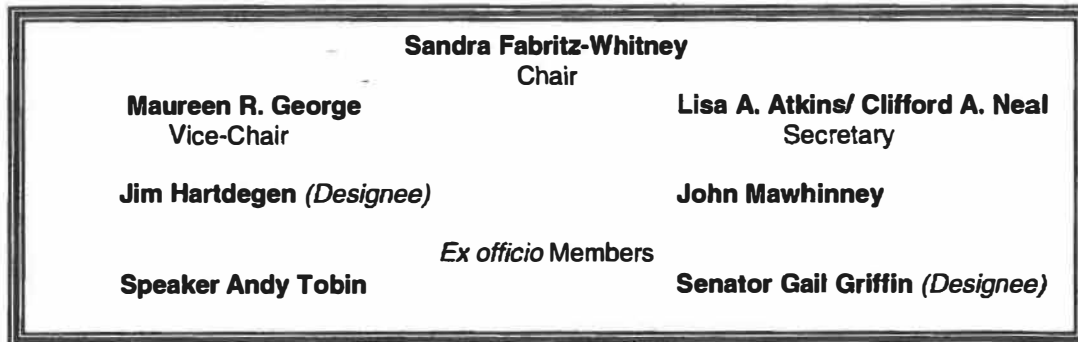
During 2013, AWBA staff continued to work with staff from ADWR and CAWCD as part of the Interagency Recovery Planning Group to develop a plan for recovering AWBA credits in the future, an integral component for firming water supplies. The group, with the involvement of an ad hoc stakeholder group, achieved major strides toward completion of the plan. The recovery plan will be essential for providing the framework for how recovery will be accomplished in the future.

Annual Report Requirements

Arizona Revised Statutes § 45-2426 mandates that the AWBA file an annual report with the Governor, President of the Senate, and Speaker of the House of Representatives on or before July 1 of each year for the previous calendar year. The report is required to be a full and complete account of the AWBA's transactions and proceedings and must include the following:

1. An accounting of all monies expended from the banking fund.
2. An accounting of all monies in the banking fund remaining available to the AWBA.
3. The amount of water stored by the AWBA.
4. The number of long-term storage credits distributed or extinguished by the AWBA.
5. The purposes for which long-term storage credits were distributed or extinguished by the AWBA.
6. A description of the water banking services and interstate water banking to be undertaken by the AWBA during the following ten-year period and a projection of the capacity of the AWBA during that period to undertake those activities in addition to storing Colorado River water brought into the state through the CAP for all of the following purposes:
 - a. Protecting this state's municipal and industrial (M&I) water users against future water shortages on the Colorado River and disruptions of operation of the CAP.
 - b. Fulfilling the water management objectives of the state.
 - c. Making water available to implement the settlement of water rights claims by Indian communities within Arizona.
7. Any other matter determined by the authority to be relevant to the policy and purposes of the AWBA.

AWBA 2013 Organizational Chart



There were several membership changes to the AWBA Commission in 2013. On February 7th, Ms. Pamela Pickard, President of the CAWCD Board of Directors, designated Director Jim Hartdegen to represent CAWCD on the AWBA Commission replacing Director Lisa A. Atkins. On February 9th, the Legislature confirmed Clifford A. Neal's appointment to the Commission on September 28, 2012. In March, Senate President Andy Biggs designated Senator Gail Griffin to serve as the Senate *ex officio* member. In addition, Commission member Neal was elected Secretary replacing Commission member Atkins and Commission member Maureen R. George was re-elected as Vice-Chair. There was also one change to AWBA staff. In January, Ms. Ajita Athalye, Accountant, retired from her part-time position. Her responsibilities have been assumed by the Arizona Department of Water Resources (ADWR).

Update

In 2013, the AWBA continued to experience limitations in water availability. The amount of excess CAP water available to the AWBA and other lower priority users has steadily decreased due to an increase in demand by higher priority users. This trend is anticipated to continue and may in fact worsen if current hydrologic conditions in the Colorado River watershed persist. Based on the projections of the Bureau of Reclamation's 2013 August 24 Month Study, the Secretary of the Interior (Secretary) for the first time, declared that the release volume from Lake Powell for the following water year would be 7.48 million acre-feet (MAF) instead of the normal water release volume of 8.23 MAF. Projections also indicated that with the likelihood of two consecutive years of 7.48 MAF release volumes, there was a high probability that the water level elevation in Lake Mead could drop to or below 1075 feet, resulting in a first-level shortage declaration in 2016. While this level of shortage (320 KAF) would not prompt a firming obligation, it would mean excess CAP water would not be available to the AWBA and other CAP customers, and agricultural supplies would be reduced by nearly half (400 KAF to 155 KAF).

The AWBA Plan of Operation for 2013 (Plan) identified 52,546 acre-feet of water available for delivery under CAWCD's Access to Excess policy adopted in 2009. This was the lowest volume of water available to the AWBA since its inception in 1996. During the year however, an additional 25,870 acre-feet of water became available through CAWCD's process for remarketing previously allocated CAP supplies. At year's end, AWBA deliveries totaled 78,230 acre-feet, which included 1,000 acre-feet of direct deliveries to the Southside Replenishment Bank. The quantity of water that was delivered to each storage facility is described in Appendix A and totaled 31,027 acre-feet in the Phoenix AMA, 19,628 acre-feet in the Pinal AMA, and 26,575 acre-feet in the Tucson AMA. The Plan did not include an interstate water banking component.

Based on the Decree accounting data, total consumptive use of Colorado River water by Arizona for 2013 was 2.78 MAF. Distribution of the 2.78 MAF was approximately 1.13 MAF for direct uses along the Colorado River and CAP diversions of 1.65 MAF (U.S. Bureau of Reclamation, Lower Colorado River Operations, Colorado River Accounting and Water Use Report Arizona, California, Nevada -- Calendar Year 2013, dated May 2014). Arizona did not use its full entitlement of 2.8 MAF in 2013, leaving just over 20,600 acre-feet in Lake Mead. CAWCD joined with the Southern Nevada Water Authority (SNWA) and the Metropolitan Water District of Southern California (MWD) to ask the Secretary to leave unused apportionment in Lake Mead as a benefit to the system. To date, the Secretary has granted this request.

The AWBA continued its quarterly meeting schedule in 2013 with meetings on March 20, June 19, September 4, and December 4. There were two special meetings held by the AWBA on April 24, 2013 and October 16, 2013. The first addressed CAWCD's proposal to use 4¢ ad valorem tax monies to replenish shortfalls to its strategic reserves and the second involved conducting an environmental scan for an action planning effort conducted by the AWBA during 2013.

AWBA staff attended various workgroup meetings that continued throughout the year. These workgroups included the CAWCD, ADWR, and AWBA Interagency Recovery Planning Group, ADWR's Ad Hoc Recovery Planning Group, and the ADWR, CAWCD, AWBA staff workgroup meetings on developing Arizona Colorado River baseline modeling assumptions and ADWR Fourth Management Plan Enhanced Aquifer Management concepts.

Activities and Projects - 2013

Interstate Banking

In December 2010, the AWBA and SNWA executed a letter agreement that temporarily amended certain provisions of the Second Amended Interstate Water Banking Agreement. After the execution of the letter agreement SNWA, CRCN, CAWCD, and AWBA staff continued to meet to discuss all aspects of the overall agreement and as a result of those discussions, a draft Third Amended and Restated Agreement for Interstate Water Banking (Third Amended Agreement) was presented to the AWBA Commission in December of 2012. The proposed changes included the removal of the AWBA's obligation to accrue 1.25 maf of long-term storage credits on behalf of SNWA and considered payments previously made by SNWA (\$123 million) to be payment in full for the 600,651 acre-feet of credits accrued to date. Any future storage, including the use of Nevada's unused apportionment, would be determined annually and associated costs would be billed directly to SNWA. In addition, SNWA's costs for administrative services would be reduced to \$20,000 per year in years when the AWBA does not store water for SNWA.

The AWBA Commission had elected to postpone action on the draft agreement until the next quarterly meeting scheduled for March 2013 to allow ample time to consider the proposed changes and to seek public comments. The Third Amended Agreement was subsequently executed May 20, 2013 with three additional changes. These changes provided additional clarification on the terms for recovery of the existing credits, clarification on CAWCD's rate setting provisions, and recognition that any opportunities for cost reductions associated with the recovery of the credits will not burden Arizona water users.

Interstate Water Banking Report

Since 2006, the AWBA has been required to submit a report to the Joint Legislative Budget Committee (JLBC) pursuant to A.R.S. § 45-2473. This report must be submitted by October 1 for the previous fiscal year if the AWBA was owed or received any monies pursuant to an interstate water banking agreement. The report must account for all monies received or disbursed pursuant to that agreement. Under the current Third Amended Agreement, SNWA is no longer required to make scheduled payments to the AWBA for interstate storage. Rather, storage costs are billed directly to SNWA on a *pay-as-you-go* basis. Because there was no interstate storage, the AWBA was not required to transmit an Interstate Water Banking Report to the JLBC for Fiscal Year 2012-2013. The AWBA will submit a report if water is stored for interstate purposes in future years.

Indian Firming Program

In 2013, AWBA staff initiated discussions with representatives for the Gila River Indian Community (GRIC) to evaluate opportunities for developing a firming plan. Staff also participated in discussions of the Hualapai Tribe Indian water settlements and kept apprised of the status of other ongoing settlements. The AWBA concerns were mainly related to the need to firm water supplies resulting from the settlements.

Gila River Indian Community

Under the Arizona Water Settlements Act (AWSA), the AWBA, as agent for the state, is required to firm up to 15,000 acre-feet per year of CAP NIA Priority water for the GRIC when supplies are insufficient to meet the demands of the Community. The Agreement between the Secretary and the State of Arizona for the Firming of CAP Indian Water, executed on November 15, 2007, defines the AWBA's firming responsibilities, but also includes a provision that allows the AWBA to enter into a separate agreement with the GRIC to carry out its firming obligation. In 2013, AWBA staff began discussions with the GRIC on the potential for developing such an agreement. The intent of the parties is to structure a firming plan that is flexible by offering alternative firming options.

White Mountain Apache Tribe

The Claims Resolution Act of 2010, which includes the White Mountain Apache Tribe Water Rights Quantification Agreement (Quantification Agreement), was signed by the President on December 8, 2010. Under this settlement, the AWBA is required to firm up to 3,750 acre-feet per year of non-Indian agricultural (NIA) CAP water until 2108. This obligation is part of the 8,724 acre-feet per year firming requirement identified for future settlements under the Arizona Water Settlements Act (AWSA). There are several activities that need to be completed to meet the enforceability date of April 30, 2021. These include: 1) revising the Quantification Agreement to conform to the federal legislation and execution of the revised agreement by the parties; 2) approval of the Quantification Agreement by the Gila River and Little Colorado River adjudication courts; and 3) a contribution of \$2 million from the State of Arizona toward the construction of the White Mountain Apache Tribe Rural Water System. In 2012, the Arizona Legislature appropriated \$2 million toward the settlement. In addition, the parties completed the revisions to the Quantification Agreement and by July 2013, all Arizona parties, including the governor, had signed the agreement. [An application to approve the amended and restated agreement was filed with the adjudication court on April 29, 2014]

Navajo Nation/Hopi Tribe

On February 14, 2012, Senator Jon Kyl introduced legislation in Congress authorizing a Little Colorado River Settlement. The parties finalized language for a proposed settlement in March and agreed to submit the settlement agreement to their principals for approval. The settlement included an allocation of NIA CAP water to the Navajo Nation for use at Window Rock that would have an AWBA firming obligation of up to 3,205.5 acre-feet per year. This obligation would have been part of the firming obligation for future settlements identified in the AWSA and would therefore not have resulted in an increase the AWBA's firming obligations. In June of 2012, the Hopi Tribal Council voted to reject the legislation and in July, the Navajo Nation Council voted to reject the settlement. Final efforts among the parties to continue negotiations to try to resolve the outstanding issues were unsuccessful.

The Navajo Nation decided it would not request another stay, opting instead to litigate the lawsuit it filed against the Secretary of Interior in 2003. On June 3, 2013, the Nation filed an amended complaint with the U.S. District Court for the District of Arizona that asserts the Department of the Interior breached its fiduciary duty to the Nation by failing to determine the Nation's rights to the waters of the Lower Colorado River. The Nation is requesting the court hold unlawful and set aside certain operations of the Lower Colorado River, including interstate banking regulations and the Storage and Interstate Release Agreement, because the Secretary failed to consider the needs of the Nation for Colorado River water. ADWR has intervened as a defendant in the lawsuit on behalf of the

State of Arizona. Other interveners include CAWCD and SRP, the Arizona Power Authority, Nevada, Metropolitan Water District of Southern California, Imperial Irrigation District and the Coachella Valley Water District. Motions to dismiss the lawsuit were filed and the parties are currently awaiting a decision by the judge on those motions.

Southside Replenishment Bank

In 2009, the AWBA executed an intergovernmental agreement (IGA) with the Gila River Indian Community for the purpose of establishing the Southside Replenishment Bank (SSRB) as mandated by the AWSA. The AWBA must schedule the delivery of at least 1,000 acre-feet per year to the SSRB until 15,000 acre-feet have been delivered. The first delivery was made in 2009. Since then, the AWBA has scheduled the delivery of 1,000 acre-feet of water each year bringing the total volume of the SSRB to 5,000 acre-feet in 2013.

By memorandum dated September 23, 2013, the AWBA was informed by ADWR that there were no irrigation replenishment obligations for the 2012 reporting year. It is not anticipated that there will be irrigation replenishment obligations for the 2013 reporting year, but that information will not be available until October of 2014 and will be reported in the 2014 Annual Report.

Action Planning

The amount of Excess CAP water available to the AWBA under the 2013 Ten-Year Plan (2014 through 2024) showed nearly half the amount of water available from the previous year's Ten-Year Plan with projected volumes decreasing from 1.2 MAF to approximately 690 KAF. Projected water delivery rates also increased, further limiting the amount of credits the AWBA can accrue using certain funding sources. The decrease in available supplies combined with increasing costs have put the AWBA further behind in achieving its firming goals, particularly in the Tucson AMA, where current funding sources are already determined insufficient for meeting the firming goal. Moreover, there are multiple AWBA objectives competing for the same limited resources.

To begin addressing these issues, the AWBA initiated two solutions. In September, the AWBA approved a proposal to amend AWBA statutes to expand the AWBA's authority to purchase long-term storage credits for water banking purposes using any funding source available to the AWBA. This authority would give the AWBA additional flexibility in achieving its goals and obligations, by allowing the accrual of credits when supplies are unavailable or limited, accrual of additional credits at or near current costs, and the replacement of general fund credits when they are used for firming.

At a special meeting in October, the AWBA also approved a request for a general fund appropriation for \$664,000 to pay for the delivery of 4,000 acre-feet of Excess CAP water to the Southside Replenishment Bank in 2014. Given the projections for a potential shortage in 2016, the AWBA planned to deliver the remaining balance of 10,000 acre-feet of water to the SSRB in 2014 and 2015 to ensure its obligation was met in the event water was not available to the AWBA. The AWBA also reserved the option to request an appropriation to pay for an additional 4,000 acre-feet of deliveries to the Replenishment Bank in 2015, subject to hydrologic conditions at that time.

Furthermore, staff was directed to begin developing an action plan that prioritizes the AWBA's responsibilities and identifies specific actions that can be taken to address the diminishing water supplies and financial resources available to the AWBA. In response, staff proposed a four-step facilitated process. These steps included an environmental scan, vision and commitments,

stakeholder feedback, and final decisions to be made by the AWBA. The process was facilitated by Terri Sue Rossi, AWBA Technical Administrator, trained in Technology of Participation methods.

The environmental scan was conducted at the October special meeting. Participants included AWBA Commission members and staff, staff from ADWR and CAWCD, and several stakeholders. The purpose of the environmental scan was to seek input from the participants on the following question, *“What are the actions, trends, paradigms and approaches emerging for the AWBA and others relative to protecting against the impact of shortages?”* The question was evaluated from the perspective of emerging, established, and dying concepts. Some of the resulting implications included:

- Increasing competition for diminishing resources, including water and money
- Possibility of near term shortage and falling below the 1025 ft. elevation in Lake Mead
- Potential for major changes in Colorado River operations
- Uncertainty
- Need to make tough decisions on priorities
- Recovery component of the program must still be accomplished
- Celebrate success of AWBA and others in accomplishing what has been achieved to date
- Need for public outreach, education and political support
- Energy water nexus

The second step of the process was conducted at the December quarterly meeting. Participation was limited to AWBA Commission members and staff. The focus was the following question, *“What potential roles, responsibilities and functions should the AWBA pursue in the future to assist the water community in managing water resources in Arizona?”* The objective was to determine what accomplishments the AWBA would like to see in place in the next 3-5 years. These included:

- Acquired new water supplies
- Access to and flexibility of funding streams
- Indian firming agreements finalized
- Adopted, implementable recovery plan
- Improved storage plan
- Alternative shortage management strategies
- Decision on AWBA statewide role
- Outreach efforts incorporated into annual reports

The third step of the action planning process, public review and development of implementation plans for projected accomplishments, was scheduled for the following year with results to be discussed at the first AWBA quarterly meeting in 2014.

Modeling

AWBA staff continued meeting with staff from ADWR's Colorado River Management section and CAWCD to develop consistent baseline assumptions for the Arizona CRSS model for all the agencies to use. The model is one of the planning tools available to the AWBA to determine when shortages might occur, how deep they might be, and the volume of water the AWBA may need to firm in the future. A draft table of assumptions was presented to the AWBA in September. The modeling process is dynamic and will continue evolving as new information becomes available.

Re-evaluation of AWBA firming goals

As part of the AWBA's action planning initiative, staff was also directed to re-evaluate the firming goals originally developed in 1997. The goals were developed using the modeling tools and assumptions available at that time. Since then, there have been several changes both in how the Colorado River is operated and how it is modeled.

Beginning with the consensus Arizona baseline assumptions, staff proposed two modeling scenarios:

1. Interim Guidelines Extended – extending the operating rules beyond their expiration in 2026.
2. Interim Guidelines Preferred Alternative – utilizing the Interim Guidelines through 2026 followed by 80P 1050 operating criteria, which is a probabilistic protection of Lake Mead at an elevation of 1,050 feet.

Each scenario contained two additional modeling variables:

1. Utilization of the Director's Recommended Arizona Shortage Sharing Guidelines – prorating shortage amounts based on entitlements.
2. Utilizing Arizona shortage sharing based on a pro rata share of shortage amounts centered on annual uses.

AWBA staff planned to work in conjunction with ADWR's Colorado River Management section and present the modeling results to AWBA Commission members when completed. [The results were presented at the AWBA's April 16, 2014 meeting and are discussed in the Ten-Year Plan section.]

Joint Recovery Planning

During 2013, AWBA, ADWR, and CAWCD staff continued to work collaboratively on the development of a joint recovery plan as part of the Interagency Recovery Planning Group (Interagency Group). The objective of the recovery plan is to provide a framework for how recovery of AWBA credits may be accomplished in the future. Through this process, the Interagency Group solicited feedback from stakeholder representatives, known as the Ad Hoc Recovery Group. As various sections of the recovery plan were completed they were presented to the both the AWBA Commission and CAWCD Board of Directors for additional comment and public input.

The recovery plan touches on the roles and responsibilities of the entities involved in the recovery of AWBA credits. It also looks at the types of credits that have been accrued, where they are located, different methods for how they can be recovered, and the **estimated-costs components** associated with those recovery methods. To evaluate when recovery may be needed and to what extent, the Interagency Group used Reclamation's Colorado River System Simulation (CRSS), using Arizona baseline assumptions, to generate a range of future Colorado River supplies available to Arizona. The results were further analyzed using a recovery model to calculate the probability of specific recovery volumes under the various supply and demand conditions through the 2045 planning period.

The results of these efforts indicated that recovery in the near and mid-term timeframes would be primarily to firm Indian and on-River supplies. While there might be shortages to Excess CAP water supplies in the near-term, the probability of triggering a recovery requirement was relatively low, with a less than 35 percent chance that recovery would be needed before 2024. Recovery for firming CAP M&I priority supplies was not projected to occur before 2035. These results will need to be re-

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evaluated periodically for reassessment due to continually changing hydrologic conditions and reservoir status. A key component, however, will be the timing of requests by SNWA for the development of intentionally created unused apportionment and the amounts that will be requested. The location of the AWBA's credits for meeting **near and mid-term recovery needs between now and 2045**, including recovery for interstate purposes, could also pose a challenge since a majority of the credits available for those purposes are in the Pinal AMA where recovery methods are limited.

The Interagency Group provided a draft recovery plan with its final sections regarding implementation and future activities and commitments, to the Ad Hoc Recovery Group for review and comment in mid-December. Release of the final draft was scheduled for mid-January 2014. [A Preface to the Joint Recovery Plan that acknowledges that the plan advances the objectives of the IGA among ADWR, AWBA, and CAWCD, was executed on May 6, 2014 and incorporated into the final plan. The agencies continue to work cooperatively on the future steps outlined in the plan.]

2014 Plan of Operation

The AWBA 2014 Plan of Operation (Plan) was adopted on December 4, 2013. Water availability was again the primary limiting factor in developing the Plan. The volume of water available to the excess CAP pool that is shared by the AWBA, CAGR, and the Federal government was limited to 84,400 acre-feet. The portion available for use by the AWBA was 64,753 acre-feet.

Under the Plan, 59,753 acre-feet will be delivered for recharge and includes 15,877 acre-feet of storage in the Phoenix AMA, 17,100 acre-feet in the Pinal AMA, and 26,776 acre-feet in the Tucson AMA. Additionally, 5,000 acre-feet will be delivered directly to the GRIC for the SSRB. There is no interstate storage planned for 2014.

ADWR Fourth Management Plan

During 2013, AWBA staff attended several ADWR stakeholder meetings on enhanced aquifer management (EAM), a goal for the Fourth Management Plan. ADWR is seeking feedback from stakeholders on its conceptual proposal that aims to reduce the disparity between storage and recovery locations by modifying the "cut to the aquifer", the volume of recharged water that is determined to be non-recoverable. The proposal aims to encourage recovery within areas of storage by increasing the cut to the aquifer, or decreasing the volume that can be recovered remotely from where it was originally stored. The objective is to improve aquifer health across the AMAs. The proposal would only apply to future long-term storage.

The proposal indicates there could be some allowances for entities recharging and recovering for drought purposes. The AWBA has requested that ADWR consider exempting the recovery of AWBA credits for this reason, particularly because the AWBA is not authorized to recover its credits and must rely on others for this activity. At a time when additional flexibility may be needed, the concept proposed could result in unintentional uncertainty with regard to the amount of credits that may be needed to firm future supplies. It could also further complicate accounting requirements for interstate storage.

ADWR scheduled additional meetings for 2014 and will evaluate comments received on its proposal.

Website

Staff continues to utilize the AWBA website in an effort to provide timely and accurate information to the water community regarding the AWBA's activities: www.azwaterbank.gov. The web page contains information about the AWBA, its Commission members and staff, announcements, meetings, storage facilities, water deliveries and long-term storage credits accrued. The webpage also contains documents that may be downloaded and provides links to other water-related websites.

For additional information regarding the AWBA, please contact Virginia O'Connell (voconnell@azwater.gov) or Terri Sue Rossi (tsrossi@azwater.gov) or by phone at 602-771-8487.

Monies Expended from the Banking Fund

Arizona Revised Statutes §45-2425 mandates the various sources of monies for the Arizona Water Banking (AWB) Fund. The AWB Fund is administered by the AWBA. In 2013, the AWBA obtained its funding from the following sources:

1. Fees for groundwater pumping are collected within the Phoenix, Pinal and Tucson AMAs. Fees for water banking purposes are charged at \$2.50 per acre-foot. Legislative changes allow for groundwater withdrawal fees to be collected and available to the AWBA beyond 2016 (A.R.S. §45-611(c)(3)). Long-term storage credits accrued with these monies must be used to benefit the AMA in which the monies were collected.
2. No *ad valorem* tax revenues were deposited into the AWB Fund in 2013. In June of 2013, the CAWCD Board again resolved that all taxes to be levied for the following tax year would be retained by CAWCD. All *ad valorem* monies previously held in the AWB Fund were expended by 2007. Money from this source must be used to benefit the county in which it was collected.
3. No general fund appropriation money was deposited in the AWB Fund in 2013.
4. Pursuant to the Agreement to Firm Future Supplies (Agreement to Firm), Mohave County Water Authority (MCWA) agreed to prepay the AWBA to set aside 230,280 acre-feet of credits that were transferred to the MCWA sub-account. Once the credits were identified for use by an entity outside of the three-county service area, CAWCD was required to charge the AWBA a fee in lieu of the 4¢ *ad valorem* tax. Monies collected from MCWA are used to offset the CAWCD fees which are charged at the same rate and on the same quarterly schedule as MCWA's prepayments to the AWBA. The final payment due under the Amended Agreement to Firm was made by MCWA in November of 2010 for the first quarter of 2011. The first prepayment under the Amended Agreement to Firm that sets aside an additional 25,894 acre-feet of credits was made in September of 2011 for the quarter beginning on October 1. To date, MCWA has made twelve out of the twenty payments required.

Table 1 shows the money the AWBA collected and the money that was expended for delivery and storage of water in 2013 by source of funds. Table 2 shows the total money received, expended and remaining through December 2013 by source of funds.

Table 1. Monies Collected and Expended in 2013 by Source of Funds

Source of Funds	Collected	Expended
General Funds	\$0	\$0
In-Lieu Fund – MCWA Prepayments ¹	\$124,590	\$124,590
State Indian Firming	\$0	\$0
Interstate Water Banking ²	\$6,130	\$0
Shortage Reparations - Nevada	\$1,500,000	\$1,500,000
4¢ Ad valorem Tax³		
Maricopa County	\$0	\$3,903,720
Pinal County	\$0	\$1,305,480
Pima County	\$0	\$2,299,540
Subtotal for Ad valorem	\$0	\$7,508,740
Groundwater Withdrawal Fees		
Phoenix AMA	\$2,106,520	\$728,000
Pinal AMA	\$1,619,020	\$997,600
Tucson AMA	\$404,110	\$373,550
Subtotal for Withdrawal Fees	\$4,129,650	\$2,099,150
TOTAL	\$5,760,370	\$11,232,480

¹ MCWA paid its remaining share of \$22,920 in full, reducing future quarterly payments to \$23,984.

² Amount collected is interest and \$1,218 in monies recovered from Lehman Brothers bankruptcy.

³ Money expended by CAWCD to offset AWBA delivery and storage costs.

Table 2. Monies Collected and Expended through December 2013 for Water Banking Activities and Monies Remaining Available

Source of Funds	Collected	Expended	Available ¹
General Funds	\$11,100,870	\$11,100,870	\$0
In-Lieu Fund - MCWA Pre-payments	\$4,859,660	\$4,859,660	\$0
State Indian Firming ²	\$2,338,170	\$2,338,170	\$0
Interstate Water Banking-NV ^{2,3}	\$109,317,260	\$109,087,820	\$229,440
Shortage Reparations - NV	\$4,499,750	\$4,499,750	\$0
4¢ Ad valorem Tax⁴			
Maricopa County ⁵	\$226,518,370	\$91,334,970	\$90,183,400
Pinal County	\$10,949,140	\$10,450,160	\$498,980
Pima County	\$45,849,150	\$42,451,870	\$3,397,280
Subtotal for Ad valorem	\$283,316,660	\$144,237,000	\$94,079,660
Groundwater Withdrawal Fees²			
Phoenix AMA	\$21,071,720	\$19,648,240	\$1,423,480
Pinal AMA	\$17,814,330	\$16,993,890	\$820,440
Tucson AMA	\$8,347,370	\$8,314,710	\$32,660
Subtotal for Withdrawal Fees	\$47,233,420	\$44,956,840	\$2,276,580
TOTAL	\$462,665,790	\$321,080,110	\$96,585,680

¹ Money remaining in AWB Fund or collected by CAWCD; includes monies committed for the 2014 Plan of Operation.

² Total money collected was decreased to reflect legislative transfers in CY 2004, CY 2005, CY 2009-2011.

³ Pursuant to the Third Amended and Restated Interstate Banking Agreement, monies remaining available are non-reconcilable for interstate purposes and subject to legislative authorization prior to use by the AWBA.

⁴ Includes money collected and money expended by CAWCD to offset AWBA delivery and storage costs.

⁵ Total monies available decreased to reflect the CAWCD Board of Directors resolution adopted May 2013 to transfer \$45 million to its Strategic Reserve Fund as part of the operation, maintenance and replacement costs of the project.

The AWBA has established long-term storage credit accounts with ADWR for each AMA. After receiving the AWBA's annual reports, ADWR calculates and issues credits to the appropriate accounts. The AWBA receives credit for 95 percent of the stored water **after losses are taken into account**. After credits are issued to the account, AWBA staff allocates the credits to the appropriate sub-accounts based on source of funding. The number and distribution of credits for 2013 are listed in Table 3. Cumulative credits accrued by the AWBA through December 2013 are listed in Table 4.

Table 3. Number and Location of Long-term Storage Credits Accrued in 2013 (AF)

Funding Source	Phoenix AMA	Pinal AMA	Tucson AMA	Total
4-Cent Ad Valorem Tax	24,560	10,881	13,987	49,381
Withdrawal Fees	4,798	7,258	2,199	14,178
General Fund	-	-	-	-
Shortage Reparation	-	-	8,846	8,846
Intrastate TOTAL	29,358	18,139	25,032	72,529
Interstate - Nevada	-	-	-	-
TOTAL	29,358	18,139	25,032	72,529

Table 4. Cumulative Long-term Storage Credits Accrued through December 2013 (AF)

Funding Source	Phoenix AMA	Pinal AMA	Tucson AMA	Total
4-Cent Ad Valorem Tax	1,354,486	198,347	404,315	1,957,148
Withdrawal Fees	298,429	402,155	100,995 ¹	801,578
General Fund	42,316	306,968 ²	54,546	403,830
Other Intrastate:				
Indian Firming Appropriation	-	-	28,481	28,481
Shortage Reparation	20,642	60,507	10,072	91,221
GSF Operator Full Cost Share	-	14,125	-	14,125
Intrastate TOTAL	1,715,872	982,101	598,409	3,296,382
Interstate - Nevada	51,009	439,851 ³	109,791	600,651
TOTAL	1,766,881	1,421,952	708,200	3,897,033

¹ Includes 234 acre-feet of credits purchased from the Tohono O'odham Nation pursuant to § 45-841.01.

² By resolution passed in 2002, the AWBA established on-River firming as the highest priority of use for credits accrued through expenditure of general fund appropriations. Pursuant to the AWBA Agreement to Firm with MCWA dated February 4, 2005, a total of 230,280 acre-feet of credits were transferred to the AWBA long-term storage subaccount for the MCWA in 2005. An additional 25,894 acre-feet of credits have been reserved under Exhibit C the Amended Agreement to Firm, dated December 8, 2010, for a total of 256,174 acre-feet. By resolution passed in 2008, the AWBA established a replacement account for 4th priority Colorado River M&I users.

³ Includes 50,000 acre-feet of credits transferred from CAWCD pursuant to Amended Agreement for Interstate Water Banking.

Since inception, the AWBA has focused its efforts on developing long-term storage credits for firming purposes. The AWBA has identified 2,700,000 acre-feet of credits as a reasonable amount of credits to firm the CAP M&I subcontracts over the next 100 years. This volume is divided based on a pro-rata distribution by county based on CAP M&I subcontracts as follows: 58 percent Maricopa County, 32 percent Pima County, and 9 percent Pinal County.

The AWBA has also identified 420,000 acre-feet of credits as a reasonable amount of credits to firm the on-River communities over the next 100 years. In 2002, the AWBA adopted a resolution that identified on-River firming as the highest priority of use for the general fund credits and established priorities for other uses (Indian settlements, etc.). Consequently, all or part of the general fund credits could be utilized to firm on-River M&I users. It should be noted that the AWBA will collect reimbursement for the replacement cost of credits used for on-River firming. In 2008, the AWBA executed Resolution 2008-1 that established a long-term storage credit replacement account for 4th priority Colorado River M&I users. As credits are used and replaced, these replacement credits will be placed in a separate replacement subaccount and earmarked for the entity that reimburses the AWBA for the replacement of those credits. Table 5 illustrates the progress made by the AWBA towards meeting its established goals.

Table 5 also identifies the estimated remaining costs for meeting the AWBA's goals and obligations. These estimates are based on the assumptions contained in the AWBA's Ten-Year Plan for 2015-2024 and are subject to potential shortages discussed under the recovery section. For obligations that are not met in the Ten-Year Plan, 2025 estimated costs were assumed when calculating the amount remaining to meet the goals.

As described in the Ten-Year Plan section of this report, most of the firming goals could be met during the next ten years. The M&I firming goal for the Phoenix AMA could be met completely with *ad valorem* tax credits. In the Pinal AMA, 90 percent of the M&I firming goal could be met with *ad valorem* tax credits. The remaining ten percent could be met using existing withdrawal fee credits and would not require additional costs. Those goals not met include the Tucson AMA and on-River M&I firming goals. Approximately 68 percent of the Tucson AMA firming goal will have been met by 2024. Since all of the *ad valorem* tax monies will have been expended by 2017, withdrawal fees will be needed to meet the remainder of this firming goal. Because revenue from withdrawal fees is limited in the Tucson AMA (about \$400,000 per year), the firming goal would not be met until well beyond 2024. The total estimated cost for meeting the Tucson AMA firming goal is nearly \$92.5 million. Estimated expenditures under the Ten-Year Plan total \$14.5 million: \$10.3 million in *ad valorem* tax monies and \$4.2 million in withdrawal fees. The cost to accrue the credits needed to meet the remaining firming goal (32%) is estimated at \$78 million.

Lastly, the remaining costs for meeting the Indian firming goals were estimated by assuming that all withdrawal fee credits accrued in the Phoenix and Pinal AMAs in the next ten years would be applied toward meeting these goals since the M&I firming goals could be met primarily with *ad valorem* taxes. Existing Pinal AMA withdrawal fee credits in addition to those accrued from storage at the Gila River Indian Irrigation and Drainage District (GRIDD) GSF, could be used to meet the remaining firming goal. Existing Phoenix AMA withdrawal fee credits could be used to meet the firming goal for future Indian settlements. Because funding has already been expended for these credits, they were not included in the calculation for remaining costs.

While not included in the assumptions, credits accrued from shortage reparation funds could also be used to assist the AWBA in firming supplies when necessary.

Table 5. Identified Uses of Long-term Storage Credits Accrued through December 2013 and Percentage of AWBA Goals Achieved

Location and Objective	Funding Source	Estimated Goal	Non-Credit Goal Achieved	Credits Accrued (AF)	Goal Achieved	Estimated ¹ Remaining Costs (\$ Million)
CAP M&I Firming Phoenix AMA Pinal AMA Tucson AMA	Water Storage Tax (4¢ <i>Ad valorem</i>) collected by County	1,566,000 AF		1,354,480	86%	\$39
		243,000 AF		198,350	82%	\$2.4
		864,000 AF		404,320	47%	\$92.5
On-River M&I Firming ²	General Fund	420,000 AF		403,830	96%	\$4.4
Indian Settlement Obligations: GRIC Firming - up to 15 KAF/yr	General Fund Withdrawal Fees	350,000 AF ³		105,390 0 105,390	30%	\$10.4
Future Settlements - up to 8.7 KAF/yr	General Fund Withdrawal Fees	200,000 AF ³		0 0 0	N/A	\$15.6
Federal Assistance (SAWRSA)- \$3 million	General Fund Tucson W/Fees Cost of Services ⁵		\$3,000,000	34,102	100%	\$0
			\$2,338,171	28,481		
			\$630,490	5,621		
Southside Replenishment Bank 15 KAF direct delivery	General Fund Pinal W/Fees			5,000 0 5,000	33%	\$1.7
Groundwater Management ⁶ Phoenix AMA Pinal AMA Tucson AMA	Withdrawal Fees collected by AMA			121,800 368,000 95,370		
Other: Shortage Reparations	Agreement with Nevada	\$8,000,000	\$4,500,000	91,220	56%	\$3.5
Pinal Redirect Credits ⁷	N/A			14,125	N/A	N/A

¹ Based on the Ten-Year Plan and an assumed rate escalation of 3% for water storage costs after 2020.

² By resolution passed in 2002, the AWBA established on-River firming as the highest priority of use for credits accrued through expenditure of general fund appropriations. Pursuant to the Agreement to Firm dated February 4, 2005, a total of 230,280 acre-feet of credits were transferred to the AWBA long-term storage subaccount for MCWA in 2005. An additional 25,894 acre-feet of credits have been reserved under Exhibit C the Amended Agreement to Firm, dated December 8, 2010, for a total of 256,174 acre-feet.

³ Based on estimates from the Indian Firming Study Commission Report dated January 6, 2006.

⁴ Credits accrued and reserved for firming pursuant to the Agreement between the AWBA and the Gila River Indian Irrigation and Drainage District of the Gila River Indian Community for storage of Central Arizona Project Water at a GSF, executed June 16, 2006. Credits include 88,313 AF accrued in the Phoenix AMA and 17,077 AF accrued in the Pinal AMA. Credits available for water management have been adjusted accordingly.

⁵ Expenditures include \$14,883 and \$16,456 deducted for payment of cost of services for FY 08 and FY 09, respectively.

⁶ Withdrawal fees could be utilized in addition to 4¢ *ad valorem* tax revenues for M&I firming if needed to reach firming goals and for Indian settlement obligations in the absence of general fund appropriations.

⁷ Credits accrued from AWBA water provided to Pinal AMA GSFs at full cost to the GSF operators. These credits are currently identified for use in the Tucson AMA.

The average annual cost for the AWBA to obtain one acre-foot of long-term storage credit for intrastate and interstate storage is presented in Tables 6a and 6b, respectively. Table 6a illustrates that the unit cost per credit for intrastate storage fluctuates yearly primarily based on water delivery and storage facility costs. For example, the significant increase beginning 2010 is due to CAWCD eliminating the incentive recharge cost structure.

Table 6a. Average Annual Cost for the AWBA to Obtain a Long-term Storage Credit for Intrastate Storage

Year	Credits ¹	Funds Expended	Average Cost (per acre-foot)	Ratio of GSF to USF
1997	296,987	\$6,387,000	\$21.51	85:15
1998	202,542	\$7,143,000	\$35.27	68:32
1999	232,142	\$8,733,000	\$37.61	68:32
2000	272,123	\$11,163,000	\$41.02	60:40
2001	275,406	\$10,893,590	\$39.55	62:38
2002	262,317	\$13,700,300	\$52.23	64:36
2003	200,168	\$11,077,666	\$55.34	47:53
2004	251,456	\$17,855,997	\$71.01	41:59
2005	85,782	\$5,615,201	\$65.46	58:42
2006	162,342	\$14,720,277	\$90.67	17:83
2007	245,221	\$14,589,390	\$59.49	37:63
2008	203,373	\$8,168,100	\$40.16	65:35
2009 ²	99,453	\$6,977,590	\$70.16	76:24
2010	181,214	\$26,027,947	\$143.63	21:79
2011	127,605	\$16,543,540	\$129.65	33:67
2012	125,503	\$17,314,052	\$137.96	42:58
2013	72,404	\$10,963,900	\$151.43	31:69

¹ Information in this table is reconciled on an annual basis.

² Does not include credits purchased pursuant to § 45-841.01.

Table 6b illustrates the unit cost per long-term storage credit for interstate also fluctuates yearly. Pursuant to the Letter Agreement, no interstate storage occurred in 2011 or 2012.

Table 6b. Average Annual Cost for the AWBA to Obtain a Long-term Storage Credit for Storage on Behalf of Nevada

Year	Credits	Funds Expended	Average Cost (per acre-foot)	Ratio of GSF to USF
2002	61,098	\$8,617,393	\$141.04	100:0
2003	50,000 ¹			
2004	14,162	\$2,899,647	\$204.75	66:34
2005	111,805	\$25,723,366	\$230.07	65:35
2006	175,569	\$35,386,306	\$201.55	68:32
2007	114,886	\$21,853,906	\$190.22	91:09
2008	None	None	\$0	0:0
2009	55,252	\$10,781,853	\$195.14	45: 55
2010	17,879	\$3,825,350	\$213.96	0:100

¹ Long-term Storage Credits transferred from CAWCD.

Long-term Storage Credits Distributed or Extinguished by the Authority

The long-term storage credits developed by the AWBA to date have been identified for five purposes:

- Firming CAP M&I entitlements;
- Firming the post-1968 M&I entitlements for entities outside the CAP service area;
- Firming for the States obligation under the AWSA, including the State's Federal obligation;
- Assisting in fulfilling the water management objectives set forth in Chapter 2 of Title 45 (Arizona Revised Statutes); and
- Interstate water banking purposes pursuant to agreements with Nevada.

Credits created by the AWBA for firming purposes may be distributed or extinguished when the Colorado River system is deemed to be in a shortage, if there is a water shortage as defined under the AWSA, or if there is an operational disruption of the CAP. There were no shortages or unplanned CAP outages, therefore, no credits were distributed or extinguished for these purposes in 2013. No credits were distributed or extinguished in 2013 for water management purposes.

Under the 1999 amendments to the AWBA legislation, the AWBA is authorized to develop credits with monies collected pursuant to water banking services agreements. In 2013, no credits were developed or distributed under such agreements. Additionally, there was no recovery of credits for interstate purposes.

Ten-Year Plan

Introduction

Pursuant to A.R.S. §45-2426, the AWBA is required to prepare a Ten-Year Plan. The Ten-Year Plan must include a description of any water banking activities the AWBA intends to undertake in addition to the three primary AWBA functions of firming for M&I supplies, assisting in Indian water rights settlements, and fulfilling state water management objectives. The Ten-Year Plan is presented in Table 7. The Ten-Year Plan must also provide an analysis of the AWBA's ability to complete those activities. This analysis is provided in Table 8. The Ten-Year Plan is not a guarantee of future storage activities and is completed for planning purposes only. In any given year, the AWBA's activities are governed by the annual Plan of Operation. This Ten-Year Plan projects nearly 480,000 acre-feet of long-term storage credits will be developed.

The Ten-Year Plan (Table 7) analyzes activity for the period 2015-2024 and was derived using the information found in Appendices A through I. AWBA accounting for previous years can be found in the 2012 Annual Report and 2014 Plan of Operation. The plan is an important tool to be utilized in development of 1) the next year's annual Plan of Operation and 2) policy guidelines for future AWBA activities. AWBA staff developed the Ten-Year Plan based on the following guiding principles:

1. The Ten-Year Plan covers a ten-year time period beginning with the next calendar year. For example, this Ten-Year Plan covers the time period 2015-2024.
2. The Ten-Year Plan incorporates:
 - a. CAWCD's adopted 2014-2015 rate schedule and assumes a 3%¹ increase in such rates from 2021 through 2024.
 - b. Current priorities and limitations of AWBA. Specifically, Plan continues to maximize amount of water stored in Tucson AMA, while strategically storing water for future recovery, in order to move closer to firming goals in Tucson.
3. The Ten-Year Plan assumes the following:
 - a. No legislative transfers from Arizona Water Banking Fund.
 - b. 4¢ water storage tax only used for water storage purposes.
 - c. CAWCD's CAP Recharge Facility Priority Policy adopted May 2, 2013 and CAWCD's Procedure for Distributing Excess CAP Water for the Period of 2015 through 2019 adopted March 6, 2014 continue through 2024.
 - d. No hydrologic conditions eliminating availability of Excess CAP Water for AWBA and/or requiring recovery.
 - e. All ~~W~~withdrawal fees accrued in Tucson AMA applied to M&I firming in Tucson AMA.
 - e.f. ~~w~~Withdrawal fees accrued in Phoenix and Pinal AMAs since 2008 applied to Indian firming and any withdrawal fees accrued at the GRIIDD prior to 2008 are also applied to Indian firming.

¹The 3% increase from 2021 through 2024 is consistent with current financial analyses prepared by CAWCD.

Table 7. Ten-Year Plan

ARIZONA WATER BANKING AUTHORITY – Ten-Year Plan																
2015 – 2024																
(Acre-feet)																
YEAR	(a) CAP Water Available for AWBA	(b) CAP M&I Firming (4¢ tax)		(c) Water Management (Withdrawal Fees)		(d) Appropriation from General Fund		(e) Shortage Repairs (\$8 Million)		(f) Indian Settlement		(g) Interstate Banking				
												Delivery	Credits	Delivery	Credits	Delivery
Pre-Plan ^(h)	n/a	1,989,462		579,551		403,830		98,981		236,925				600,651	600,651	
2015	54,100	36,960	34,372	5,000	0	0	0	5,113	4,755	7,028	6,536	0	0	0	0	600,651
2016	38,600	27,793	25,847	0	0	0	0	4,973	4,625	5,834	5,426	0	0	0	0	600,651
2017	87,900	56,716	52,746	6,818	6,341	0	0	0	0	24,366	22,660	0	0	0	0	600,651
2018	77,800	53,338	49,604	1,868	1,737	0	0	0	0	22,594	21,012	0	0	0	0	600,651
2019	64,700	43,017	40,006	1,838	1,709	0	0	0	0	19,845	18,456	0	0	0	0	600,651
2020	51,800	33,691	31,332	1,665	1,549	0	0	0	0	16,444	15,293	0	0	0	0	600,651
2021	39,100	23,821	22,154	1,611	1,498	0	0	0	0	13,668	12,711	0	0	0	0	600,651
2022	29,700	16,571	15,411	1,580	1,451	0	0	0	0	11,569	10,759	0	0	0	0	600,651
2023	14,200	4,422	4,112	1,512	1,406	0	0	0	0	8,266	7,687	0	0	0	0	600,651
2024	64,300	44,736	41,605	1,467	1,365	0	0	0	0	18,097	16,830	0	0	0	0	600,651
TOTAL	522,200	2,306,652		586,607		403,830		108,361		374,294				600,651	0	

(a) See Appendix B.

(b) See Appendix D.

(c) See Appendix E. Includes direct delivery of 5,000 acre-feet of water for 2015 to Southside Replenishment Bank which does not result in credits being accrued. Only includes credits accrued in Tucson AMA going forward except in 2016 when all costs are covered using water storage tax revenues. Pre-plan amount includes all withdrawal fee credits accrued in Tucson and only those accrued in Pinal and Phoenix AMAs through 2007.

(d) See Appendix F.

(e) See Appendix G.

(f) See Appendix H. A.R.S. §45-2491(B)(2) allows for the use of withdrawal fees after legislative appropriations for Indian firming have been expended. Withdrawal fee credits accrued in the Phoenix and Pinal AMAs could be utilized to meet this obligation. The pre-plan amount includes credits accrued from storage at the GRIDD GSF and withdrawal fee credits accrued in the Phoenix and Pinal AMAs since 2008. The State's Indian firming obligation is estimated at 550,000 acre-feet. In addition, 34,102 acre-feet of credits have been accrued to meet the State's obligation under Section 306 of the AWSA (\$3 million for Federal assistance).

(g) See Appendix I.

(h) Cumulative credit totals for 1997-2013 are actual; 2014 credits are estimated based on projected deliveries.

Table 8. AWBA Percentage of Goals Achieved through 2024

Location and Objective	Funding Source	Estimated Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits ¹ Accrued (AF)	Percent Goal/Oblig. Achieved
CAP M&I Firming						
Phoenix AMA ²	Water Storage Tax (4c Ad valorem) and withdrawal fees	1,566,000	AF		1,619,862	103%
Pinal AMA ³		243,000	AF		243,000	100%
Tucson AMA ⁴		864,000	AF		586,850	68%
On-River M&I Firming⁵	General Fund	420,000	AF		403,830	96%
Indian Settlement Obligations:⁶						
GRIC Firming	Withdrawal Fees	350,000	AF	up to 15,000 AF/YR	350,000	100%
Phoenix AMA Pinal AMA					88,313 261,687	
Future Settlements	Withdrawal Fees	200,000	AF	up to 8,724 AF/YR	200,000	100%
Federal Assistance Tucson AMA	Appropriation Withdrawal Fees Cost of Services			\$3,000,000	34,102	100%
				\$2,338,171	28,481	
				\$630,490	5,621	
				\$31,339	n/a	
Southside Replenishment Bank	Pinal AMA Withdrawal Fees			15,000 AF Direct Delivery	15,000	100%
Groundwater Management						
Phoenix AMA	Withdrawal Fees collected by AMA				77,655	
Pinal AMA ³					200,187	
Tucson AMA ⁴					0	
Other:						
Shortage Reparations-Nevada	Agreement with Nevada			\$8,000,000	108,361	100%
Pinal Redirect Credits ⁷	n/a				14,125	

¹ 1997-2014; actual credits through 2013 and estimated credits for 2014 based on projected deliveries.

² 100% of the numeric M&I firming goal for the Phoenix AMA is met in 2021.

³ M&I firming has been statutorily identified as a water management objective. This Plan assumes 24,192 acre-feet of Pinal AMA withdrawal fee credits are applied to M&I firming. Without these additional credits, the Pinal AMA M&I firming goal will only reach 90% of the numeric goal during the planning period.

⁴ M&I firming has been statutorily identified as a water management objective. This Plan assumes all of the 118,914 acre-feet of Tucson AMA withdrawal fee credits are applied to M&I firming. Without applying these additional credits, the Tucson AMA M&I firming goal will only reach 54% of the numeric goal during the planning period.

⁵ By resolution passed in 2002, AWBA established on-river firming as the highest priority of use for credits accrued through expenditure of general fund appropriations. A total of 256,174 acre-feet of credits have been reserved pursuant to AWBA's contract with MCWA.

⁶ A.R.S. §45-2491(B)(2) allows for use of withdrawal fees after legislative appropriations for Indian firming have been expended. 105,390 acre-feet of credits stored at GRIIDD are already dedicated through agreement to Indian firming. Additionally, the Ten-Year Plan assumes credits accrued from withdrawal fees in the Pinal and Phoenix AMAs in this Ten-Year Plan are applied to Indian firming. Given this assumption, 51% of the GRIC and 32% of the future settlement firming goals are estimated to be met in 2024. Existing withdrawal fee credits from Pinal and Phoenix AMAs are used to meet remainder of firming goals for GRIC and future settlements, respectively.

⁷ Credits currently identified for use in Tucson AMA would meet 1.6% of the Tucson AMA M&I firming goal.

Ten-Year Plan Components

The following components are recognized to be important in developing the Ten-Year Plan. Inclusion or exclusion of a specific component was based on whether the component's effect could be predicted over the planning period, the magnitude of the effect and whether the component was anticipated to be an issue. Three components are always considered: water availability, funding and storage capacity. Other components specific to this plan include: re-evaluation of firming targets, participation in Indian settlements, shortage and surplus, intrastate recovery and requests for Intentionally Created Unused Apportionment (ICUA), water management objectives and interstate banking.

1. Water Available to the AWBA

The volume of water available to the AWBA has been decreasing since 2010 when over 200,000 acre-feet were available to the AWBA. In 2013, the AWBA stored just over 75,000 acre-feet. In its 2014 Plan of Operation, the AWBA expects to store around 60,000 acre-feet and deliver another 5,000 acre-feet to the Southside Replenishment Bank. In 2014, its lowest storage year since inception, the AWBA will store approximately 30% of the volume stored in 2010 and about 15% of the volume stored in the AWBA's highest storage year in 2007.

Based on the water availability estimates in Appendix B provided by CAWCD, the volume of excess CAP water projected to be available to the AWBA during this Ten-Year Plan is roughly 525,000 acre-feet approximately 165,000 acre-feet less than what was projected in last year's Plan. Last year's Ten-Year Plan showed 38,100 acre-feet in the lowest year (i.e. 2023) and over 110,000 acre-feet in the highest year (i.e. 2017) when the Excess Agricultural Pool decreases to 300,000 acre-feet. This Ten-Year Plan projects an even lower volume in 2023 (i.e. around 14,000 acre-feet) and a substantially decreased high volume in 2017 (i.e. just over 52,000 acre-feet).

CAWCD staff recently presented an analysis² showing a high likelihood of a shortage declaration in 2017 due to drought conditions that have been experienced in the Colorado River Basin and what CAWCD staff described as a structural deficit (annual uses exceeding available supplies in the Lower Basin by 1.2 MAF). CAWCD staff further explained that Arizona could enter a period of sustained shortage, and within 5-8 years, Lake Mead could drop to the critical 1,000 foot elevation level. To recover from this condition in the Lower Basin, 19 to 24 MAF of inflow would need to enter Lake Powell to trigger equalization releases into Lake Mead. Indications are that once Lake Mead is at the critical 1,000 foot elevation, the system would need up to 15 years for Lake Mead to recover to the 1,075 foot elevation level, the point at which normal operating conditions could once again be declared. Under these scenarios, there would be no excess CAP water available to the AWBA. Additionally, the AWBA would need to accelerate implementation of its joint recovery plan with CAWCD and ADWR as significant demand for recovery could be anticipated.

CAWCD 2014-2015 rate schedule continues to reflect a significant increase over rate schedules prior to 2013 due to a weak energy market and rising costs at the Navajo Generating Station. Between 2013 and 2020, CAWCD projects an increase of \$77 per acre-foot, a 53% in water rates. While some speculate that additional water could become available to the AWBA as users storing in the past are affected by price elasticity, orders for CAP have not reflected this in 2013 or 2014.

² Presentation by T. McCann and C Cullom dated June 5, 2014 to CAP Board called "Colorado River Drought Response and System Sustainability"

If this occurs later on in the Plan, because storage in the Tucson AMA is already maximized, the Ten-Year Plan would assume excess volumes will be shared between Pinal and Maricopa County until funds in Pinal are exhausted. After which, any remaining water will be stored in Maricopa.

2. Funding

Funding for water storage that benefits Arizona (intrastate storage) comes from three sources: water storage taxes (i.e. 4¢ *ad valorem* tax), groundwater withdrawal fees and general fund appropriations. There are restrictions on how each funding source can be used. In the past, the AWBA has also received funding from the Southern Nevada Water Authority for interstate water banking and shortage reparation.

Water Storage Tax (4¢ ad valorem tax)

Pursuant to A.R.S. §48-3715.03(B), 4¢ *ad valorem* taxes levied and collected by CAWCD not deposited in the CAWCD fund, shall be deposited into subaccounts held by the AWBA: one for each of the three counties in which the taxes were collected. CAWCD has not deposited monies collected into these AWBA subaccounts since 2003. The AWBA expended all of the funds that remained in the subaccounts for Pinal and Pima Counties in 2004 and Maricopa County in 2007. CAWCD has however offset AWBA water delivery and storage costs using the 4¢ *ad valorem* tax held in CAWCD accounts. This Ten-Year Plan relies on the continuation of CAWCD offsetting a portion of the AWBA's costs. The Plan assumes the 4¢ *ad valorem* tax will generate approximately \$17.5 million annually with approximately \$13.5 million in the Phoenix AMA, \$850,000 in the Pinal AMA and around \$3 million in the Tucson AMA. It is important to note, however, that A.R.S. §48-3715.02, which provides CAWCD the authority to levy the *ad valorem* tax for water storage, will be repealed effective January 2, 2017. Therefore, this Ten-Year Plan does not include collection of the *ad valorem* tax beyond 2016.

This plan assumes interest from *ad valorem* tax monies held by CAWCD (i.e. funds historically set aside for AWBA Administration purposes) for Pima and Pinal Counties are used to store water for these counties once the principal amount is exhausted. Based on the Plan, there will only be *ad valorem* tax monies remaining at the end of the Ten-Year Plan for Maricopa County. The *ad valorem* tax monies including interest are expected to be exhausted in both Pinal and Pima Counties by 2017.

Groundwater Withdrawal Fees

Pursuant to A.R.S. §45-611(3), the Director of Water Resources levies and collects a groundwater withdrawal fee for water banking purposes in the three AMAs equal to \$2.50 per acre-foot per year. This Plan assumes \$3.6 million in withdrawal fees is collected annually with \$1.7 million collected in the Phoenix AMA, 1.5 million collected in the Pinal AMA and \$400,000 collected in the Tucson AMA³. The AWBA can utilize withdrawal fees to firm M&I CAP subcontract supplies, to implement the settlement of water rights claims by Indian communities in Arizona and to meet the water management objectives of the AMAs in which the fees were collected. In addition, withdrawal fees collected in the Pinal AMA can be used to meet the AWBA Southside

³ Withdrawal fees collected varies from year to year. The assumed collections for the Ten-Year Plan are based on an average of collections between 2009 and 2013.

Replenishment Bank (SSRB) obligation. When distributed or extinguished, these credits can only be used for the benefit of the AMA in which the monies were collected.

To this end, credits accrued using withdrawal fees in the Tucson AMA are assumed to be applied to M&I firming in that AMA. The Ten-Year Plan further assumes withdrawal fees credits accrued in the Phoenix and Pinal AMAs, including those accrued at the GRIID GSF, could be applied to Indian firming obligations if the AWBA does not receive a general fund appropriation for this purpose. Finally, this Plan assumes withdrawal fees are used to purchase CAP water for delivery to the SSRB.

AWBA General Fund Appropriation

Pursuant to A.R.S. §45-2423.B.10, the AWBA can submit a request for a general fund appropriation each year. While the AWBA may request general fund appropriations during this planning period, receipt of an appropriation cannot be expected. In 2013, the AWBA made a request for a general fund appropriation to pay for the accelerated deliveries to the Southside Replenishment Bank in 2014. The request did not result in an appropriation. Consequently, the Ten-Year Plan reflects a reduction in water storage expenditures in the Pinal AMA for 2015. Absent future general fund appropriations, any storage needed to meet the AWBA's Indian firming obligation may require the use withdrawal fees.

Funding for Interstate Banking

Pursuant to earlier interstate water banking agreements, 600,651 acre-feet of credits are already held in the Southern Nevada Water Authority (SNWA) account. SNWA paid nearly \$123 million for these credits. Under the Third Amended and Restated Agreement for Interstate Water Banking, the AWBA no longer has an obligation to accrue future long-term storage credits to be held in the SNWA account. As in the original agreement, all future delivery and storage costs are born by SNWA and are on a "pay-as-you-go" basis.

Shortage Reparation Funds

Pursuant to the Arizona-Nevada Shortage-Sharing Agreement, Nevada will provide to the AWBA \$8 million in order to assist Arizona in offsetting impacts that may occur during the "Interim Period"⁴. By the end of 2014, the AWBA will have expended approximately \$6 million of these funds for the purchase and storage of CAP water. While a final plan for the use of the credits accrued using these funds has not yet been adopted by the Authority, expenditure of the remaining \$2 million has been included in this Ten-Year Plan. In the Ten-Year Plan, expenditure of these funds has been focused in the Tucson AMA in order to distribute use of the funds among the three AMAs since funds have already been expended in the Phoenix and Pinal AMAs.

⁴ The Interim Period is the period beginning on the date the Secretary issued the Colorado River Interim Guidelines for the Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead, December 13, 2007, and ending on December 31, 2025 (through preparation of the 2026 Annual Operating Plan).

3. Storage Partners and Storage Capacity

Groundwater Savings Facilities

The AWBA currently has nine water storage permits for GSFs with a total permitted storage capacity of 412,547 acre-feet per year. Storage at these facilities under this Ten-Year Plan is restricted due to a limited volume of capacity made available to the AWBA because of local priorities on where to store water and storage by other GSF partners. Tucson AMA interests requested that any water available for the Tucson AMA be stored at certain USFs before considering local GSFs.

One facility permit⁶ associated with The water storage permit associated with the Hohokam Irrigation and Drainage District shows an expiration date of October 1, 2012, but is held by the AWBA has expired, but this facility the District has a renewal pending. This plan assumes this facility will be successful in the renewal process. The remaining facility permits associated with the GSFs will expire during this Ten-Year Plan. Any difficulty in obtaining new permits could impact the capacity available to the AWBA. However, because impacts of this nature cannot be predicted, this Ten-Year Plan assumes the permits will also be renewed. The AWBA has renewed water storage agreements with its GSF partners. The new agreements will expire December 31, 2021. The Ten-Year Plan assumes the agreements will be renewed and that the AWBA will continue to participate with these GSF partners throughout this Ten-Year Plan.

Underground Storage Facilities

The AWBA currently has nine water storage permits for USFs with a total permitted storage capacity of 561,000 acre-feet per year. Storage capacity available to the AWBA, primarily at both CAWCD operated facilities and privately operated ones, has decreased over the last few years because of storage by other participants. Storage capacity could continue to decline as additional entities contract with CAWCD and are issued water storage permits by ADWR. However, the actual capacity used by these entities could be limited by the availability of water to those entities.

Four of the USF permits will expire within this Ten-Year Plan. Like the GSF permits, any difficulty in obtaining new permits could impact the capacity available to the AWBA. However, because impacts of this nature cannot be predicted, this Ten-Year Plan assumes the permits will be renewed.

The AWBA's water storage agreement with the Metropolitan Domestic Water Improvement District for storage at the Avra Valley Recharge Project will expire on December 31, 2015. Likewise, the AWBA's Master Water Storage Agreement with CAWCD for storage at its six facilities will expire December 31, 2016. Renewal of these agreements is anticipated therefore storage at these facilities was included for the full ten-year planning period.

The AWBA updated its Storage Facility Inventory in March of 2011 and used it to develop this Ten-Year Plan. Since the inventory was updated, no additional permit capacity has been developed that would increase the capacity available to the AWBA.

⁶ Centaro Marana Irrigation District's GSF facility permit expired on November 9, 2013.

Appendix C describes the storage partners, storage permits, and capacity available for use by the AWBA. This plan identifies 154,000 acre-feet of storage capacity available to the AWBA at GSFs and 186,000 acre-feet of capacity available to the AWBA at USFs. Therefore, the Ten-Year Plan has sufficient storage capacity to store the amount of water assumed to be available to the AWBA under CAWCD's policy for distributing Excess CAP water. However, it is possible the location of AWBA storage could be affected in the future.

4. Re-evaluation of Firming Targets

In March of 2014, the AWBA, based on updated modeling conducted by ADWR⁶, re-evaluated its firming targets originally established based on data from 1997 for M&I firming and in 2006 for Indian firming. The AWBA conducted numerous scenarios that resulted in a range of volumes for each firming category. With the exception of the range of volumes for Indian firming, the other firming categories fell within their respective range of volumes. Specifically for Indian firming, the re-evaluation showed the amount of storage needed for Indian firming ranges from 778,000 acre-feet in the most likely scenario to nearly 1.3 million acre-feet in a severe scenario. The bottom of the range is nearly 230,000 acre-feet higher than the 550,000 acre-foot goal established for Indian firming in 2006. This difference is caused mainly by how a water shortage for Indian firming is defined pursuant to the AWSA. The AWBA will continue to re-evaluate its firming targets as new data becomes available.

5. Participation in Indian Settlements

One objective of the AWBA is assisting with the settlement of water rights claims by Indian communities within Arizona. The State of Arizona has a 100-year firming obligation under the Arizona Water Settlements Act. The AWBA also has statutorily mandated responsibilities for the Southside Replenishment Bank.

This Ten-Year Plan includes a component for meeting the State's Indian settlement firming obligation. As shown in Table 8, withdrawal fee credits, already accrued in the Phoenix and Pinal AMAs, could be used to meet this obligation while still maintaining credits for other water management purposes. This includes credits that were previously accrued from water stored at the GRI/IDD GSF. The AWBA retains full rights to the credits developed at the GSF until such time the credits are utilized to meet the State's Indian firming obligation.

This Ten-Year Plan also includes a component for meeting the initial SSRB obligation of 15,000 acre-feet. The AWBA will have delivered 10,000 acre-feet for this purpose by the end of 2014. Because projections in 2013 indicated a high probability of shortage by 2016 and 2017, the AWBA made a decision to accelerate deliveries to the SSRB in 2014 and 2015. Consistent with that, this plan assumes 5,000 acre-feet will be delivered in 2015 completing the State's obligation.

6. Shortages and Surplus

In its August 2013 24-Month Study⁷, the USBOR projected, for the first time, elevations in Lake Mead dropping below 1,075 feet sparking concerns that a potential Tier 1 shortage⁸ could be

⁶ Arizona Department of Water Resources. March 2014. AWBA Results Scenario A2.

⁷ U.S. Bureau of Reclamation. Operation Plan for Colorado River System Reservoirs: August 2013 24-Month Study (August 12, 2013), page 12.

declared in the next few years. In its April 2014 24-Month Study⁹, however, elevations showed improvement easing concerns that a Tier 1 shortage could possibly be declared as early as 2015. While the Ten-Year Plan assumes normal water supply conditions (Appendix B), in the most recent modeling run conducted by ADWR¹⁰ for the AWBA as part of an evaluation of the AWBA's firming goals, there is a range of 40% to 55% probability that a shortage could occur on the Colorado River during the planning period, with the average probability being 46%. Still more recently, CAWCD conducted an analysis that indicates there is a high likelihood a shortage could be declared in 2017.¹¹

Should a shortage be declared, Excess CAP water would not be available for the AWBA. During such an event, the AWBA might want to consider finding other sources of water to develop credits. One such option, due to legislation passing in 2014, is to purchase long-term storage credits. The decision to acquire other sources of water would be made annually under the Plan of Operation. Additionally, the AWBA could also decide to supplement Excess CAP water supplies in years when available volumes are low.

Although the Ten-Year Plan assumes a modest amount of excess CAP water available to the AWBA (Appendix B), model runs for this period show a low probability, 4% to 30%¹², that a surplus condition could occur with average probability being 18%. If a surplus year is determined, then the AWBA would attempt to store any available water. Additional storage, over what is currently planned in the Ten-Year Plan for that year, could be limited based on funding, canal, and storage capacities available to the AWBA.

7. Intrastate Recovery and Requests for Intentionally Created Unused Apportionment (ICUA)

Intrastate Recovery

In the Joint Recovery Plan prepared by CAWCD, ADWR and the AWBA, the earliest intrastate recovery is expected to occur is in 2017 and the probability is 1%. Such an event would only affect the AWBA's Indian and on-River obligations and responsibilities. According to this same plan, there is only a 36% probability or less of needing to recover in any given year during the Near-Term planning period (2013 to 2023) and a 55% probability or less in the Mid-Term planning period (2024 to 2034).

Based on the most recent modeling run conducted by ADWR using 2014 starting elevations¹³, the earliest recovery event could be in 2018 when modeling predicts a 3% probability of shortage to the NIA priority pool resulting in an Indian firming obligation of a little over 100 acre-feet. This probability increases in 2020 to around 27% and then again in 2025 to around 50% with the volume ranging from between 1,000 to 3,500 acre-feet. For on-River impacts, the modeling

⁸ A Tier 1 shortage is a 320,000 acre-foot reduction to Arizona's apportionment of 2.8 MAF.

⁹ U.S. Bureau of Reclamation. Operation Plan for Colorado River System Reservoirs: February 2014 24-Month Study (April 8, 2014), page 11

¹⁰ Arizona Department of Water Resources. March 2014. Arizona Water Banking Authority: 2014 Firming Update. AWBA Results Scenario A2.

¹¹ Presentation by T. McCann and C Cullom dated June 5, 2014 to CAP Board called "Colorado River Drought Response and System Sustainability"

¹² Arizona Department of Water Resources. March 2014. Arizona Water Banking Authority: 2014 Firming Update. AWBA Results Scenario A2.

¹³ Arizona Department of Water Resources. March 2014. AWBA Results Scenario A2.

shows a probability of a shortage of 11% in 2021 ramping up to 30-40% between 2030 and 2044. Starting in 2045, the probability increases again to nearly 47% with expected impacts between 1,300 and 3,000 acre-feet. For M&I Priority firming, the modeling shows a probability of shortage of 12%, but not until 2042. The probability increases by 2045 to around 29% with expected volumes from 250 acre-feet to nearly 8,000 acre-feet.

Development of ICUA

This Ten-Year Plan assumes that SNWA will not request ICUA during the planning period¹⁴. The Third Amended and Restated Agreement for Interstate Water Banking authorizes Nevada to request development of ICUA, as follows: in the initial year, an amount not exceeding 20,000 acre-feet; the second year, an amount not exceeding 30,000 acre-feet and in all subsequent years, an amount not exceeding 40,000 acre-feet. Existing credits must be recovered by December 31, 2063. Future credits must be recovered within 50 years of the date of storage with the oldest credits recovered first. The agreement terminates when all credits (i.e. existing and future) have been recovered.

8. Water Management Objectives

The early activities of the AWBA were focused on achieving the goal of full utilization of Arizona's Colorado River entitlement. With the exception of 2005, Arizona has been meeting this goal since 2002. As the probability of shortage has increased, the Lower Basin states have worked together to implement a strategy that would keep lake elevations in Mead high enough to avoid a shortage declaration¹⁵. As a result of this, Arizona left water on the River in 2012 and in 2013 to help mitigate further declines.

Another primary objective of the AWBA is meeting the numeric M&I firming goals. Even with considerably less water available from CAWCD, this Ten-Year Plan projects the AWBA will store enough water to meet 90% of the numeric goal in the Pinal AMA and 103% of the goal in the Phoenix AMA using 4¢ *ad valorem* tax monies alone. If credits accrued using withdrawal fees are included, the AWBA also expects to meet the goal for the Pinal AMA as well during the Ten-Year Plan. Except for the 5,621 acre-feet of withdrawal fee credits set aside for meeting the State's obligation to the Federal government under the AWSA and the 105,000 acre-feet accrued at the GRIIDD, the AWBA has not applied any withdrawal fee credits to any of its stated purposes to date.

For the Tucson AMA, including withdrawal fee credits, the AWBA expects to only reach 68% of the numeric goal for the Tucson AMA. Because the AWBA is further behind in achieving its goal for the Tucson AMA than the other AMAs, the AWBA directed staff to focus on storing as much water as possible in the Tucson area. Other water management objectives have also become more important in the Tucson AMA over time. The AWBA continues to implement the facility prioritization strategy requested by Tucson area interests to store water at Tucson Water's SAVSARP as a first priority, followed by the Pima Mine Road Recharge Project, followed by the Avra Valley Recharge Project before storing water at the Lower Santa Cruz Recharge Project or any of the GSFs located in the AMA.

¹⁴ Communication with Southern Nevada Water Authority dated May 22, 2014.

¹⁵ Modeer, Kightlinger and Mulroy. Correspondence dated October 31, 2013. A similar letter was sent in 2012.

It is important to note that while M&I and Indian firming are both identified as water management objectives, Indian firming is an obligation under the AWSA. In its recent re-evaluation of its firming goals, the AWBA determined that Indian firming would require 778,000 to 1.3 MAF of credits to satisfy Indian firming requirements. By the end of this Ten-Year Plan, the AWBA expects to accrue 970,000 acre-feet of withdrawal fee credits. Absent general fund appropriations, the AWBA would need to rely on withdrawal fee credits to meet its Indian firming requirements. Should the Indian firming obligations exhaust all withdrawal fee credits, then no credits would be available for M&I firming or any other water management objective.

9. Interstate Banking

In May of 2013, the AWBA, SNWA and the CRCN signed the Third Amended and Restated Agreement for Interstate Water Banking. To date, 600,651 acre-feet of credits are already held in the SNWA account. Under the new agreement, the AWBA no longer has an obligation to accrue future long-term storage credits to be held in the SNWA account. The parties can mutually agree to future accrual of long-term storage credits including authorizing the use of Nevada's unused apportionment as the source water. Because water available to AWBA is low during this planning period, the Ten-Year Plan assumes no storage for Nevada. If additional water becomes available and Arizona's uses are met, then the AWBA and SNWA can agree to accrue long-term storage credits for Nevada. If unused apportionment from Nevada becomes available, then the AWBA would need to consider available capacity.

Conclusions and Recommendations

The Ten-Year Plan is intended to serve as a guide to assist the AWBA in the development of its Annual Plan of Operation in which the AWBA is required to plan its activities for the following calendar year. As part of the Annual Report, the Ten-Year Plan is reviewed and updated annually. Therefore, it is possible that the Ten-Year Plan may change significantly depending on the goals set by the AWBA and the funding and water supply available to the AWBA. Several conclusions can be reached given this Ten-Year Plan:

- 1) The region is moving close to hydrologic conditions where water availability will be a limiting factor in this planning period; approximately 480,000 acre-feet of credits could be created as a result of this Plan.
- 2) The region is moving closer to hydrologic conditions where recovery could be triggered. If a shortage is declared, the AWBA will be without water to store during that water year. If recovery is triggered, then Indian obligations will be impacted first followed closely by on-River responsibilities.
- 3) Funding becomes a limiting factor in both Pinal and Pima Counties as the water storage tax expires; withdrawal fees carried forward from previous years and the remaining water storage tax monies will be exhausted in the Pinal and Tucson AMAs by 2017; starting in 2018 withdrawal fees will be spent as quickly as they are collected.
- 4) Maricopa County is the only county projected to have revenues remaining in water storage tax fund at the end of the Ten-Year Plan.
- 5) Absent future appropriations, withdrawal fees credits will become the principle source for meeting the State's obligation for Indian firming thus limiting the AWBA's ability to assist in other water management objectives.

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- 6) Status of numeric firming goals:
 - a. The Phoenix AMA goal is attained during this planning period.
 - b. The Pinal AMA goal is attainable during the planning period if withdrawal fee credits are applied to this objective.
 - c. The Tucson AMA goal is not attainable during the planning period.
- 7) Updated modeling results shows Indian firming volumes range from 778,000 acre-feet in the most likely scenario to nearly 1.3 million acre-feet in a severe scenario, an increase of nearly 230,000 acre-feet over the existing goal.
- 8) The initial Southside Replenishment Bank is fully subscribed by 2015 and will have been paid for using withdrawal fees unless an appropriation is secured in the 2015 legislative session.
- 9) Interstate storage using Arizona's entitlement is unlikely during this planning period.
- 10) Requests for ICUA are also unlikely during this planning period.

Based on these conclusions, staff recommends the following potential actions:

- 1) In response to recent modeling results, focus heavily on making progress on Indian firming specifically by:
 - a. Developing agreements for satisfying Indian firming obligations (e.g. finalize agreements with GRIC and initiate discussions with WMAT and its lessees).
 - b. Completing delivery requirements to Southside Replenishment Bank.
 - c. Assigning withdrawal fee credits stored at Phoenix AMA and Pinal AMA GRIIDD to firming GRIC NIA supply.
 - d. Seeking general fund appropriations to support Indian firming.
- 2) Continue working with CAWCD and ADWR to implement the next steps in the Joint Recovery Plan.
- 3) Decide if numeric Indian firming goal should be adjusted, based on new modeling results, and if so how.
- 4) Establish policy on how shortage reparation credits will be used.
- 5) Apply withdrawal fee credits stored in the Tucson AMA to M&I firming in Tucson.
- 6) Continue to evaluate the Inter-AMA storage proposal prepared by the Arizona Municipal Water Users Association and the Southern Arizona Water Users Association.
- 7) Consider supplementing deliveries of Excess CAP water with purchase of long-term storage credits to take advantage of lower water delivery and storage costs through 2019.
- 8) Engage in discussion regarding the continuation of the water storage tax beyond 2016.
- 9) Develop a public outreach program to support AWBA future operations.
- 10) Revised Action Plan Year-One Accomplishments to align with the recommended actions in this Ten-Year Plan.

APPENDICES

APPENDIX A

**Colorado River Water Deliveries for Water Banking Purposes
for Calendar Year 2013 by Partner and Active Management Area**

	Partner	Quantity of Water (Acre-feet)	
		Intrastate	Interstate
PHOENIX AMA	Agua Fria Recharge Project	10,210	0
	Hieroglyphics Mountain Recharge Project	1,054	0
	Superstition Mountains Recharge Project	4,857	
	Tonopah Desert Recharge Project	12,897	
	Queen Creek Irrigation District	2,009	0
	<i>Intrastate/Interstate AMA Subtotal</i>	31,027	0
	<i>Phoenix AMA Subtotal</i>	31,027	
PINAL AMA	Central Arizona Irrigation & Drainage District	6,695	0
	Hohokam Irrigation & Drainage District	6,333	0
	Maricopa-Stanfield Irrigation & Drainage District	6,600	0
	Southside Replenishment Bank	1,000	0
	<i>Intrastate/Interstate AMA Subtotal</i>	20,628	0
<i>Pinal AMA Subtotal</i>	20,628		
TUCSON AMA	Ava Valley Recharge Project	0	0
	Lower Santa Cruz Recharge Project	9,300	0
	SAVSARP	13,255	0
	Cortaro-Marana Irrigation District	1,953	0
	Pima Mine Road	2067	0
	<i>Intrastate/Interstate AMA Subtotal</i>	26,575	0
<i>Tucson AMA Subtotal</i>	26,575		
TOTAL INTRASTATE & INTERSTATE DELIVERIES		78,230	0
TOTAL DELIVERIES		78,230	

Appendix B					
CAP Delivery Schedule					
(Acre-Feet)					
Year	Total CAP Deliveries¹	Federal and M&I Deliveries	Ag Settlement Pool	Statutory Firming Pool²	
				Federal & CAGRDRR	AWBA
2015	1,565,000	1,092,300	400,000	18,600	54,100
2016	1,560,000	1,104,100	400,000	17,300	38,600
2017	1,555,000	1,146,800	300,000	20,300	87,900
2018	1,550,000	1,152,300	300,000	19,900	77,800
2019	1,550,000	1,166,000	300,000	19,300	64,700
2020	1,550,000	1,179,800	300,000	18,400	51,800
2021	1,550,000	1,193,600	300,000	17,300	39,100
2022	1,550,000	1,204,100	300,000	16,200	29,700
2023	1,550,000	1,222,800	300,000	13,000	14,200
2024	1,550,000	1,241,500	225,000	19,200	64,300

¹ Based on average deliveries and remaining use of SRP exchange water. Assumes non-shortage CAP supply.

² Based on current and extended (through 2019) CAWCD Access to Excess distribution procedure.

APPENDIX C
STORAGE FACILITIES AVAILABLE TO THE AWBA
(as used in the Ten-Year Plan)

Name of Facility ¹	Facility Permit Expiration	Facility Permitted Capacity (AF)	Capacity Available to AWBA ² (AF)	Year Water Last Stored	Volume of Water Last Stored (AF)
PHOENIX – GSF³					
Queen Creek Irrigation District	Dec-15	28,000	6,000	2013	2,009
New Magma Irrigation & Drainage District	Jul-17	54,000	0	2012	23,866
Subtotal for Phoenix AMA - GSF		82,000	6,000		
PHOENIX – USF					
Agua Fria Recharge Project	May-19	100,000	15,000	2013	10,210
Hieroglyphic Mountains Recharge Project	Dec-21	35,000	15,000	2013	1,054
Tonopah Desert Recharge Project	Sep-25	150,000	100,000	2013	12,897
Superstition Mountains Recharge Project	Jan-28	25,000	8,000	2013	4,857
Subtotal for Phoenix AMA - USF		310,000	138,000		
PINAL – GSF					
Central Arizona Irrigation & Drainage District	Dec-17	110,000	60,000	2013	6,695
Hohokam Irrigation & Drainage District ⁴	Oct-12	55,000	20,000	2013	6,333
Maricopa-Stanfield Irrigation & Drainage District	Dec-19	120,000	60,000	2013	6,600
Subtotal for Pinal AMA - GSF		285,000	140,000		
TUCSON – GSF					
BKW Farms	Sep-14	14,316	1,000	2012	200
Cortaro-Marana Irrigation District	Mar-19	20,000	5,000	2013	1,953
Kai-Farms – Red Rock	Nov-16	11,231	2,000	2012	1,851
Subtotal for Tucson AMA - GSF		45,547	8,000		
TUCSON – USF					
Avra Valley Recharge Project	Mar-18	11,000	1,000	2012	774
CAVSARP	Dec-28	100,000	0	2012	51
Lower Santa Cruz Recharge Project	Feb-19	50,000	25,000	2013	9,300
Pima Mine Road Recharge Project	Sep-20	30,000	7,000	2013	2067
SAVSARP	Jan-28	60,000	15,000	2013	13,255
Subtotal for Tucson AMA - USF		251,000	48,000		
ALL AMAs - GSF		412,547	154,000		
ALL AMAs - USF		561,000	186,000		

¹ As additional facilities are developed, they will be included in future plans.

² This does not reflect the actual "permitted" volume for these facilities; instead for the purposes of this plan, staff relied on average historical storage volumes and potential for future storage. Capacity available to the AWBA at the Avra Valley Recharge Project is based on the operator's estimated annual averages for the Ten-Year Planning period.

³ The AWBA also holds a water storage permit at Tonopah Irrigation District GSF (15,000 AF), however use of the facility was not considered significant in this Ten-Year Plan.

⁴ Permit renewal application pending with ADWR.

APPENDIX D
Credits Developed for M&I Firming Utilizing the 4¢ Tax ¹
(Acre-feet)

	Groundwater Savings			Underground Storage			
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
PHOENIX AMA²	Pre-plan ³			551,200			814,015
	2015	6,000	6,000	5580	138,000	4,944	4,598
	2016	6,000	6,000	5580	138,000	1,720	1,600
	2017	5,000	5,000	4650	138,000	30,555	28,416
	2018	4,500	4,500	4185	138,000	48,838	45,419
	2019	4,500	4,500	4185	138,000	38,517	35,821
	2020	4,000	4,000	3720	138,000	29,691	27,612
	2021	4,000	4,000	3720	138,000	19,821	18,434
	2022	4,000	4,000	3720	138,000	12,571	11,691
	2023	4,000	4,000	3720	138,000	422	392
	2024	4,000	4,000	3720	138,000	40,736	37,885
	Total			593,980			1,025,883
PINAL AMA²	Pre-plan ³			203,923			0
	2015	138,000	6,579	6,118	-	-	0
	2016	138,000	5,746	5,344	-	-	0
	2017	138,000	3,732	3,471	-	-	0
	2018	138,000	-	-	-	-	0
	2019	138,000	-	-	-	-	0
	2020	138,000	-	-	-	-	0
	2021	138,000	-	-	-	-	0
	2022	138,000	-	-	-	-	0
	2023	138,000	-	-	-	-	0
	2024	138,000	-	-	-	-	0
	Total			218,856			-
TUCSON AMA²	Pre-plan ³			18,629			401,697
	2015	8,000	-	0	42,887	19,437	18,076
	2016	8,000	-	0	43,027	14,327	13,324
	2017	8,000	-	0	48,000	17,429	16,209
	2018	8,000	-	0	48,000	-	0
	2019	8,000	-	0	48,000	-	0
	2020	8,000	-	0	48,000	-	0
	2021	8,000	-	0	48,000	-	0
	2022	8,000	-	0	48,000	-	0
	2023	8,000	-	0	48,000	-	0
	2024	8,000	-	0	48,000	-	0
	Total			18,629			449,306

¹ Expenditure of 4¢ ad valorem tax revenues given highest priority in Tucson and Pinal AMAs. In Phoenix AMA, 80% of water available stored using 4¢ ad valorem tax revenues in each year of Ten-Year Plan except in 2023 when the volume available is so small that 100% of the volume is stored using 4¢ ad valorem tax revenues.

² M&I firming targets are Phoenix AMA- 1.566 MAF, Pinal AMA – 243,000 AF, and Tucson AMA – 864,000 AF.

³ Cumulative totals for 1997-2013; 2014 credits estimated based on projected deliveries.

⁴ Capacity available based on capacity remaining at facilities after all higher priority demands have been met.

APPENDIX E

Credits Developed for Meeting AMA Water Management Goals Utilizing Withdrawal Fees¹

(Acre-feet)

	Groundwater Savings			Underground Storage			
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³				160,752		
2015	0	-	-	0	133,056	2,736	2,544
2016	0	-	-	0	136,280	1,930	1,795
2017	0	-	-	0	107,445	8,889	8,267
2018	0	-	-	0	89,162	13,335	12,401
2019	0	-	-	0	99,483	10,754	10,001
2020	0	-	-	0	108,309	8,423	7,833
2021	0	-	-	0	118,179	5,955	5,538
2022	0	-	-	0	125,429	4,143	3,853
2023	0	-	-	0	137,578	1,105	1,028
2024	0	-	-	0	97,264	11,184	10,401
Total				160,752			205,216

	Groundwater Savings			Underground Storage			
	Year	Capacity Available ⁴	Capacity Used	Credits Earned ⁵	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³				412,311		
2015	132,421	9,292	3,991	-	-	-	0
2016	133,254	3,904	3,631	-	-	-	0
2017	135,268	15,477	14,394	-	-	-	0
2018	139,000	9,259	8,611	-	-	-	0
2019	139,000	9,091	8,455	-	-	-	0
2020	139,000	8,021	7,460	-	-	-	0
2021	139,000	7,712	7,173	-	-	-	0
2022	139,000	7,426	6,906	-	-	-	0
2023	139,000	7,160	6,659	-	-	-	0
2024	139,000	6,913	6,429	-	-	-	0
Total				486,019			-

	Groundwater Savings			Underground Storage			
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³				7,270		
2015	8,000	-	-	0	23,450	-	-
2016	8,000	-	-	0	28,700	-	-
2017	8,000	-	-	0	30,571	6,818	6,341
2018	8,000	-	-	0	48,000	1,868	1,737
2019	8,000	-	-	0	48,000	1,838	1,709
2020	8,000	-	-	0	48,000	1,665	1,549
2021	8,000	-	-	0	48,000	1,611	1,498
2022	8,000	-	-	0	48,000	1,560	1,451
2023	8,000	-	-	0	48,000	1,512	1,406
2024	8,000	-	-	0	48,000	1,467	1,365
Total				7,270			111,644

¹ Expenditure of withdrawal fees given second highest priority in Tucson and Pinal AMAs. In Phoenix AMA, 20% of water available stored using withdrawal fees in each year of Ten-Year Plan.

² M&I firming targets are Phoenix AMA - 1.566 MAF, Pinal AMA - 243,000 AF, and Tucson AMA - 864,000 AF.

³ Cumulative totals for 1997-2013; 2014 credits estimated based on projected deliveries.

⁴ Capacity available based on capacity remaining at facilities after all higher priority demands have been met.

⁵ No credits are received for water stored at the SSRB. Remaining deliveries to SSRB are completed in 2015.

APPENDIX F
Credits Developed for Annual General Fund Appropriations^{1,2}
(Acre-feet)

	Year	Groundwater Savings			Underground Storage		
		Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
PHOENIX AMA	Pre-plan ³			26,041			16,275
	2014	0	-	0	130,320	-	0
	2015	0	-	0	134,350	-	0
	2016	0	-	0	98,556	-	0
	2017	0	-	0	75,827	-	0
	2018	0	-	0	88,729	-	0
	2019	0	-	0	99,887	-	0
	2020	0	-	0	112,223	-	0
	2021	0	-	0	121,286	-	0
	2022	0	-	0	136,473	-	0
	2023	0	-	0	86,080	-	0
	Total			26,041			16,275
	PINALAMA	Pre-plan ³			306,968		
2014		123,130	-	0	-	-	0
2015		129,350	-	0	-	-	0
2016		119,791	-	0	-	-	0
2017		129,741	-	0	-	-	0
2018		129,909	-	0	-	-	0
2019		130,979	-	0	-	-	0
2020		131,288	-	0	-	-	0
2021		131,574	-	0	-	-	0
2022		131,840	-	0	-	-	0
2023		132,087	-	0	-	-	0
Total			-	306,968		-	-
TUCSON AMA		Pre-plan ³			2,846		
	2014	8,000	-	0	23,450	-	0
	2015	8,000	-	0	28,700	-	0
	2016	8,000	-	0	23,753	-	0
	2017	8,000	-	0	46,132	-	0
	2018	8,000	-	0	46,162	-	0
	2019	8,000	-	0	46,335	-	0
	2020	8,000	-	0	46,389	-	0
	2021	8,000	-	0	46,440	-	0
	2022	8,000	-	0	46,488	-	0
	2023	8,000	-	0	46,533	-	0
	Total		-	2,846			51,700

¹ This Ten-Year Plan does not include a component for General Fund appropriations.

² The on-river M&I firming target is 420,000 acre-feet.

³ Cumulative totals for 1997 through 2013 are actuals. There are no deliveries scheduled for 2014.

⁴ Capacity available based on capacity remaining at facilities after all higher priority demands have been met.

APPENDIX G
Credits Developed for Utilizing Funds Dedicated for Shortage Reparations¹
(Acre-feet)

	Groundwater Savings			Underground Storage				
	Year	Capacity Available ³	Capacity Used	Credits Eamed	Capacity Available ³	Capacity Used	Credits Eamed	
PHOENIX AMA	Pre-plan ²			4,590			16,051	
	2015	0	-	0	133,056	-	0	
	2016	0	-	0	136,280	-	0	
	2017	0	-	0	107,445	-	0	
	2018	0	-	0	89,162	-	0	
	2019	0	-	0	99,483	-	0	
	2020	0	-	0	108,309	-	0	
	2021	0	-	0	118,179	-	0	
	2022	0	-	0	125,429	-	0	
	2023	0	-	0	137,578	-	0	
	2024	0	-	0	97,264	-	0	
	Total			4,590			16,051	
	PINAL AMA	Pre-plan ²			60,507			0
		2015	131,421	-	0	-	-	0
2016		132,254	-	0	-	-	0	
2017		134,268	-	0	-	-	0	
2018		138,000	-	0	-	-	0	
2019		138,000	-	0	-	-	0	
2020		138,000	-	0	-	-	0	
2021		138,000	-	0	-	-	0	
2022		138,000	-	0	-	-	0	
2023		138,000	-	0	-	-	0	
2024		138,000	-	0	-	-	0	
Total				60,507			-	
TUCSON AMA		Pre-plan ²			937			16,895
		2015	8,000	-	0	48,000	5,113	4,755
	2016	8,000	-	0	48,000	4,973	4,625	
	2017	8,000	-	0	48,000	-	-	
	2018	8,000	-	0	48,000	-	-	
	2019	8,000	-	0	48,000	-	-	
	2020	8,000	-	0	48,000	-	-	
	2021	8,000	-	0	48,000	-	-	
	2022	8,000	-	0	48,000	-	-	
	2023	8,000	-	0	48,000	-	-	
	2024	8,000	-	0	48,000	-	-	
	Total			937			26,275	

¹ \$8 million received from Nevada pursuant to the Arizona-Nevada Shortage-Sharing Agreement to assist Arizona in offsetting the impacts of shortage impacts during the Interim Period.

² Cumulative totals for 1997-2013; 2014 credits estimated based on projected deliveries.

³ Capacity available based on capacity remaining at facilities after all higher priority demands have been met.

APPENDIX H
Credits Developed for Utilizing Indian Settlement Appropriations¹
(Acre-feet)

	Groundwater Savings			Underground Storage			
	Year	Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
PHOENIX AMA	Pre-plan ³			0			0
	2014	0	-	0	130,320	-	0
	2015	0	-	0	134,350	-	0
	2016	0	-	0	98,556	-	0
	2017	0	-	0	75,827	-	0
	2018	0	-	0	88,729	-	0
	2019	0	-	0	99,887	-	0
	2020	0	-	0	112,223	-	0
	2021	0	-	0	121,286	-	0
	2022	0	-	0	136,473	-	0
	2023	0	-	0	86,080	-	0
	Total			-			-
	PINAL AMA	Pre-plan ³			0		
2014		123,130	-	0	-	-	0
2015		129,350	-	0	-	-	0
2016		119,791	-	0	-	-	0
2017		129,741	-	0	-	-	0
2018		129,909	-	0	-	-	0
2019		130,979	-	0	-	-	0
2020		131,288	-	0	-	-	0
2021		131,574	-	0	-	-	0
2022		131,840	-	0	-	-	0
2023		132,087	-	0	-	-	0
Total				-			-
TUCSON AMA		Pre-plan ³			0		
	2014	8,000	-	0	23,450	-	0
	2015	8,000	-	0	28,700	-	0
	2016	8,000	-	0	23,753	-	0
	2017	8,000	-	0	46,132	-	0
	2018	8,000	-	0	46,162	-	0
	2019	8,000	-	0	46,335	-	0
	2020	8,000	-	0	46,389	-	0
	2021	8,000	-	0	46,440	-	0
	2022	8,000	-	0	46,488	-	0
	2023	8,000	-	0	46,533	-	0
	Total			-			28,481

¹ The State Indian firming target is estimated at 550,000 acre-feet.

² Credits accrued through the expenditure of \$3 million for assisting Federal government in meeting its firming obligation under Section 306 of the Arizona Water Settlements Act.

APPENDIX I

**Potential Credits Developed for Interstate Water Banking
(Acre-feet)**

Year	Available CAP Supplies¹	Available AWBA Capacity²	Interstate Deliveries³	Interstate Credits⁴	ICUA⁵	Remaining Credits⁶	Supply Available⁷
Pre-plan ⁸						600,651	
2015	-	284,900	-	-	-	600,651	-
2016	-	300,400	-	-	-	600,651	-
2017	-	250,100	-	-	-	600,651	-
2018	-	259,700	-	-	-	600,651	-
2019	-	272,800	-	-	-	600,651	-
2020	-	285,200	-	-	-	600,651	-
2021	-	297,900	-	-	-	600,651	-
2022	-	307,300	-	-	-	600,651	-
2023	-	322,800	-	-	-	600,651	-
2024	-	272,700	-	-	-	600,651	-
Total			-	-	-		

¹ Water available for Interstate Banking is calculated by subtracting the water delivered and stored by the AWBA for intrastate water banking from the total water supply available for the AWBA (see Appendix B).

² Reflects unused capacity available to AWBA at USFs and GSFs in the Phoenix, Pinal, and Tucson AMAs. Additional capacity may be available at individual facilities based on utilization by individual water storage permit holders.

³ Projected deliveries are based on the Third Amended and Restate Agreement for Interstate Water Banking dated May 20, 2013 and an annual limitation of 200,000 AF/YR.

⁴ Calculation: Interstate deliveries multiplied by 93%.

⁵ Assumes SNWA will not request ICUA during this planning period; consistent with the Third Amended and Restate Agreement for Interstate Water Banking dated May 20, 2013, SNWA's requests for ICUA must ramp up from 20,000 acre-feet per acre-feet per year, then 30,000 acre-feet per year before requesting 40,000 acre-feet per year.

⁶ Calculation: credits available minus assumed ICUA during this Ten-Year Plan.



⁷ Calculation: Available CAP Supplies minus Interstate Deliveries.

⁸ Cumulative totals for 2002-2013 are actuals. There are no deliveries scheduled for 2014.



AWBA Action Plan Summary

Practical vision	Current reality	Commitments
<p><i>What do we want to see in place in 3-5 years as a result of our actions?</i></p> <ul style="list-style-type: none"> • ...moving toward meeting AWBA responsibilities (buying the tools) <ul style="list-style-type: none"> - Acquired new water supplies - Access to and flexibility of funding streams - Indian firming agreements • ...moving toward implementing AWBA responsibilities (buying the tools) <ul style="list-style-type: none"> - Adopted implementable recovery plan - Improved storage plan • Alternative shortage management strategy • Decision on AWBA statewide role • Outreach efforts incorporated into annual reports 	<p><i>What are the resources at our disposal that will help us reach our vision and what are the kinks in the hose keeping us from our vision?</i></p> <p>Resources at our disposal:</p> <ul style="list-style-type: none"> • Great staff, AWBA members and stakeholders • Statutory authority • Existing water supplies • Storage capacity • Distribution system • Clear goals and objectives • Pending crisis (i.e. shortage) <p>Kinks in the hose:</p> <ul style="list-style-type: none"> • AWBA roles expanded • Rules of game have changed • Uncertainty of goals • Differing interpretation of statutes • Stretched thin • 4¢ tax can only be used for M&I firming • Difference of opinion with CAP about how to use the 4¢ tax monies to achieve goals • Imbalance between funding sources relative to AWBA goals • People growing into entitlement leaving less water for AWBA 	<p><i>What are 3-5 commitments the AWBA is serious about accomplishing in the next year to move the AWBA closer to its practical vision?</i></p> <ol style="list-style-type: none"> 1. Meeting AWBA responsibilities (buying the tools) <ul style="list-style-type: none"> • Legislative and public outreach/support and 4¢ tax extension • Develop updated modeling to clarify M&I and tribal goals • Institute negotiations with CAWCD on an IGA for statute interpretation and permanent disbursement of 4¢ tax to AWBA • Update augmentation options study • Identify where differences of opinion are in statutes 2. Implementing AWBA responsibility (using the tools) <ul style="list-style-type: none"> • Prompt and thorough review of draft recovery plan with an eye toward improving storage plans • Communicate our position on urgency of recovery plan to CAWCD • Begin incorporation information from recovery plan (process) into AWBA annual operation plan for 2015 to assist in identifying storage locations • Identifying where differences of opinion are in statutes 3. Developing alternative shortage management strategy <ul style="list-style-type: none"> • Evaluate need for additional staff • Develop concept paper to explain ways AWBA could mitigate agricultural shortage and reduce groundwater pumping • Continue to monitor and comment on Enhanced Aquifer Management process to maintain AWBA flexibility during shortage • Identify where differences of opinion are in statutes 4. Making Decision on AWBA statewide role <ul style="list-style-type: none"> • Outreach – legislative/public - support • Ask ADWR to identify opportunity outside CAP service area

YEAR-ONE ACCOMPLISHMENTS

	Current Reality	First-Year Accomplishments	Success Indicators
 <p>COMMITMENT: Meeting AWBA responsibilities (buying the tools)</p>	<ul style="list-style-type: none"> • Existing 4¢ tax available only through 2016 • Collected 4¢ tax monies held by CAP • CAP uses 4¢ tax monies to offset AWBA M&I firming costs • Concern 4¢ tax monies might not be used for AWBA purposes in future • Modeling goals established in 1997 • AWBA can acquire supplies only if excess CAP water is not available • AWBA cannot acquire long-term storage credits except in very limited conditions • Draft legislation for purchase of long-term credits prepared • Have a Water Supply Survey Report 	<ul style="list-style-type: none"> • Run credit purchase legislation • Update the AWBA goals using latest Colorado River modeling • Participate in discussions with CAP and others on extension of 4¢ tax levy • Evaluate next steps to follow up on Water Supply Survey Report 	<ul style="list-style-type: none"> • 4¢ tax is extended beyond 2016 for uses including AWBA purposes • AWBA can acquire long-term storage credits • Modeling goals have been re-evaluated and updated given current information • Updated Water Supply Survey Report • Confidence 4¢ tax monies will continue to be used for AWBA purposes
 <p>COMMITMENT: Implementing AWBA responsibilities (using the tools)</p>	<ul style="list-style-type: none"> • Draft Joint Recovery Plan out to members and CAP Board ready for review by stakeholders and Boards • Tentative Joint Recovery Plan workshop scheduled for February 4 • Unclear how to adopt Joint Recovery Plan by multiple agencies 	<ul style="list-style-type: none"> • Conduct Joint Recovery Plan workshop • Review comments received and incorporate into a final draft Joint Recovery Plan • Decide how to adopt Joint Recovery Plan by AWBA and CAP Boards and ADWR Director • Adopt Joint Recovery Plan • Incorporate Joint Recovery Plan concepts into Ten-Year Plan and Annual Plan of Operation 	<ul style="list-style-type: none"> • Adopted Joint Recovery Plan • Incorporated Joint Recovery Plan elements into the Plan of Operation for 2015 • CAP has recovery partner agreements in place • Regular interagency coordination • Stakeholder recognition of Joint Recovery Plan • In the event of shortage, AWBA credits are distributed and recovered

YEAR-ONE ACCOMPLISHMENTS

	Current Reality	First-Year Accomplishments	Success Indicators
 <p>COMMITMENT: Developing alternative shortage management strategy</p>	<ul style="list-style-type: none"> • 23,724 acre-foot Indian firming obligation • Credit recovery only method to mitigate shortages • Can extinguish water management credits • Ten-Year Plan that evaluates water availability • Potential ways CAP can meet shortfalls during shortage • Recovery is limited by Third Management Plan • Enhanced Aquifer Management process is underway that could affect accrual and recovery of future AWBA credits • Majority of on-river users have recovery agreement with CAP 	<ul style="list-style-type: none"> • Continue discussions with Gila River Indian Community to negotiate firming agreement • Initiate discussions with White Mountain Apache Tribe to develop firming agreement • Prepare preliminary list of ways to meet AWBA obligations in addition to recovering credits • Effectively communicate AWBA's position on Enhanced Aquifer Management • Initiate discussions with CAP regarding CAP based alternative shortage management strategies for potential incorporation into Joint Recovery Plan 	<ul style="list-style-type: none"> • Executed Indian firming agreements that incorporate multiple firming opportunities • List of ways to meet AWBA obligations in addition to recovering credits • Multiple firming opportunities incorporated into Ten-Year Plan • Operational flexibility is maintained for AWBA under Fourth Management Plan including enhanced aquifer management • Efficient and effective use of AWBA credits • Shortage management strategies incorporated into Joint Recovery Plan
 <p>COMMITMENT: Making Decision on AWBA statewide role</p>	<ul style="list-style-type: none"> • AWBA jurisdiction limited to CAP service area (M&I firming), certain Indian settlements and on-river communities with P4 M&I contracts • Funding limited to 4¢ tax and withdrawal fees • ADWR's Draft Strategic Vision has been released • Unclear about how AWBA could help those not currently within the AWBA jurisdiction 	<ul style="list-style-type: none"> • Coordinate with ADWR to identify potential statewide roles for the AWBA in the Draft Strategic Vision • Develop outreach program to inform Legislature and public about the AWBA and its role in statewide water management 	<ul style="list-style-type: none"> • Decision on AWBA statewide role • Support from legislature and others assuming expanded AWBA role • Funding available to support potential expanded role

AWBA Staff,

CAWCD appreciates the opportunity to provide comments on the AWBA's Action Plan documents recently circulated for review: the Action Plan Summary and Year-One Accomplishments tables.

Both documents include a number of goals or commitments that the AWBA may pursue, many of which have significant implications to CAWCD and statewide water management; therefore, we would expect that there will be future discussions and close coordination with CAWCD.

There are a number of goals listed that we fully support, some of which have already been accomplished and still others that raise questions for us. However, the very brief descriptions are subject to considerable interpretation, and it is difficult for us to provide specific comment without further background and explanation. We trust that if the staff or Commission propose to move forward and take action on any of these initiatives, that there will be more detailed information shared in advance of those actions that will allow CAWCD to more fully evaluate the proposals.

Again, thank you for the opportunity to comment on the AWBA's Action Planning work. We look forward to working in close coordination with you. Please let us know if you have any questions.

CAWCD Staff

Laura Grignano

Senior Policy Analyst, *Resource Plng & Analysis*

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V. Request for General Fund Appropriation

NOTES:

Call on Virginia O'Connell to discuss a proposal for requesting a general fund appropriation

POSSIBLE ACTION:

Move to approve a submittal for a General Fund appropriation to the Governor's Office in the amount of \$_____, including funds remaining in the Arizona Water Banking Fund pursuant to execution of the Third Amended and Restated Interstate Water Banking Agreement, to be used for the purpose of _____ to assist in meeting the State's obligations under the Arizona Water Settlements Act, .

Proposal for General Fund Appropriation Request:

The Arizona Water Banking Authority requests an appropriation of _____ from the State's general fund for the purchase and delivery of _____ acre-feet of Central Arizona Project water to assist in meeting the Southside Replenishment Bank obligations under the Arizona Water Settlements Act.

Details:

Pursuant to § 45-2624, the AWBA, as agent of the State, is required to deliver an initial 15,000 acre-feet of water to the Gila River Indian Community (GRIC) to establish the Southside Replenishment Bank (Replenishment Bank). The AWBA planned to deliver 1,000 acre-feet each year, the minimum allowable by state law. Accordingly, through 2013, the AWBA delivered 1,000 acre-feet per year for a total of 5,000 acre-feet.

In 2013, however, the Bureau of Reclamation released Colorado River operational data raising concerns of a potential shortage declaration as early as 2016. In this situation, the AWBA, as an excess CAP water user, would not have CAP water supplies available to make its minimum deliveries to the Replenishment Bank. To avoid this potential risk, the AWBA decided to deliver the remaining 10,000 acre-feet of CAP water in 2014 and 2015 when Excess CAP water is still expected to be available. Information released since this time shows the likelihood of shortage increasing not decreasing.

In 2013, the AWBA approved a submittal to the Governor's Office requesting an appropriation of \$664,000 for Replenishment Bank deliveries in 2014 to pay for 4,000 acre-feet of water. This request was unsuccessful. Still, in 2014, the AWBA will have delivered 5,000 acre-feet to the Replenishment Bank. Without the requested general fund appropriation, the AWBA could only use groundwater withdrawal fees collected in the Pinal Active Management Area (AMA). Consequently, these funds will not be available for the AWBA to store water to meet its other responsibilities. Additionally, reducing deliveries to the Pinal AMA irrigation districts would likely result in increased groundwater pumping by those districts.

In 2015, in anticipation of shortage declarations and in order to meet its responsibilities under the Act, the AWBA will complete its deliveries to the Replenishment Bank. The cost for the entire 2015 deliveries (5,000 acre-feet) will be \$895,000.

Options for Requests:

- Request \$716,000 acre-feet for 4,000 acre-feet in 2015.
- Request \$895,000 for 5,000 acre-feet in 2015.
- Request \$1.4 million to reimburse the AWBA for 4,000 acre-feet of deliveries in 2014 and for 4,000 acre-feet of projected deliveries in 2015.
- Request \$1.7 million for 5,000 acre-feet of deliveries in 2014 and 5,000 acre-feet of projected deliveries in 2015.
- Request \$2.34 million for 10,000 acre-feet of deliveries through 2014 and 5,000 acre-feet of projected deliveries in 2015.
- Request authorization to utilize funds in the Arizona Water Banking Fund (approx. \$229, 440) remaining as a result of the Third Amended and Restated Interstate Agreement to offset or augment a request for general fund appropriation.

VI. Fiscal Year 2015 Administrative Budget

NOTES:

Call on **Virginia O'Connell** to explain the budget process and outline the numbers.

ACTION:

Move adoption of the Arizona Water banking Authority Administration Budget for Fiscal Year 2015 as presented with any minor or technical changes.

ARIZONA WATER BANKING AUTHORITY

Sheet 2014-1

FY 2014 ADMINISTRATIVE BUDGET

\$691,388 \$ 462,058

STAFFING

	Total FTE	Est. Cost	Actual Cost
Department of Water Resources Cost of Services		\$441,538	\$ 411,587
Personnel Services	2.5	\$202,125	\$ 202,125
Water Bank Manager	1		
Water Bank Technical Administrator	1		
Attorney	0.5		
Employee Related Expenditures (at 44% of Personnel Services)		\$88,935	\$75,778
Indirect Cost (at 51.7% of Personnel Service & ERE)		\$150,478	\$133,684
Central Arizona Project Cost of Services		\$21,000	\$21,000
Personnel Services & ERE (pursuant to IGA)		\$21,000	\$21,000
Subtotal Staffing		\$462,538	\$432,587

OTHER COSTS

Professional & Outside Services		\$220,000	\$24,998
Consultant (includes Alternate Contribution Rate of 9.2%)		\$20,000	\$23,378
Development of Action Plan		\$200,000	\$1,620
Travel		\$3,625	\$1,378
Instate Travel		\$2,625	\$1,378
Out of State Travel		\$1,000	\$0
Operating Expenses		\$5,225	\$3,095
Standard per employee	3.0	\$500	\$1,000
Miscellaneous		\$3,725	\$2,095
Equipment		\$0	\$0
Subtotal Other Costs		\$228,850	\$29,471

ARIZONA WATER BANKING AUTHORITY

Sheet 2015-1

FY 2015 ADMINISTRATIVE BUDGET

\$656,173

STAFFING

	Total FTE	Cost
Department of Water Resources Cost of Services		\$423,048
Personnel Services	2.5	\$202,125
Water Bank Manager	1	
Water Bank Technical Administrator	1	
Attorney	0.5	
Employee Related Expenditures (at 40% of Personnel Services)		\$80,850
Indirect Cost (at 49.5% of Personnel Service & ERE)		\$140,073
Central Arizona Water Conservation District Cost of Services		\$21,000
Personnel Services & ERE (pursuant to IGA)		\$21,000
Subtotal Staffing		\$444,048

OTHER COSTS

Professional & Outside Services			\$200,000
Action Plan			\$200,000
Travel			\$4,800
Instate Travel			\$3,800
Out of State Travel			\$1,000
Operating Expenses			\$7,325
Per employee	2.0	\$2,000	\$4,000
Other expenses			\$3,325
Equipment			\$0
Subtotal Other Costs			\$212,125

FY 2015 ADMINISTRATIVE BUDGET

	Meetings	\$/Meeting	Cost
INSTATE TRAVEL			
Authority Members			
Michael J. Lacey	8	\$0	\$0
Maureen George	8	\$0	\$0
Cliff Neal	8	\$0	\$0
Jim Hartdegen	8	\$0	\$0
John Mawhinney	8	\$125	\$1,000
Subtotal			\$1,000
Authority Staff			
Manager	8	\$0	\$0
	2	\$600	\$1,200
Technical Administrator	8	\$0	\$0
	2	\$600	\$1,200
Other Support	1	\$400	\$400
Subtotal			\$2,800
Instate Total			\$3,800
	Meetings	\$/Meeting	Cost
OUT OF STATE TRAVEL			
Authority Members	No out of state travel is anticipated for Authority Members		
Authority Staff			
Manager	1	\$1,000	\$1,000
Technical Administrator	0		\$0
Other Support	0		\$0
Total Out of State			\$1,000
Total Travel			\$4,800

OPERATING EXPENSES

Other Expenses	Cost
Telecomm & Web Domain	\$725
Permits	\$2,000
Supplies	\$500
Miscellaneous	\$100
Total Operating Expenses	\$3,325

EQUIPMENT

	Units	Unit Cost	Cost
No anticipated equipment purchase	1	\$0	\$0
Total Equipment			\$0

VII. Call to the Public

Future Meeting Dates:

Wednesday, September 17, 2014

Wednesday, December 3, 2014