

**ARIZONA WATER BANKING AUTHORITY**  
**Wednesday, June 20, 2007**

No.	NAME (Please print)	Phone No.
1	Michael Block	520-575-8100
2	McClain Peterson CRCW	702-486-2672
3	Tom Maher	702-862-3702
4	Ken Sedsholes	520-792-0685
5	Mitch Haws	623-773-6274
6	Dennis Rule	520-791-2666
7	Don Gross - ADWR	602-771-8411
8	Gregg Nelson - ADWR	602-771-8414
9	Alice Brawley-Chesworth	602-262-1828
10	James Peters	520-297-2771
11	Collette Moya	480-644-4364
12	Paul Orme	623-465-0445
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**ARIZONA WATER BANKING AUTHORITY**  
**Wednesday, June 20, 2007**

No.	NAME (Please print)	Phone No.
1	Mark Myers	520-881-4912
2	Juliet McKenna	520-881-4912
3	Brian Herrick	623-869-2567
4	Larry Dozzer	623-869-2377
5	Gary Givens	623-889-2158
6	JEFF ENLERS	602 236-5504
7	Jim Johnson	402 916 5304
8	Leo Commanche	623-580-9600
9	Chuck Cella	602-292-5675
10	JOHN BODENOTUK	520 <del>770</del> 3817
11	Cindy Haglin	480-782-4640
12	RITA MAWRE	402 277-2195
13	Ann Marie Chischilly	520.796.1344
14	RON WONG	520-682-2516
15	TOM MCCANN	623-869-2343
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**Arizona Water Banking Authority**  
3550 N. Central Avenue, Phoenix, Arizona 85012  
Telephone 602-771-8487  
Fax 602-771-8685  
Web Page: [www.awba.state.az.us](http://www.awba.state.az.us)

**PLEASE POST**

**NOTICE OF PUBLIC MEETING**

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 Wednesday, June 20, 2007 at 10:00 a.m. at the Arizona Department of Water Resources, 3550 North Central Avenue, Phoenix, Arizona 85012, Upper Verde Conference Room. The meeting is open to the general public.

Dated this 19<sup>th</sup> day of June, 2007

**FINAL AGENDA**

**Arizona Water Banking Authority Commission Meeting**

- I. Welcome/Opening Remarks
- II. Approval of Minutes of March 21, 2007 Meeting
- III. Water Banking Staff Activities
  - Deliveries
  - Webpage
  - New water storage permit
  - Discussion of tax levy for water storage
  - CAWCD drought and shortage impact analysis
  - Status of 7 basin states discussions
  - Recovery planning update
- IV. Arizona Shortage Sharing Agreement
- V. 2006 Annual Report
  - Overview of 2006 Annual Report
  - Discussion regarding Ten-Year Plan 2008-2017
  - Potential approval of 2006 Annual Report and Ten-Year Plan
- VI. FY 2008 Administrative Budget
  - Overview of FY 2008 administrative budget
  - Potential adoption of FY 2008 administrative budget
- VII. Arizona Water Settlements Act Firming Efforts
  - Draft Secretarial Agreement
  - Firming opportunities with GRIC

- VIII. West Maricopa Combine Water Storage Agreement
  - Discussion
  - Potential approval of WMC Water Storage Agreement
  
- IX. Interstate Water Banking
  - Overview of interstate accounting and firming obligation
  
- X. Call to the Public

**Future Meeting Dates:**

Wednesday, October 10, 2007 \*Please note date change (9/19/07 rescheduled to 10/10/07)  
Wednesday, December 19, 2007

*\*All visitors must use the south elevators; please stop at the 2<sup>nd</sup> 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 Virginia O'Connell at (602) 771-8491. Requests should be made as early as possible to allow time to arrange the accommodation.*

## Gayle J. Burns

Gayle J. Burns serves as a member of the Authority as the representative designated by Susan Bitter Smith, president of the Central Arizona Water Conservation District (CAWCD). She was elected to the CAWCD Board of Directors on November 7, 2006 to represent Maricopa County for the term January 1, 2007 through December 31, 2012.



Ms. Burns is currently employed by BGM Investments and is a member of the Glendale Chamber of Commerce, Glendale Downtown Development Corporation and the Historical Catlin Court Association.

Ms. Burns attended Glendale Community College and Iowa State University.

An Arizona resident for 44 years, Ms. Burns lives in Peoria with her husband, Robert. She has two adult children, Mark and Michael.

**ARIZONA WATER BANKING AUTHORITY  
Draft Minutes<sup>1</sup>**

**March 21, 2007  
Arizona Department of Water Resources**



**AUTHORITY MEMBERS**  
Herbert R. Guenther, Chairman  
Maureen R. George, Vice-Chairman  
Tom Buschatzke, Secretary  
John Mawhinney  
Gayle J. Burns

**EX OFFICIO MEMBERS**  
The Honorable Jake Flake  
The Honorable Lucy Mason

### **Welcome/Opening Remarks**

Chairman Herb Guenther welcomed the attendees and recognized Susan Bitter Smith, the newly elected President of the Central Arizona Water Conservation District (CAWCD) Board of Directors and AWBA commission member. Ms. Bitter Smith announced that she was designating Gayle Burns, a CAWCD Board member, to represent CAWCD on the Commission in her place. All members of the Authority were present except for *ex-officio* members, Representative Lucy Mason and Senator Jake Flake. Maureen George attended via teleconference.

### **Elections**

Chairman Guenther clarified that elections for Commission officers would have taken place at the December meeting allowing the officers to begin their two-year term the third Monday in January. However, because CAWCD did not elect its new president until March 1, 2007, elections had been deferred. He opened the floor for nominations for Vice-president and Secretary of the Commission. Tom Buschatzke nominated Ms. George for Vice-president and Ms. Bitter Smith provided the second to that motion. Ms. George accepted the nomination. John Mawhinney nominated Mr. Buschatzke as Secretary and Ms. Bitter Smith again provided the second to that motion. Mr. Buschatzke accepted the nomination. Both nominees were approved unanimously. Ms. George and Mr. Buschatzke will serve a two year term.

### **Approval of Minutes of September 20, 2006 Meeting**

Mr. Mawhinney requested that the word "possibly" be struck from the last sentence under section II., "Approval of Minutes of September 20, 2006 Meeting", which stated that the AWBA could "possibly" request separate funding through the Governor's Office.

The Authority approved the minutes of the December 20, 2006 meeting with the correction noted.

### **Water Banking Staff Activities**

Virginia O'Connell reviewed water deliveries and stated that both intrastate and interstate deliveries were on target, noting however, that it was still early in the year. She also reviewed the recovery schedule for developing Intentionally Created Unused Apportionment (ICUA) for the Metropolitan Water District of Southern California (Metropolitan). Recovery was slightly behind schedule, which was due to

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<sup>1</sup> Please note that these are not formal minutes but a summary of discussion and action of the meeting. Official minutes are prepared prior to the next Authority meeting and are approved at that meeting.

normal fluctuations in District operations. CAWCD does not anticipate any issues in the recovery schedule.

Kim Mitchell updated Authority members on staff discussions with the Office of Strategic Planning (OSPB), which were being held in response to Mr. Mawhinney's request to seek a \$ 1 million appropriation from the Legislature. She noted that Jim Apperson, Director of OSPB, requested a meeting with Chairman Guenther prior to the AWBA pursuing a separate line item for the next fiscal year. Ms. Bitter Smith inquired if Ms. Mason had been informed of the request because of her involvement at the Legislature. Chairman Guenther commented he would meet with Mr. Apperson and invited Mr. Mawhinney to attend the discussions as well.

Ms. Mitchell noted that staff was in the process of drafting the 2006 Annual Report and Ten Year Plan. She outlined the reporting requirements and listed the following topics of discussion: shortage-sharing efforts, 7- basin states discussions, new legislation concerning Indian firming and recognition of the \$13.5 million appropriation from the Legislature, water storage agreements with the Gila River Indian Community, new AWBA reporting requirements for interstate banking, and the letter agreement between Metropolitan, CAWCD, and the AWBA for creating ICUA. Ms Mitchell welcomed any additional suggestions from Authority members. Mr. Henley requested that comments be forwarded to Ms. Mitchell via email.

Ms. Mitchell informed the Authority that staff submitted a water storage application to ADWR for the Southern Avra Valley Storage and Recovery Project (SAVSARP) located in the Tucson AMA. The facility is permitted for 60,000 acre-feet per year and is expected to begin operating in January 2008. Staff will begin negotiations for a water storage agreement this year.

Larry Dozier (CAWCD) briefed the Authority on the Yuma Desalination Plant testing operations, which began mid-March. He noted that there were approximately 300-350 people in attendance from various organizations. Ms. Bitter Smith noted the media was also present and could provide national recognition. Objectives of the pilot project included testing of the new polymer equipment installed for removing sludge and testing for water quality. The facility is expected to process 3,000 acre-feet of water over a 90-day period. Mr. Dozier commented that even though this was not a large quantity of water, it was sufficient for testing purposes. Mr. Dozier noted the plant used to be the largest in the world, but he believed Spain now had that honor.

Chuck Cullom (CAWCD) provided an update on recovery planning efforts. He noted that he had numerous meetings with various stakeholders since the last Bank meeting and that they had offered useful recommendations. Mr. Cullom stated he would be providing an update at the next CAGR committee meeting scheduled for April 19 and that a draft plan would be presented at CAWCD's May Board meeting. He also planned to provide an update at the next AWBA meeting in June. As a final note, he re-iterated that CAWCD did not anticipate any issues in meeting the 16k acre-feet of credits scheduled for recovery in the Pinal AMA this year.

### **Web Page Preview**

Ms. Mitchell provided a preview of the new webpage and described the organization of its contents through the new dropdown menus. She noted that the new site is not available to the public at this time and that the new domain "azwaterbank.com" would be registered next month. Mr. Mawhinney requested that staff provide a description of the AWBA's responsibilities and objectives on the homepage written in laymen's terms.

### **Interstate Water Banking**

Chairman Guenther provided a brief overview of the AWBA's activities concerning interstate banking and noted that much progress has been made to date toward the goal of 1.25 million acre-feet of long-term storage credits. To accomplish this, through mutual agreement, loans were made available to Nevada from the \$100 million in the Resource account, received from Nevada in 2005. Mr. Henley noted that staff from AWBA and CAWCD had met recently with the Southern Nevada Water Authority (SNWA) to discuss different scenarios for future storage and loan repayment options, including a risk assessment for each. Mr. Henley provided the Authority a table from the State Treasurers Office (STO) that identified the interest earnings that would have accrued on the \$100 million had it not been loaned to Nevada and that this information would be provided on a quarterly basis. He commented that staff would be having additional discussions with the SNWA on this matter. In response to Mr. Mawhinney's inquiry, Mr. Henley stated that approximately \$62 million had been loaned to Nevada to date. Mr. Mawhinney questioned why the AWBA had not stored more water on Nevada's behalf. Mr. Henley responded that the AWBA had amended its original delivery schedule in the middle of 2006 to include additional deliveries for interstate purposes. He commented further that the AWBA had used all available capacity and that Arizona had used its full allocation of Colorado River water that year. Mr. Henley pointed out that the two new water storage agreements on today's agenda would provide additional capacity to the AWBA. Mr. Mawhinney requested that information regarding interstate storage and expenditures be made available on the AWBA website.

### **Arizona Water Settlements Act Firming Efforts**

Mr. Henley informed the Authority that staff has had several meetings with the Bureau of Reclamation to negotiate an agreement that describes the method for meeting the State's Indian settlement firming obligation. He reminded the Authority that in addition to meeting the State's firming responsibilities; the state is also required to provide \$3 million in assistance to the Federal government under Section 306 of the Arizona Water Settlements Act for the purpose of meeting its firming obligation. This assistance could be a monetary contribution, long-term storage credits, in-kind services, or any combination thereof. At this time, the focus was on creating credits rather than providing a monetary contribution. Authority members cautioned that the meaning of the word "assistance" not be lost and that the agreement acknowledge that assistance provided by the AWBA should be in addition to or in combination with firming efforts made by the Federal government. Mr. Henley anticipated presenting a draft agreement at the AWBA June meeting. Staff will also continue its negotiations with the Gila River Indian Community (GRIC)



for a separate agreement that describes the method of firming for this portion of the State's Indian settlement obligation.

### **West Maricopa Combine Draft Water Storage Agreement**

Ms. Mitchell discussed staff negotiations with West Maricopa Combine, Inc. (WMC), a wholly owned subsidiary of Global Water Management, LLC, for a water storage agreement at the WMC managed underground storage facility and introduced Leo Commandeur as their representative. She noted the current draft water storage agreement now included a rate schedule, which was not included in the draft provided at the December AWBA meeting. Ms. Mitchell commented that operations had commenced at the facility, however there were some problems with initial recharge. Operators at the WMC facility were working to resolve the issue. Staff recommended approving the water storage agreement recognizing that storage would not be recommended unless these problems were resolved. The Authority members had concerns with sections 7.3 and 13.3 of the draft agreement, noting ambiguity, and recommended these be revised for clarification. In addition, Mr. Buschatzke inquired how the storage fees listed compared with other facilities and requested documentation on how they were derived. Mr. Henley commented that the fees over time were similar to those for interstate banking and noted that WMC recognized the fees were somewhat higher in comparison and were aware that the AWBA would prioritize its annual storage plans based on least expensive costs. Fees at this facility would be within reason when additional storage capacity was needed. Mr. Henley noted that the WMC permit required additional monitoring such as aerial photography, which was not a requirement for constructed facilities. Mr. Mawhinney, had concerns regarding the potential for lost water and who was responsible for these calculations. Ms. Mitchell responded that the agreement requires that the AWBA be reimbursed for any credits lost due to operational errors, i.e. water leaving the terminus of the facility. Mr. Henley noted the WMC agreement also requires the facility operator to cease operations if streamflow is expected to enter the facility. He added that losses due to evaporation are not expected to be any greater than those at other facilities. John Bodenchuk (ADWR Recharge Program Manager) concurred and noted that ADWR is the entity responsible for the final determination of the quantity of water stored and credits issued. The Authority members requested that the agreement be revised based on the day's discussions and that they have an opportunity to review documentation regarding cost estimates before taking action on the agreement. Mr. Commandeur noted that his organization is committed to operating a successful recharge facility and commented that he was willing to address any concerns the Authority may have.

### **Harquahala Valley Irrigation District Draft Water Storage Agreement**

Ms. Mitchell introduced Bill Baker, the attorney representing the Harquahala Valley Irrigation District (HVID), and noted that Mr. Baker had presented the draft water storage agreement to his Board, where it was approved. Staff subsequently filed a water storage permit for the HVID groundwater savings facility (GSF), which is permitted to store 50k acre-feet per year. Ms. Mitchell commented that the language in this agreement, including recovery provisions, is consistent with other AMA GSFs. She also stated that the in lieu recipients were required to pay a \$2.50 per acre-foot fee. Ms. George noted that for both agreements, once the recovery costs are

known, it should become a factor in determining where AWBA storage will occur. Mr. Mawhinney commented that an Irrigation Non-expansion Area (INA) by definition does not have sufficient groundwater to pump and questioned why the AWBA would store water if it could not be recovered. Chairman Guenther noted that an INA prevented the expansion of irrigation acres, but that it still allowed for the mining of groundwater. Mr. Baker pointed out that HVID had petitioned to become an INA strictly to receive CAP water, not because of groundwater issues, and that without this designation they would not have been able to do so. He noted further that HVID has an agreement with the power plant that prevents them from overdrafting groundwater and requires them to obtain a CAP contract. Mr. Mawhinney commented that if the depth to groundwater increases, recovery costs could become too expensive. Some areas within the Harquahala Valley have a high depth to groundwater. Mr. Henley responded that these areas were further from the location of the GSF and questioned if there was a need to recognize the security of recovery of credits in the AMAs as well. Mr. Henley commented that if there was a significant change in groundwater levels, the AWBA could choose not to store at this facility through its Annual Plan of Operation. Mr. Mawhinney questioned how the Authority would know if groundwater levels were changing. Mr. Bodenchuk responded that this information could be retrieved from the annual reports filed by the district and rightholders. Mr. Buschatzke noted that the GSF was in a good geographic location because recovered water could be delivered for any M&I need down channel. In addition, it is one of few places where water can be transported into the AMA from the outside. He commented that there are others interested in transporting water as well and the AWBA could potentially partner with these entities. Ms. Bitter Smith made a motion to approve. Mr. Buschatzke provided the second to this motion. The motion was approved with Mr. Mawhinney expressing opposition.

#### **Amend 2007 Plan of Operation**

Ms. O'Connell noted that there would be no amendment presented because there was no additional water available to the AWBA for storage at this time. The Bureau had reduced CAWCD's allocation by 30k acre-feet since December 2006. Additional deliveries would result in the mining of Lake Pleasant. She commented that an amendment could potentially be presented later in the year if water became available. Mr. Mawhinney asked if anyone looked at long-term water availability. Mr. Dozier commented that CAWCD would begin work on updating its forecast shortly.

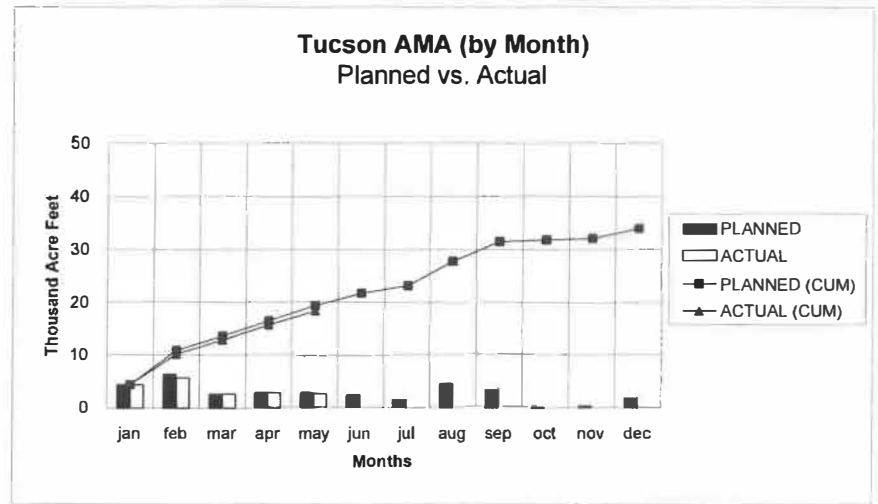
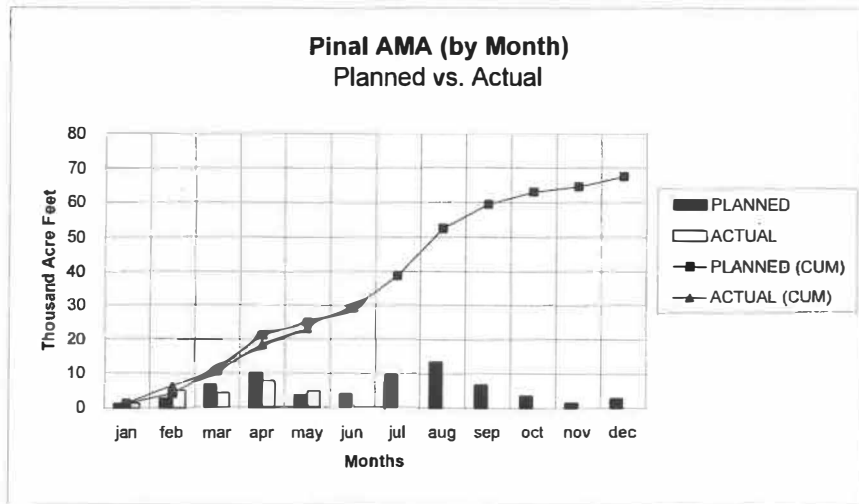
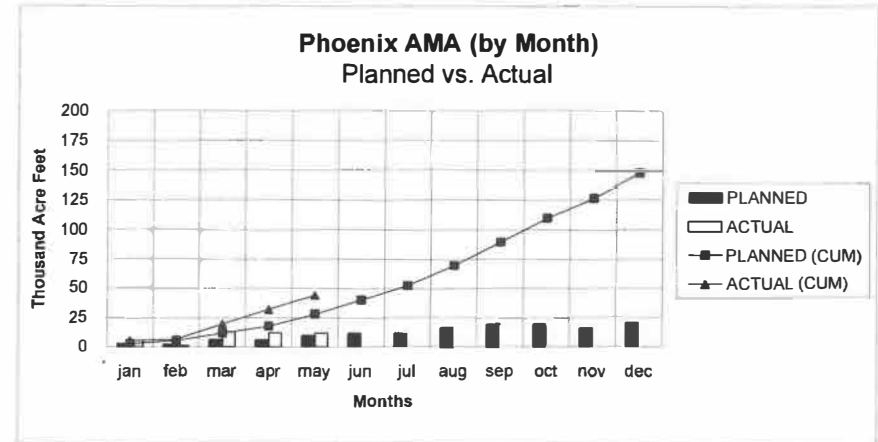
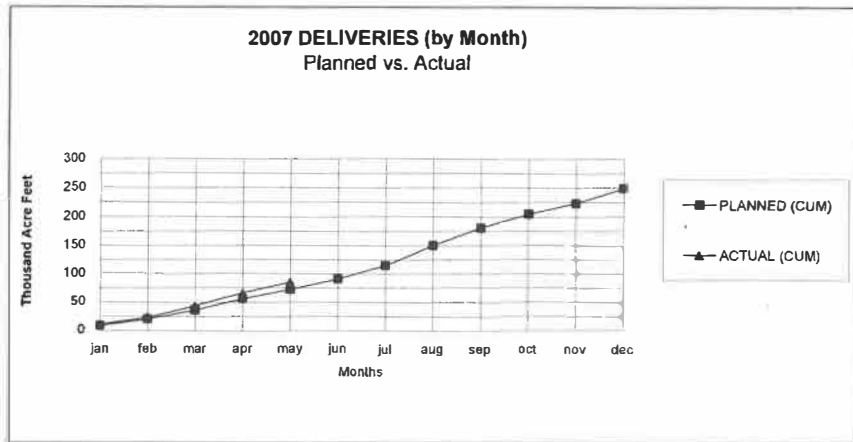
#### **Call to the Public**

Several of the attendees requested a copy of the draft WMC agreement noting that the copy in the public handout was incorrect.

Questions and comments made by the public are included in the above discussion.

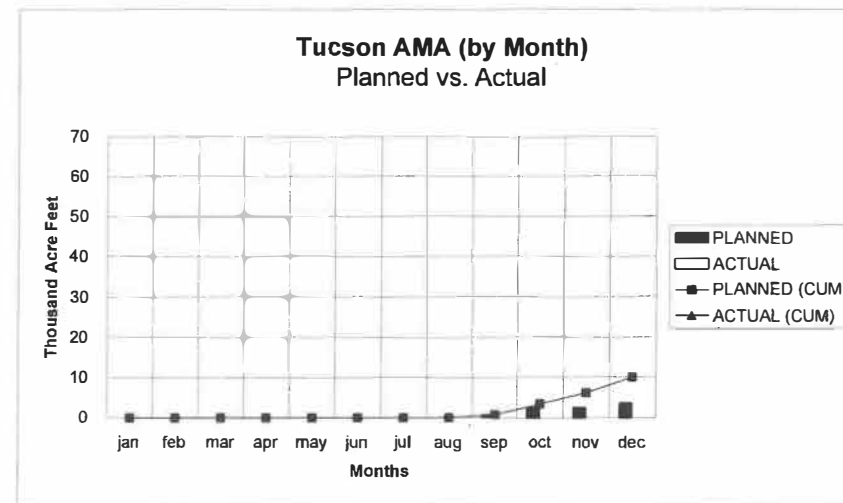
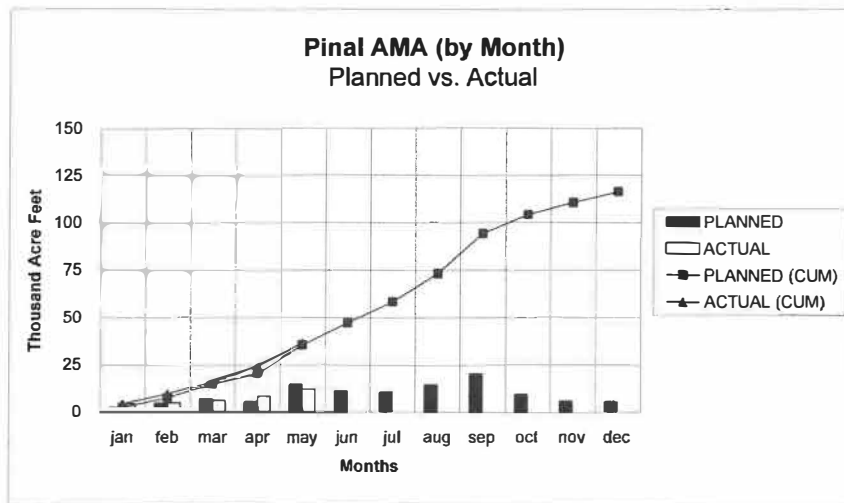
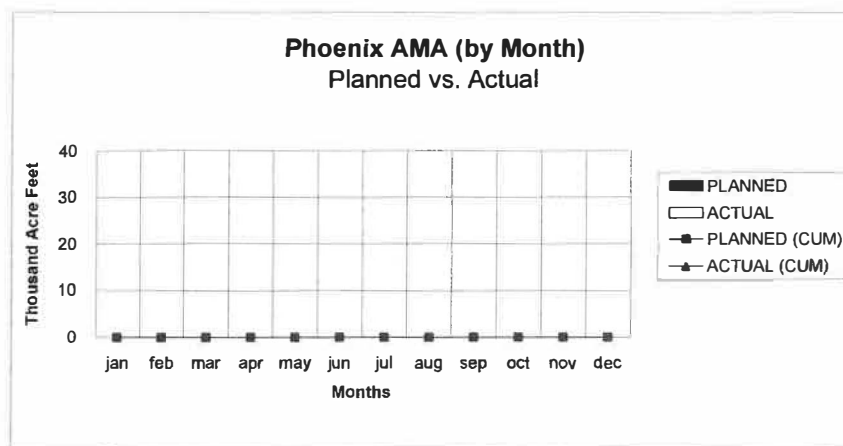
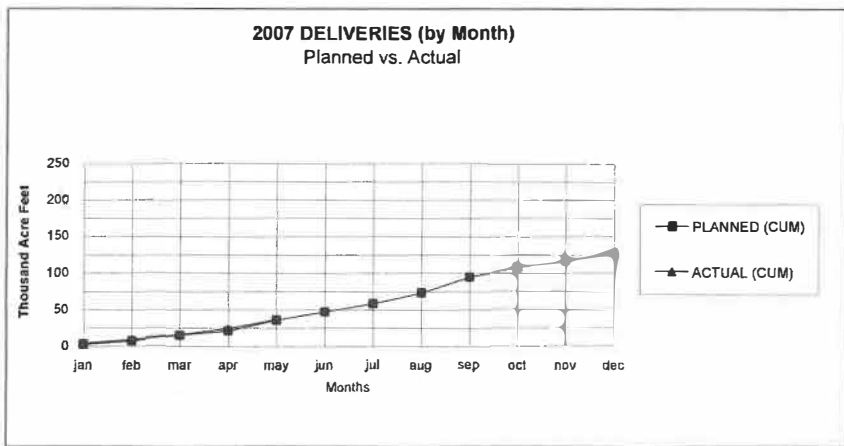
The meeting concluded at 12:15 p.m.

## 2007 Plan of Operation INTRASTATE



# 2007 Plan of Operation

## INTERSTATE



Actual deliveries updated Plan of Operation	13-Jun-07 1-Jan-07	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	total
<b>Phoenix AMA</b>														
<b>Intrastate</b>														
GRUSP		0	0	0	0	0	0	0	0	0	0	0	0	0
AGUA FRIA		0	0	0	0	0	0	0	0	0	0	0	0	0
HIEROGLYPHIC MTNS		0	0	0	0	0	0	0	0	0	1,755	2,600	2,600	6,955
TONOPAH DESERT		5,561	1,353	12,878	12,261	12,050	0	0	0	0	0	0	0	44,103
CHCID		3,175	2,398	6,275	6,000	10,000	12,000	12,000	12,000	12,000	13,000	10,000	12,000	110,848
NMIDD		0	0	50	50	50	100	75	75	50	83	0	0	533
QCID		0	0	0	0	0	0	0	0	0	0	0	0	0
SRP		0	0	0	0	0	0	0	1,343	2,285	2,285	1,142	1,142	8,197
GRIIDD		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	3,986	5,781	3,090	0	2,626	15,483
Subtotal		5,561	1,353	12,878	12,261	12,050	0	0	0	0	0	0	0	44,103
Total to date		5,561	6,914	19,792	32,053	44,103	44,103	44,103	44,103	44,103	44,103	44,103	44,103	44,103
Projected total to date		3,175	5,573	11,898	17,948	27,998	40,098	52,173	69,577	89,693	109,906	126,348	147,416	147,416
<b>Interstate</b>														
GRUSP		0	0	0	0	0	0	0	0	0	0	0	0	0
AGUA FRIA		0	0	0	0	0	0	0	0	0	0	0	0	0
HIEROGLYPHIC MTNS		0	0	0	0	0	0	0	0	0	0	0	0	0
TONOPAH DESERT		0	0	0	0	0	0	0	0	0	0	0	0	0
CHCID		0	0	0	0	0	0	0	0	0	0	0	0	0
NMIDD		0	0	0	0	0	0	0	0	0	0	0	0	0
QCID		0	0	0	0	0	0	0	0	0	0	0	0	0
SRP		0	0	0	0	0	0	0	0	0	0	0	0	0
TID		0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal		0	0	0	0	0	0	0	0	0	0	0	0	0
Total to date		0	0	0	0	0	0	0	0	0	0	0	0	0
Projected total to date		0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Combined</b>														
Subtotal		5,561	1,353	12,878	12,261	12,050	0	0	0	0	0	0	0	44,103
Total to date		5,561	6,914	19,792	32,053	44,103	44,103	44,103	44,103	44,103	44,103	44,103	44,103	44,103
Projected total to date		3,175	5,573	11,898	17,948	27,998	40,098	52,173	69,577	89,693	109,906	126,348	147,416	147,416

Actual deliveries updated		13-Jun-07												total
Plan of Operation		1-Jan-07												
		jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	
<b>Pinal AMA</b>														
Intrastate	CAIDD	0	0	1,771	4,621	1,608	0	0	0	0	0	0	0	8,000
		0	0	1,000	5,000	1,000	1,000	4,000	2,000	2,500	1,000	1,000	1,500	20,000
MSIDD		520	1,530	2,560	3,160	3,130	0	0	0	0	0	0	0	10,900
		520	1,030	1,560	2,070	2,590	3,130	3,110	2,590	1,560	1,040	590	210	20,000
HIDD		853	3,482	0	0	0	0	0	0	0	0	0	0	4,335
		800	1,900	4,200	3,300	0	0	2,750	7,050	0	0	0	0	20,000
GRIIDD		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	1,964	2,847	1,522	0	1,293	7,626
Subtotal		1,373	5,012	4,331	7,781	4,738	0	0	0	0	0	0	0	23,235
Total to date		1,373	6,385	10,716	18,497	23,235	23,235	23,235	23,235	23,235	23,235	23,235	23,235	23,235
Projected total to date		1,320	4,250	11,010	21,380	24,970	29,100	38,960	50,600	54,660	56,700	58,290	60,000	67,626
<b>Interstate</b>														
CAIDD		0	0	0	0	4,993	0	0	0	0	0	0	0	4,993
		0	0	3,000	1,000	5,000	5,000	7,000	8,000	7,000	2,000	500	500	39,000
MSIDD		4,648	5,041	6,155	8,584	7,542	0	0	0	0	0	0	0	31,970
		2,690	4,860	4,150	4,480	9,850	5,940	3,420	4,660	7,790	4,960	3,780	3,510	60,090
HIDD		40	80	0	0	0	0	0	0	0	0	0	0	120
		40	80	180	300	400	550	525	2,335	6,050	3,130	2,085	1,825	17,500
Subtotal		4,688	5,121	6,155	8,584	12,535	0	0	0	0	0	0	0	37,083
Total to date		4,688	9,809	15,964	24,548	37,083	37,083	37,083	37,083	37,083	37,083	37,083	37,083	37,083
Projected total to date		2,730	7,670	15,000	20,780	36,030	47,520	58,465	73,460	94,300	104,390	110,755	116,590	116,590
<b>Combined</b>														
Subtotal		6,061	10,133	10,486	16,365	17,273	0	0	0	0	0	0	0	60,318
Total to date		6,061	16,194	26,680	43,045	60,318	60,318	60,318	60,318	60,318	60,318	60,318	60,318	60,318
Projected total to date		4,050	11,920	26,010	42,160	61,000	76,620	97,425	124,060	148,960	161,090	169,045	176,590	184,216
<b>Tucson AMA</b>														
Intrastate	AVRA VALLEY	885	706	665	560	383	0	0	0	0	0	0	0	3,199
		650	650	650	650	650	150	650	650	650	300	300	650	6,600
CAVSARP		2,000	2,000	2,000	2,250	2,250	0	0	0	0	0	0	0	10,500
		2,000	2,000	2,000	2,250	2,250	2,250	250	250	0	0	1,250	0	14,500
PIMA MINE		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
LOWER SANTA CRUZ		1,621	3,025	0	0	0	0	0	0	0	0	0	0	4,646
		1,829	3,800	0	0	0	0	512	3,800	3,000	0	0	0	12,941
KAI-RED ROCK		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal		4,506	5,731	2,665	2,810	2,633	0	0	0	0	0	0	0	18,345
Total to date		4,506	10,237	12,902	15,712	18,345	18,345	18,345	18,345	18,345	18,345	18,345	18,345	18,345
Projected total to date		4,479	10,929	13,579	16,479	19,379	21,779	23,191	27,891	31,541	31,841	32,141	34,041	34,041
<b>Interstate</b>														
AVRA VALLEY		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
CAVSARP		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
PIMA MINE		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
LOWER SANTA CRUZ		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	800	2,700	2,700	3,800	10,000
KAI-RED ROCK		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal		0	0	0	0	0	0	0	0	0	0	0	0	0
Total to date		0	0	0	0	0	0	0	0	0	0	0	0	0
Projected total to date		0	0	0	0	0	0	0	0	800	3,500	6,200	10,000	10,000
<b>Combined</b>														
Subtotal		4,506	5,731	2,665	2,810	2,633	0	0	0	0	0	0	0	18,345
Total to date		4,506	10,237	12,902	15,712	18,345	18,345	18,345	18,345	18,345	18,345	18,345	18,345	18,345
Projected total to date		4,479	10,929	13,579	16,479	19,379	21,779	23,191	27,891	32,341	35,341	38,341	44,041	44,041
<b>TOTAL</b>														
Subtotal		16,128	17,217	26,029	31,436	31,956	0	0	0	0	0	0	0	122,766
Total to date		16,128	33,345	59,374	90,810	122,766	122,766	122,766	122,766	122,766	122,766	122,766	122,766	122,766
Projected total to date		11,704	28,422	51,487	76,587	108,377	138,497	172,789	221,528	270,994	306,337	333,734	368,047	375,673

**CENTRAL ARIZONA PROJECT  
ANNUAL RECOVERY PLAN & USE**

for  
**Calendar Year 2007**

(values in acre-feet)

Revised 6/13/07

**Pinal County Irrigation Districts Recovery Schedule:**

MONTH	MSIDD		CAIDD		HIDD		TOTAL	
	SCH	Used	SCH	Used	SCH	Used	SCH	Used
Jan	0	424	0	0	0	0	0	424
Feb	1,100	181	0	0	0	0	1,100	181
Mar	1,500	892	756	756	0	0	2,256	1,648
Apr	1,300	0	756	756	0	0	2,056	756
May	1,100	131	756	1,187	0	0	1,856	1,318
Jun	500	0	756	0	0	0	1,256	0
Jul	0	0	756	0	0	0	756	0
Aug	600	0	756	0	0	0	1,356	0
Sep	1,200	0	756	0	0	0	1,956	0
Oct	1,300	0	756	0	0	0	2,056	0
Nov	600	0	756	0	0	0	1,356	0
Dec	800	0	0	0	0	0	800	0
<b>Total</b>	<b>10,000</b>	<b>1,628</b>	<b>6,804</b>	<b>2,699</b>	<b>0</b>	<b>0</b>	<b>16,804</b>	<b>4,327</b>

\* Recovered water will be posted as Ag Settlement Pool water on all monthly delivery reports.

**Total MWD credits for recovery ( 5% cut to aquifer + 4,909 af losses)= 80,909**

**Remaining credits to be recovered = 76,582**



**ARIZONA DEPARTMENT OF WATER RESOURCES**  
**WATER STORAGE PERMIT**

PERMIT NO. 73-211276.0200

STATE OF ARIZONA       )ss.  
                                   )  
 COUNTY OF MARICOPA   )

This is to certify that I have examined Application No. 73-211276.0000 for a Water Storage Permit to store water in a storage facility, and I have determined that the application meets the requirements of Arizona Revised Statutes Title 45, Chapter 3.1, Article 3 for a Water Storage Permit. The Department hereby grants authority to the City of Tucson/Tucson Water to store water, subject to the following limitations and conditions:

**Permit Limitations**

Permittee:

Arizona Water Banking Authority  
 3550 N. Central Avenue  
 Phoenix, Arizona 85012



Storage Facility Name: Southern Avra Valley Storage and Recovery Project

Storage Facility Permit Number: No. 71-211276

Active Management Area: Tucson AMA

Sub-basin: Avra Valley

Water To Be Stored: Central Arizona Project (CAP) water

Legal Basis for Acquiring Water To Be Stored: Contract with Central Arizona Water Conservation District EX-146-05 dated 7/14/05, including any renewals thereof, and any other contracts under which Permittee acquires the right to receive CAP water.

Maximum Permitted Storage: 60,000 acre feet per annum

Effective Date: January 1, 2008

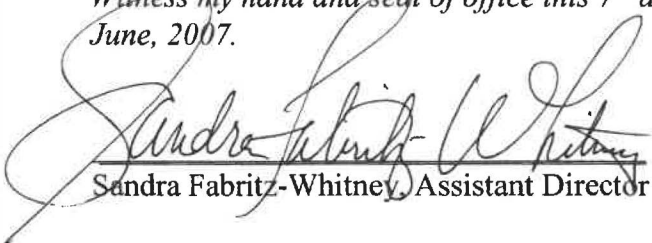
Expiration Date: Expiration of Underground Storage Facility No. 71-211276

**Permit Conditions**

1. The quantity of water stored shall be reported to the Recharge Coordinator, Water Management Division, Arizona Department of Water Resources, 3550 North Central Ave., Phoenix, Arizona, 85012 in the form of annual data reports. The annual report shall be submitted no later than March 31 following the end of each completed annual reporting period. The first annual reporting period shall be from the effective date of this permit through December 31, 2008. Subsequent annual reporting periods shall be January 1 through December 31.
2. The Permittee shall continue to meet the requirements of A.R.S. § 45-831.01 during water storage.
3. Recovery of stored water is prohibited unless a recovery well permit is obtained pursuant to A.R.S. § 45-834.01.

4. Stored water shall not be recovered in excess of the amount allowed by Title 45, Chapter 3.1, Article 4, Arizona Revised Statutes.
5. The Permittee shall report all assignments of long-term storage credits accrued pursuant to this permit to the Recharge Coordinator, Water Management Division, Arizona Department of Water Resources in accordance with A.R.S. § 45-854.01.
6. Water may be stored pursuant to this permit only at Southern Avra Valley Storage and Recovery Project Constructed Underground Storage Facility Permit No. 71-211276, and any amendments thereto.
7. If the Permittee's contract(s) with Central Arizona Water Conservation District are renewed, or if the Permittee acquires any additional contract for the receipt of Central Arizona Project water, the Permittee shall submit a copy of the renewed or additional contract to the Recharge Coordinator, Water Management Division, Arizona Department of Water Resources prior to storing water received under the renewed or additional contract pursuant to this permit.
8. The Director may withhold long-term storage credits or prohibit recovery on an annual basis for water stored under this permit during any period of time in which permittee's storage activities are not in compliance with all state and federal water quality standards if the Director determines, after consultation with the director of environmental quality, that the violation has had or will have a significant adverse effect on aquifer water quality.

*Witness my hand and seal of office this 7<sup>th</sup> day of  
June, 2007.*

  
Sandra Fabritz-Whitney, Assistant Director

# Director's Shortage Sharing Workgroup Recommendation

October 24, 2006  
(Revised)  
Final

In 2005, the Director established the Arizona Shortage Sharing Stakeholder Workgroup (Workgroup). The Workgroup had two specific goals:

1. Develop a recommendation to the Director regarding the appropriate volume and implementation strategy for implementing future Colorado River shortages in the lower basin.
2. Develop a recommendation to the Director for allocating shortages between the Central Arizona Project (CAP) and equivalent priority mainstream Colorado River water users.

The Workgroup effort supports a larger Bureau of Reclamation (Reclamation) Environmental Impact Analysis process to develop lower basin shortage criteria and conjunctive management strategies for the operation of Lakes Powell and Mead. Reclamation currently plans to issue a Record of Decision in December 2007.

## Shortage Volume and Implementation Strategy

The Workgroup developed the following recommendation for implementing lower basin shortages:

1. At or below Lake Mead elevation 1075 feet, 400,000 acre-feet shortage
2. Below elevation 1050 feet, 500,000 acre-feet shortage
3. Below elevation 1025 to 1000 feet, 600,000 acre-feet shortage
4. Below elevation 1000 feet, reconsultation with Reclamation and the states

The recommendation assumes that the first step will be to reduce water deliveries to Mexico and the next step will be to calculate shortage sharing with Nevada. Hydrologic conditions that necessitate reductions in excess of 600,000 acre-feet will trigger a Secretarial consultation process to determine how to implement additional reductions in the least damaging and most equitable manner possible. That consultation process has not been defined, but should be developed with input from the basin states.

The Director forwarded this recommendation to the other Colorado River basin states, and it has been incorporated into the *Seven Basin States' Preliminary Proposal Regarding Colorado River Interim Operations, February 3, 2006*, with one modification, that reconsultation would be triggered at elevation 1025.

## Shortage Allocation Between CAP and Fourth Priority Mainstream Entitlements

The Workgroup analyzed methods for allocating shortage reductions between CAP and fourth priority mainstream water users. The CAP has an established priority system for implementing shortage reductions. Excess water supplies are reduced first. If additional reductions are needed, non-Indian agricultural priority water supplies are reduced until gone, and finally municipal/industrial/Indian uses are reduced according to the formula in the Gila River Indian Community Water Rights Settlement

## Director's Shortage Sharing Workgroup Recommendation

October 24, 2006

(Revised)

Final

Agreement. There is no equivalent shortage implementation system for fourth priority mainstream water users. Fourth priority mainstream uses (agricultural and municipal) will be reduced proportionately as soon as Arizona Colorado River shortage reductions are implemented. Future estimated shortage reductions to mainstream users including Lake Havasu and Bullhead City run as high as 30 percent. Under Reclamation's current interpretation for Article V accounting, there is no locally available, non-Colorado River water supply to offset these shortage reductions.

The Director requested that a small technical subgroup of Workgroup stakeholders begin working with the Department to develop a shortage allocation recommendation. The technical group established principals to guide a shortage allocation strategy:

1. Define a method for the Secretary to utilize when allocating shortages to Arizona users
2. Beneficiaries bear the costs of shortage protections
3. Shortages must be allocated in a reasonable manner based on existing contracts and agreements
4. To the extent possible, treat similar users groups equitably

The Mohave County Water Authority (MCWA) presented a recommendation for proportional shortage reductions to fourth priority mainstream water supplies based on entitlement. Shortage reductions to mainstream domestic water supplies could be mitigated by the Arizona Water Banking Authority. The Department completed additional technical analysis of the proposal, which was endorsed by the technical group. The technical group recommends that Arizona fourth priority shortages be allocated as follows:

1. Determine shortage amount and allocation to Mexico. Allocate the remaining shortage amount first to Nevada, and the remainder to Arizona. The enclosed spreadsheet first allocates 16.7% of the shortage to Mexico. The remaining shortage amount is then allocated 7.4% to Nevada and the remainder to Arizona.
2. Determine the estimated priority 1-3 consumptive use amount based on the last non-shortage year use. Determine the **Total Water Supply Available for Fourth Priority Diversion**. Subtract the priority 1-3 consumptive use amount from the Arizona Colorado River water allocation of 2,800,000 acre-feet.
3. Determine the **Fourth Priority Mainstream Shortage Percentage**. Divide the fourth priority mainstream diversion entitlement, 164,652 acre-feet, by the Total Water Supply Available for Fourth Priority Diversion (#2).
4. Determine the total water supply **Available for Fourth Priority Diversion after Shortage Reduction**. Subtract the Arizona portion of lower basin shortage from Total Water Supply Available for Fourth Priority Diversion amount (#2).
5. Determine the **Fourth Priority Mainstream Shortage Reduced Water Supply**. Multiply the Available for Fourth Priority Diversion after Shortage Reduction (#4) water supply by the Fourth Priority Mainstream Shortage Percentage (#3).
6. Determine the remaining, CAP water supply. The Total Water Supply Available for Fourth Priority Diversion amount is based on estimated priority 1-3 water use. Actual use may be higher than estimated, and could result in an inadvertent CAP overrun. The CAP has agreed to be responsible for payback, under the Inadvertent Overrun and Payback Policy, up to the amount of the water user's entitlement. Actual use may be lower than estimated, resulting in an increased water supply for CAP.

Director's Shortage Sharing Workgroup Recommendation  
October 24, 2006  
(Revised)  
Final

Since there is a fixed maximum diversion entitlement for fourth priority mainstream water users, as noted in the *Contract Between the United States and the Central Arizona Water Conservation District for Delivery of Water and Repayment of Costs of the Central Arizona Project, December 1, 1988*, the mainstream fourth priority water supply has been calculated based on that entitlement. After determining the mainstream fourth priority water supply, the remaining water supply is available for diversion by the CAP, including any available return flow from mainstream water uses.

The shortage allocation recommendation includes the opportunity for mainstream municipal water users to firm 100 percent of their individual municipal/industrial entitlements. Based on updated population projections (2003) the AWBA would need between 450,000 and 525,000 acre-feet of credits for fourth priority mainstream municipal and industrial water users. As AWBA credits are used and replaced, the new credits will be earmarked in the name of the entity that replaced the credits, thereby creating a revolving fund. The AWBA has not foreclosed the opportunity for any fourth priority mainstream entitlement holder to contract with the AWBA for firming.

2007 -1

**ARIZONA WATER BANKING AUTHORITY**  
(FY 2007 - July 2006 thru June 2007)

		<u>Actual</u>
<b>FY 2007 ADMINISTRATIVE BUDGET</b>	<b>\$669,599</b>	<b>\$476,455</b>
<hr/>		
<b>Administration Account Balance</b>		
<b>Projected End-of-Fy06</b>	<b>\$1,129,000</b>	<b>\$1,159,000</b>
<b>Projected End-of-Fy07</b>	<b>\$1,009,401</b>	<b>\$1,145,545</b>

ARIZONA WATER BANKING AUTHORITY

**FY 2007 ADMINISTRATIVE BUDGET**

**\$669,599**

**\$476,455**

**STAFFING**

	Total FTE	Cost	Actual Cost
Department of Water Resources Cost of Services		<b>\$533,549</b>	<b>\$384,246</b>
Personnel Services	3.5	\$253,349	\$168,591
Water Bank Manager			
Water Bank Technical Administrator			
Water Resources Specialist IV			
Attorney			
Employee Related Expenditures (at 33% of Personnel Services)		\$83,600	\$49,074
Indirect Cost (at 58.35% of Personnel Service & ERE)		\$196,600	\$166,581
Central Arizona Project Cost of Services		<b>\$10,000</b>	<b>\$10,000</b>
Personnel Services & ERE		\$10,000	\$10,000
Water System Engineer			
Customer Service Coordinator			
Hydrologist			
Administrative Support			
<b>Subtotal Staffing</b>		<b>\$543,549</b>	<b>\$394,246</b>

**OTHER COSTS**

Professional & Outside Services			<b>\$92,000</b>	<b>\$68,100</b>
Travel			<b>\$25,450</b>	<b>\$4,132</b>
Instate Travel			\$15,650	\$4,132
Out of State Travel			\$9,800	\$0
Other Operating Expenses			<b>\$5,600</b>	<b>\$2,500</b>
Standard per employee	3.5	\$600	\$2,100	\$1,500
Miscellaneous			\$3,500	\$1,000
Equipment			<b>\$3,000</b>	<b>\$7,477</b>
			\$3,000	\$7,477
<b>Subtotal Other Costs</b>			<b>\$126,050</b>	<b>\$82,209</b>

2008-1

**ARIZONA WATER BANKING AUTHORITY**  
(FY 2008 - July 2007 thru June 2008)

**FY 2008 ADMINISTRATIVE BUDGET** **\$659,600**

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**Administration Account Balance**

**Projected End-of-Fy07** **\$1,145,545**

**Projected End-of-Fy08** **\$1,035,945**





2008-3

ARIZONA WATER BANKING AUTHORITY

TRAVEL

		Meetings	\$/Meeting	Cost
<b>INSTATE TRAVEL</b>				
Authority Members				
	Tom Buschatzke	5	\$0	\$0
	Maureen George	5	\$250	\$1,250
	Herb Guenther	5	\$0	\$0
	John Mawhinney	5	\$120	\$600
	Gayle Burns	5	\$0	\$0
<b>Subtotal</b>				<b>\$1,850</b>
Authority Staff				
	Manager	5	\$0	\$0
		0	\$450	\$0
	Technical Administrators	10	\$0	\$0
		6	\$250	\$1,500
	Other Support	6	\$450	\$2,700
<b>Subtotal</b>				<b>\$4,200</b>
<b>Instate Total</b>				<b>\$6,050</b>
<b>OUT OF STATE TRAVEL</b>				
Authority Members		No out of state travel is anticipated for Authority Members		
Authority Staff				
	Manager	0	\$700	\$0
		0	\$900	\$0
	Technical Administrators	0	\$700	\$0
	Other Support	1	\$900	\$900
<b>Total Out of State</b>				<b>\$900</b>
<b>Total Travel</b>				<b>\$6,950</b>

2008-3 continued

OTHER OPERATING COSTS

		Cost
Miscellaneous		
	Postage	\$1,800
	Special copying	\$200
	Other	\$1,000
	Permits	<u>\$2,000</u>
		\$5,000
<b>Other Operating Cost</b>		<b>\$5,000</b>

EQUIPMENT

	Units	Unit Cost	Cost
			\$1,500
			<u>\$1,500</u>
Subtotal			<b>\$1,500</b>
<b>Total Equipment</b>			<b>\$1,500</b>

2008-3 continued

OTHER OPERATING COSTS

		Cost
Miscellaneous		
	Postage	\$1,800
	Special copying	\$200
	Other	\$1,000
	Permits	<u>\$2,000</u>
		\$5,000
<b>Other Operating Cost</b>		<b>\$5,000</b>

EQUIPMENT

	Units	Unit Cost	Cost
			\$1,500
			<u>\$1,500</u>
Subtotal			<b>\$1,500</b>
<b>Total Equipment</b>			<b>\$1,500</b>

**AGREEMENT BETWEEN  
THE ARIZONA WATER BANKING AUTHORITY  
AND WEST MARICOPA COMBINE, INC.  
PROVIDING FOR STORAGE OF CENTRAL ARIZONA PROJECT WATER  
AT A MANAGED UNDERGROUND STORAGE FACILITY**

**1. PARTIES:**

This Agreement is made and entered into the \_\_\_\_ day of \_\_\_\_\_, 2007, by and between the ARIZONA WATER BANKING AUTHORITY, hereinafter referred to as "AWBA," and, WEST MARICOPA COMBINE, INC., hereinafter referred to as "WEST MARICOPA COMBINE".

**2. RECITALS:**

- 2.1 The AWBA is an authority of the State of Arizona.
- 2.2 It is the policy of the State of Arizona to increase utilization of Arizona's Colorado River entitlement that would otherwise be unused in Arizona by delivering that water into the state through the Central Arizona Project for storage and future use for the purposes specified in A.R.S. § 45-2401.
- 2.3 The AWBA was created to implement this policy.
- 2.4 WEST MARICOPA COMBINE is a wholly owned subsidiary of GLOBAL WATER, INC. and is authorized to do business in the State of Arizona.
- 2.5 WEST MARICOPA COMBINE has obtained a managed underground storage facility permit from the Arizona Department of Water Resources to construct and operate a managed underground storage facility in the Phoenix Active Management Area.
- 2.6 The AWBA desires to store excess water obtained from the Central Arizona Water Conservation District at the WEST MARICOPA COMBINE managed underground storage facility, and WEST MARICOPA COMBINE desires to store that excess water at its facility.

NOW THEREFORE, in consideration of the foregoing, the payments to be paid by the AWBA, the covenants and agreements contained in this Agreement, and other good and valuable consideration, the AWBA and WEST MARICOPA COMBINE agree as follows:

3. **DEFINITIONS:**

- 3.1 ADWR: Arizona Department of Water Resources.
- 3.2 AWBA Water: Excess CAP water made available by CAWCD to the AWBA for underground storage, which water would not otherwise have been directly used in Arizona.
- 3.3 CAP Water: Water delivered through the CAP system.
- 3.4 Central Arizona Project or CAP: The water delivery works of the CAP including, but not limited to, the CAP canal, its turnout structures and associated measuring devices.
- 3.5 Central Arizona Water Conservation District or CAWCD: The multi-county water conservation district formed in accordance with Title 48, Chapter 22, Arizona Revised Statutes, to arrange for repayment of, and delivery of water from, the CAP.
- 3.6 Party or Parties: Either one or both of the parties to this Agreement.
- 3.7 Permit: The managed underground storage facility permit issued by the ADWR to WEST MARICOPA COMBINE for the construction and operation of WEST MARICOPA COMBINE Facility, currently Permit No.71-578112 or any subsequent managed underground storage facility permit issued by the ADWR to WEST MARICOPA COMBINE for the construction and operation of a managed underground storage facility on or about the same location of the managed underground storage facility currently operated pursuant to Permit No.71-578112.
- 3.8 WEST MARICOPA COMBINE Facility: The managed underground storage facility constructed and operated by WEST MARICOPA COMBINE pursuant to a Permit issued by the ADWR and located in the Hassayampa River streambed extending from the SW ¼ of Section 36, Township 4 North, Range 5 West, GSRB&M to the SE ¼ of Section 14, Township 3 North, Range 5 West, GSRB&M. The facility includes a pipeline located in the S ½ of Section 36, Township 4 North, Range 5 West, GSRB&M, extending from a CAP Canal turnout to the streambed portion of the facility. The facility is located in the Phoenix Active Management Area.

3.9 WEST MARICOPA COMBINE Turnout: The point at which CAP water is diverted from the CAP canal for delivery to the WEST MARICOPA COMBINE Facility.

4. **SCOPE OF SERVICES:**

This Agreement is limited to WEST MARICOPA COMBINE taking delivery of AWBA Water at the WEST MARICOPA COMBINE Turnout and the storage of that water underground in the WEST MARICOPA COMBINE Facility for the benefit of the AWBA. The AWBA shall compensate WEST MARICOPA COMBINE for these services only as specified by this Agreement.

5. **TERM OF AGREEMENT:**

This Agreement shall become effective when executed by both Parties and shall remain in effect for 5 years unless the Parties agree in writing to extend the term or unless it is sooner terminated or canceled in accordance with the terms of this Agreement.

6. **CONDITIONS RELATING TO WATER STORAGE:**

6.1 All storage of AWBA Water at the WEST MARICOPA COMBINE Facility shall be consistent with Arizona law.

6.2 The AWBA has obtained a water storage permit from the ADWR, permit number 73-578112.0003, authorizing the AWBA to store water at the WEST MARICOPA COMBINE Facility. The AWBA shall be responsible for all fees, annual reports, and compliance requirements associated with its water storage permit.

6.3 WEST MARICOPA COMBINE storage of AWBA Water at the WEST MARICOPA COMBINE Facility shall at all times comply with the water storage permit number 73-578112.003. WEST MARICOPA COMBINE shall be responsible for all fees and annual reports associated with the Permit. If, at any time, the Permit is revoked or expires and no effective managed underground storage facility permit allows the operation of the WEST MARICOPA COMBINE Facility, the AWBA may terminate this Agreement.

**7. PROCEDURE FOR SCHEDULING WATER STORAGE:**

- 7.1 As soon as practicable after the date of execution of this Agreement, the AWBA shall submit to WEST MARICOPA COMBINE a proposed schedule indicating the amount of water storage the AWBA desires during the year in which the Agreement is executed. Thereafter, on or before October 1 of each year during the term of this Agreement, the AWBA shall submit to WEST MARICOPA COMBINE a proposed schedule indicating the amount of water storage the AWBA desires during the following year.
- 7.2 As soon as practicable after receipt of the AWBA's proposed schedule following the execution of this Agreement, WEST MARICOPA COMBINE shall return to the AWBA the schedule, as adjusted by and acceptable to WEST MARICOPA COMBINE, indicating the amount of water storage that is available to the AWBA for the year in which this Agreement is executed. Thereafter, on or before November 1 of each year during the term of this Agreement, WEST MARICOPA COMBINE shall return to the AWBA the schedule, as adjusted by and acceptable to WEST MARICOPA COMBINE, indicating the amount of water storage that is available to the AWBA for the following year. Upon final approval by WEST MARICOPA COMBINE and by the AWBA, the schedule shall constitute the maximum amount of AWBA Water to be delivered to the WEST MARICOPA COMBINE Turnout and stored at the WEST MARICOPA COMBINE Facility during each month of that year, subject to modification pursuant to Subsection 7.3.
- 7.3 The AWBA may increase or decrease its monthly schedule, however, it shall use its best efforts to schedule water in accordance with its Annual Plan of Operation. Unless otherwise agreed by the Parties, the AWBA shall request the proposed modifications to its schedule not less than three days before the desired change is to become effective.
- 7.3.1 WEST MARICOPA COMBINE shall accept the AWBA's request to decrease its schedule in accordance with this Section and shall revise the schedule to reflect the decrease.



- 7.3.2 WEST MARICOPA COMBINE shall review the AWBA's request to increase its schedule, and shall either: (1) approve the requested increase, (2) deny the requested increase, in which case the schedule amount shall remain unchanged, or (3) make any necessary reductions to the request and notify AWBA of the amount of the increase that is agreeable to WEST MARICOPA COMBINE. WEST MARICOPA COMBINE will notify the AWBA of WEST MARICOPA COMBINE's decision concerning the AWBA's request to increase its schedule within three days of receipt of such request. If an increase in the scheduled amount is made pursuant to this Section, WEST MARICOPA COMBINE shall revise the schedule accordingly to reflect the increase and provide the AWBA with a copy of the revised schedule.
- 7.3.3 Any verbal requests and approvals for increases or decreases pursuant to this Section shall be verified in writing within 10 days of the request or approval. Verification may be accomplished by electronic mail.
- 7.4 The AWBA shall authorize WEST MARICOPA COMBINE to order AWBA Water for delivery to the WEST MARICOPA COMBINE Turnout directly from CAWCD in accordance with CAWCD water ordering procedures. AWBA Water ordered by WEST MARICOPA COMBINE shall not exceed the amounts provided for in the monthly schedule approved by the AWBA in accordance with Subsection 7.2 or any modification of the schedule made in accordance with Subsection 7.3. The AWBA shall not be required to pay WEST MARICOPA COMBINE any storage fees for any CAP water for which WEST MARICOPA COMBINE accepts delivery at the WEST MARICOPA COMBINE Turnout in excess of the amounts provided for in the approved or modified schedule, and WEST MARICOPA COMBINE shall be solely responsible to CAWCD for any applicable fees or costs that may be associated with the delivery of that water.
- 7.5 Unless otherwise provided by this Agreement, WEST MARICOPA COMBINE shall accept receipt of AWBA Water scheduled in accordance with this Section at the WEST MARICOPA COMBINE Turnout and store the AWBA Water in the WEST MARICOPA COMBINE Facility.

**8. WEST MARICOPA COMBINE AS MANAGED UNDERGROUND STORAGE FACILITY OPERATOR**

- 8.1 As the operator of the WEST MARICOPA COMBINE Facility, WEST MARICOPA COMBINE shall have the sole discretion in determining whether a curtailment or stoppage of water deliveries to the facility are necessary to maintain the operational integrity of the facility, and WEST MARICOPA COMBINE shall assume no liability to the AWBA for such curtailment or stoppage.
- 8.2 WEST MARICOPA COMBINE shall retain sole responsibility and authority for decisions relating to operation and maintenance practices at the WEST MARICOPA COMBINE facility, including scheduling and selection of periods when maintenance will be done.
- 8.3 WEST MARICOPA COMBINE shall monitor data from the Morristown stream gage on the Hassyampa River daily, using the USGS internet site. When surface flows of 500 cubic feet per second or greater are recorded, adequate monitoring or daily site visits shall be conducted immediately upstream of the recharge facility to determine if surface water flow is entering the recharge facility.
  - 8.3.1 When surface flows of 500 cubic feet per second or greater are recorded immediately upstream of the recharge facility, recharge activities shall terminate. Recharge activities may resume once surface water flow has ceased immediately upstream of the recharge facility. The date and time interval in which the recharge facility is non-operational shall be recorded and reported to ADWR.
  - 8.3.2 Recharge activities shall be stopped when natural runoff from the watershed surrounding the recharge facility enters into the Hassyampa River channel and the defined managed recharge facility.
- 8.4 WEST MARICOPA COMBINE shall monitor the terminus of the recharge facility.
  - 8.4.1 If surface water flow reaches within a quarter mile of the downstream boundary of the recharge facility, the discharge volume shall be decreased to ensure the flows do not leave the facility.

8.4.2 If surface water flow reaches beyond the end of the permitted facility as defined by Appendix A, discharge into the facility shall be terminated to ensure that flows do not leave the facility.

8.5 Whenever practicable, WEST MARICOPA COMBINE shall inform the AWBA ninety (90) days in advance of any matter that may affect the ability of WEST MARICOPA COMBINE to store AWBA Water that was scheduled for storage in accordance with Section 7.

**9. WATER STORAGE FEES**

9.1 WEST MARICOPA COMBINE shall bill the AWBA and the AWBA shall pay WEST MARICOPA COMBINE a water storage fee listed in the table in Section 9.2 for each acre-foot of AWBA Water that WEST MARICOPA COMBINE releases into the WEST MARICOPA COMBINE Facility on behalf of the AWBA.

9.2 The following are the water storage fees WEST MARICOPA COMBINE shall charge AWBA:

2007 = \$29.00 acre foot  
2008 = \$28.00 acre foot  
2009 = \$27.00 acre foot  
2010 = \$26.00 acre foot  
2011 = \$25.00 acre foot  
2011+ = \$25.00 acre foot

9.3 Upon mutual agreement of WEST MARICOPA COMBINE and AWBA the water charge fees may be adjusted.

**10. BILLING AND PAYMENT**

10.1 WEST MARICOPA COMBINE shall submit bills for water storage to the AWBA on or before the twenty-fifth (25th) day of each month immediately following the month during which WEST MARICOPA COMBINE has stored AWBA Water.

10.2 AWBA shall pay the bills submitted by WEST MARICOPA COMBINE on or before the thirtieth (30th) day following the date on which the bill was

postmarked. Bills that are not paid by this date shall be delinquent and thereafter accrue an interest charge at the prime rate of interest as established by the Bank of America on the last business day of the month following the month for which the bill was submitted, plus 3% per annum, prorated by days of the unpaid principal, computed daily until payment is received. Any payment shall first be applied to any interest charges owed, and then to any bills owed for services rendered.

10.3 In the event any portion of any bill is disputed, the disputed amount shall be paid when due, but may be accompanied by a written statement indicating the basis for any dispute. If the dispute is found to be valid following (1) either agreement of the parties, or (2) determination by a third party independent arbitrator pursuant to Section 19, the AWBA shall be refunded any overpayment plus interest, accrued at the rate set forth in Subsection 10.2, prorated by days from the date payment was credited to the AWBA to the date the refund check is mailed.

10.4 In the event any delinquent amount is not paid by the AWBA within thirty (30) days after receipt by AWBA of written notice from WEST MARICOPA COMBINE of the delinquency, WEST MARICOPA COMBINE shall have the right without liability of any kind, to refuse to transport and store AWBA Water so long as the said amount remains unpaid. Nothing herein shall limit the rights of WEST MARICOPA COMBINE to use any other available legal remedy to effect collection of said amounts.

## **11. WATER MEASUREMENT AND ACCOUNTING**

11.1 WEST MARICOPA COMBINE shall measure all AWBA Water at the location where WEST MARICOPA COMBINE accepts delivery of the AWBA Water into its facility. WEST MARICOPA COMBINE shall maintain daily records of the amount of AWBA Water measured, and WEST MARICOPA COMBINE shall maintain the daily records of water measurements for at least three (3) years. WEST MARICOPA COMBINE shall make the daily records available to the AWBA for inspection upon the AWBA's request.

- 11.2 WEST MARICOPA COMBINE shall prepare a monthly water accounting report based upon the daily records required under Subsection 11.1. The report shall include the amount of AWBA Water measured.
- 11.3 WEST MARICOPA COMBINE shall measure AWBA Water using water measurement devices and methods that comply with the rules adopted by the Arizona Department of Water Resources at A.A.C. R12-15-901 *et seq* and that are acceptable to CAWCD.
- 11.4 WEST MARICOPA COMBINE shall not submit a bill for water storage fees to the AWBA, and the AWBA shall not be required to pay water storage fees to WEST MARICOPA COMBINE, for any AWBA Water that is not measured or accounted for as prescribed by this Section.

**12. WATER LOSSES**

If the AWBA does not accrue Long-Term Storage Credits pursuant to Subsections 8.3 or 8.4, then WEST MARICOPA COMBINE shall be solely responsible to CAWCD for any applicable fees or costs associated with any AWBA Water that was delivered to the WEST MARICOPA COMBINE Facility that did not generate such credits for the AWBA.

**13. ASSURANCES FOR THE RECOVERY OF STORED WATER**

13.1 WEST MARICOPA COMBINE agrees that the AWBA or its designated representative may enter onto lands owned or controlled by WEST MARICOPA COMBINE in the vicinity of the WEST MARICOPA COMBINE Facility for the purposes of recovering water stored pursuant to this Agreement and transporting the recovered water to the CAP canal. The Parties agree that another agreement shall be entered into between the Parties or between WEST MARICOPA COMBINE and the AWBA's designated representative that shall specify the terms and conditions by which the water stored pursuant to this Agreement shall be recovered and delivered to the CAP canal. The liability provisions of Section 16 of this agreement apply to these actions.

- 13.2 If no such subsequent agreement can be reached between the Parties, the AWBA or its designated representative may nonetheless exercise the authority granted it by WEST MARICOPA COMBINE in Subsection 13.1 and may enter onto lands owned or controlled by WEST MARICOPA COMBINE as part of the WEST MARICOPA COMBINE Facility for the purposes of recovering water stored pursuant to this Agreement and transporting the recovered water to the CAP canal. In the event no subsequent agreement is reached and the AWBA or its designated representative enters onto land owned or controlled by WEST MARICOPA COMBINE in the vicinity of the WEST MARICOPA COMBINE Facility, the amount of reasonable compensation payable to WEST MARICOPA COMBINE, if any, for such entry shall be determined by arbitration, as provided by Section 19 of this Agreement, and shall be paid to WEST MARICOPA COMBINE by the AWBA or its designated representative.
- 13.3 Notwithstanding the consent granted to the AWBA under this Section, AWBA and WEST MARICOPA COMBINE agree that WEST MARICOPA COMBINE is not hereby granting any priority claim or right to recover any water stored at the WEST MARICOPA COMBINE Facility in comparison to water that may be stored at the facility by any other entities, including WEST MARICOPA COMBINE, or any of its affiliates.
- 13.4 WEST MARICOPA COMBINE and the AWBA agree that WEST MARICOPA COMBINE will not grant to any other storer any priority claim or right to recover any water stored at the WEST MARICOPA COMBINE Facility.
- 13.5 WEST MARICOPA COMBINE does not hereby agree to construct, permit, operate, maintain or otherwise be responsible for in any way, any recovery wells, infrastructure, or construction equipment that may be needed or used by AWBA to conduct recovery activities on lands owned or controlled by WEST MARICOPA COMBINE, pursuant to the liability provisions in Section 16. The obligations set forth in this Section shall survive the expiration or termination of this Agreement and remain in full force and effect.

**14. AMOUNT OF WATER STORAGE**

The AWBA shall consider storage of AWBA Water at the WEST MARICOPA COMBINE Facility each year as a part of its annual planning process, undertaken pursuant to A.R.S. § 45-2456. The AWBA has no obligation to store any minimum amount of water in any year or during the term of this Agreement at the WEST MARICOPA COMBINE Facility.

**15. QUALITY OF WATER**

Nothing in this Agreement shall be construed so as to require that WEST MARICOPA COMBINE receive or store water from any source when WEST MARICOPA COMBINE reasonably determines that such receipt or storage is likely to result in a violation of then existing federal, state or local laws or regulations regarding water quality.

**16. LIABILITY**

16.1 Each party shall assume liability for its own negligence and any damages that result from that negligent action or inaction.

16.2 The obligations set forth in this section shall survive expiration or termination of this Agreement and remain in full force and effect.

**17. DEFAULT**

In the event of a default by a Party, within thirty (30) days following notice of such default by a non-defaulting Party, the defaulting Party shall remedy such default either by advancing the necessary funds and/or rendering the necessary performance. Such notice shall specify the existence and nature of the default. If such default is not remedied with the time specified, the non-defaulting Party may terminate this Agreement effective 24 hours following written notice, without prejudice to its rights and remedies established pursuant to this Agreement.

**18. UNCONTROLLABLE FORCES**

Neither Party shall be considered to be in default in the performance of any of its obligations hereunder (other than obligations of the AWBA to make payment for service hereunder) when a failure of performance shall be due to uncontrollable forces. The term “uncontrollable forces” shall mean any cause beyond the control of the Party unable to perform such obligation, including, but not limited to, failure of or threat of failure of facilities, flood except as provided in Section 8, earthquake, storm, fire, lightning and other natural catastrophes, epidemic, war, riot, civil disturbance or disobedience, strike, labor dispute, labor or material shortage, sabotage, government priorities and restraint by court order or public authority, and action or inaction by, or failure to obtain the necessary authorizations or approvals from, any governmental agency or authority, which by exercise of due diligence such Party could not reasonably have been expected to avoid and which by exercise of due diligence it shall be unable to overcome. Nothing contained herein shall be construed to require either Party to settle any strike or labor dispute in which it is involved.

**19. RESOLUTION OF DISPUTES**

19.1 A Party having a dispute under this Agreement that cannot be resolved by the Parties may submit the dispute to arbitration. Arbitration shall be subject to the following provisions:

19.1.1 Arbitration shall be binding only upon the consent of the Parties.

19.1.2 A Party wishing to submit a dispute to arbitration shall provide thirty (30) days written notice to the other Party of its intent to pursue arbitration and shall name one arbitrator at that time. Within fifteen (15) days of receiving this notice, the other Party to the dispute shall name one arbitrator and give written notice to the other Party of its selection. The two selected arbitrators shall, within five (5) days of selection of the second arbitrator, jointly select a third arbitrator.

19.1.3 Within thirty (30) days from the selection of the third arbitrator, the arbitrators shall hold a hearing. Within thirty (30) days from



the conclusion of the hearing the arbitrators shall render a decision on the dispute.

19.1.4 Arbitration shall be subject to the Arizona Arbitration Act, Arizona Revised Statutes, Title 12, Chapter 9, Article 1. In the event of a conflict between this Agreement and the Act, the provisions of this Agreement shall prevail.

19.2 A Party that is dissatisfied with the results of non-binding arbitration may pursue any other legal or equitable remedy not expressly provided for in this Agreement and available under Arizona law to resolve the dispute.

**20. ACTION PENDING RESOLUTION OR DISPUTES**

Pending the resolution of a dispute pursuant to Section 19, each Party shall proceed, to the extent legally permissible, in a manner consistent with this Agreement, and shall make payments required in accordance with the applicable provisions of this Agreement. Amounts paid by a Party pursuant to Section 19 during the pendency of such dispute shall be subject to refund and adjustment upon a final resolution of any dispute involving an amount due. Upon such final resolution, the owed amounts shall be remitted in accordance with the remittance procedures/arrangements contained in Section 10.

**21. TERMINATION OF AGREEMENT**

This Agreement may be terminated under the following circumstances:

- 21.1 If the intergovernmental agreement among the AWBA, ADWR, and CAWCD regarding delivery of the AWBA Water is terminated, the AWBA may terminate this Agreement, which termination shall be effective fifteen (15) days after mailing written notice of termination to WEST MARICOPA COMBINE; or
- 21.2 If the AWBA determines in its sole discretion that WEST MARICOPA COMBINE is operating the WEST MARICOPA COMBINE Facility in a manner that is likely to jeopardize the ability of the AWBA to earn Long-Term Storage Credits for the AWBA Water delivered to the WEST MARICOPA COMBINE facility for the benefit of the AWBA, the AWBA may, following it having given WEST MARICOPA COMBINE written notice of not less than 30 days and an

opportunity to cure, terminate this Agreement, which termination shall be effective ten (10) days after mailing written notice of termination to WEST MARICOPA COMBINE; or

21.3 In the manner and for any reason otherwise provided herein.

**22. NOTICES**

Any notice, demand, or request authorized or required by this Agreement shall be in writing and shall be deemed to have been duly given if mailed, first class postage prepaid, or delivered to the Parties at the following addresses:

If to the AWBA:

Manager  
Arizona Water Banking Authority  
3550 North Central Ave.  
Phoenix, Arizona 85012

If to WEST MARICOPA COMBINE, INC.:

Rita P. Maguire  
Maguire & Pearce, PLLC  
2999 North 44<sup>th</sup> Street, Suite 630  
Phoenix, AZ 85018

The designation of the address or addressee for the giving of notice may be changed by notice given as provided in this Section.

**23. ASSIGNMENTS LIMITED – SUCCESSORS AND ASSIGNS OBLIGATED**

The provisions of this Agreement shall apply to and bind the successors and assigns of the Parties.

**24. NO THIRD PARTY BENEFICIARIES**

This Agreement is solely for the benefit of the Parties and does not create, nor shall it be construed to create, rights in any third party unless expressly provided herein. No third party may enforce the terms and conditions of this Agreement.

**25. WAIVER**

The waiver by either Party of any breach of any term, covenant or condition of this Agreement shall not be deemed a waiver of any other term, covenant or condition, or any subsequent breach of the same or any other term, covenant or condition of this Agreement.

**26. CANCELLATION**

This Agreement is subject to cancellation in accordance with the provisions of A.R.S. § 38-511.

**27. CONSISTENCY WITH OTHER AGREEMENTS**

This Agreement is intended to be consistent with the intergovernmental agreement entered into among the AWBA, the ADWR and CAWCD; provided, if the Parties cannot agree within 90 days after written notice from either Party to the other Party to amend or supplement this Agreement pursuant to this Section, either Party may terminate this Agreement.

**28. ENTIRE AGREEMENT**

The terms, covenants and conditions of this Agreement constitute the entire agreement between the Parties, and no understandings or obligations not expressly set forth in this Agreement shall be binding upon them. This Agreement may not be modified or amended in any manner unless in writing and signed by the Parties.

**DRAFT 6/18/07**

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement effective the day and year first above-written.

**ARIZONA WATER BANKING AUTHORITY**

ATTEST: \_\_\_\_\_ BY: \_\_\_\_\_  
Secretary Chairman

**WEST MARICOPA COMBINE, INC.**

ATTEST: \_\_\_\_\_ BY: \_\_\_\_\_  
Title: \_\_\_\_\_ Title: \_\_\_\_\_

### Long-term Storage Credits Accrued on Behalf of Nevada

	Year	Credits <sup>1</sup> Earned	Cumulative Credits	Percent of Goal Achieved	Cost of Storage	Received <sup>2</sup> from SNWA	Funds Available
				(1,250,000 AF)			
<b>Actual</b>	2002	61,098	61,098	5%	\$ 8,617,393	\$ 5,000,000	\$ -
	2003	50,000	111,098	9%	\$ -	\$ 3,723,945	\$ 106,552 <sup>3</sup>
	2004	14,162	125,260	10%	\$ 2,899,647	\$ 1,330,000	\$ -
	2005	111,805	237,065	19%	\$ 25,723,366	\$ 100,000,000	\$ 72,813,539 <sup>4</sup>
	2006	175,569	412,634	33%	\$ 35,386,306	\$ -	\$ 37,427,233
<b>Estimated</b>	2007						
	1 <sup>st</sup> Quarter	15,249	427,883	34%	\$ 2,922,656	\$ -	\$ 34,504,577
	<b>Sub-total</b>				<b>\$ 75,549,368</b>		
	2 <sup>nd</sup> Quarter	33,911	461,794	37%	\$ 6,499,616	\$ -	\$ 28,004,961
	3 <sup>rd</sup> Quarter	45,677	507,470	41%	\$ 8,793,120	\$ -	\$ 19,211,841
	4 <sup>th</sup> Quarter	30,230	537,701	43%	\$ 6,235,760	\$ -	\$ 12,976,081
	<b>Total</b>				<b>\$ 97,077,864</b>	<b>\$ 110,053,945</b>	<b>\$ 12,976,081</b>

<sup>1</sup> 2003 credits transferred from CAWCD pursuant to Amended Agreement for Interstate Water Banking. Credits for 2007 are estimated.

<sup>2</sup> In 2009, SNWA will begin making ten annual payments of \$23,000,000.

<sup>3</sup> Includes expenditure of \$3,617,393 from monies collected in 2003 as part of 2002 reconciliation.

<sup>4</sup> Includes expenditure of \$1,463,095 from monies collected in 2005 as part of 2004 reconciliation.

**Arizona State Treasurer's Office  
Calculation of Interest Earnings for Water  
Banking Authority  
Reinvestment Method  
For Period of June 27, 2005 thru April 30, 2007**

Month	Invested Amount	Pool 3 Monthly Yield	Days in Month	Days in Year	Earnings for Period
June 2005	26,000,000.00	3.1172%	4	365	8,881.88
July 2005	26,008,881.88	3.2014%	31	365	70,718.08
August 2005	26,079,599.96	3.4005%	31	365	75,320.39
September 2005	26,154,920.35	3.5475%	30	365	76,261.30
October 2005	26,231,181.65	3.6669%	18	365	47,434.74
October 2005	100,231,181.65	3.6669%	13	365	130,903.85
November 2005	100,409,520.24	3.8494%	30	365	317,684.72
December 2005	100,727,204.96	3.9975%	31	365	341,982.66
January 2006	101,069,187.62	4.1374%	31	365	355,152.69
February 2006	101,424,340.31	4.4543%	28	365	346,566.69
March 2006	101,770,907.00	4.3770%	31	365	378,328.47
April 2006	102,149,235.47	4.5526%	30	365	382,228.45
May 2006	102,531,463.92	4.6378%	31	365	403,866.66
June 2006	102,935,330.58	4.8013%	30	365	406,211.02
July 2006	103,341,541.60	4.9615%	31	365	435,468.52
August 2006	103,777,010.11	5.0202%	31	365	442,477.31
September 2006	104,219,487.42	5.0989%	30	365	436,771.02
October 2006	104,656,258.44	5.0423%	31	365	448,190.57
November 2006	105,104,449.01	5.1630%	30	365	446,017.21
December 2006	105,550,466.22	5.1279%	31	365	459,693.68
January 2007	106,010,159.90	5.1560%	31	365	464,225.75
February 2007	106,474,385.65	5.3508%	28	365	437,047.89
March 2007	106,911,433.54	5.1622%	31	365	468,735.46
April 2007	107,380,169.00	5.2452%	30	365	462,929.15
<b>Total Earnings</b>					<b>7,843,098.15</b>

On June 27, 2005, Water Banking Authority received monies in the amount of \$26,000,000.00. (See Doc. # D05W0810). On October 19, 2005, they received \$74,000,000.00 (See Doc. #D06W0214). AWBA wants to know the earnings from the day the money was received to the current date had it been invested with the State Treasurer.

**FIRMING AGREEMENT**

1. PREAMBLE: THIS FIRMING AGREEMENT, hereinafter referred to as “Agreement” is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2007, pursuant to the Act of June 17, 1902, 32 Stat. 388, and acts amendatory thereof and supplementary thereto, including, but not limited to the Colorado River Basin Project Act of September 30, 1968 (82 Stat. 885) (P.L. 90-537), as amended, the Arizona Water Settlements Act of December 10, 2004, (118 Stat. 3478) (P.L. 108-451), Arizona Revised Statutes, Title 45 Section 2423, as amended, and Arizona Revised Statutes, Title 45, Section 2491, between the UNITED STATES OF AMERICA, acting through the Secretary of the Interior, hereinafter referred to as the “Secretary,” and the STATE OF ARIZONA, acting through the Arizona Water Banking Authority, hereinafter referred to as the “Authority;”

WITNESSETH, THAT:

2. EXPLANATORY RECITALS:

2.1 WHEREAS, Paragraph 9 of the Arizona Water Settlements Agreement, effective September 20, 2006, (also known as the Master Agreement) among the United States of America, the State of Arizona, and the Central Arizona Water Conservation District, provided for the reallocation of 197,500 acre feet per year of CAP NIA Priority Water to Indian tribes, subject to certain conditions, and further provided that the reallocated water retain the priority of CAP NIA Priority Water.

2.2 WHEREAS, CAP NIA Priority Water is more vulnerable to reductions in times of shortage as compared to CAP Indian Priority Water or CAP M&I Priority Water; and

2.3 WHEREAS, Section 105 of P.L. 108-451 requires the Secretary and the State of Arizona to develop a firming program to ensure that 60,648 acre feet of CAP

NIA Priority Water shall, for a period of 100 years, be delivered during Water Shortages in the same manner as CAP M&I Priority Water; and

2.4 WHEREAS, Section 105(b)(1) of P.L. 108-451 requires the Secretary to firm 28,200 acre feet of CAP NIA Priority Water reallocated to the Tohono O’odham Nation and to firm 8,724 acre feet of CAP NIA Priority Water to be reallocated in the future to other Arizona Indian tribes; and

2.5 WHEREAS, Section 105(b)(2) of P.L. 108-451 requires the State of Arizona to firm 15,000 acre feet of CAP NIA Priority Water reallocated to the Gila River Indian Community and to firm 8,724 acre feet of CAP NIA Priority Water to be reallocated in the future to other Arizona Indian tribes, and further requires the State of Arizona to assist the Secretary in the Tohono O’odham Nation firming requirement; and

2.6 WHEREAS Section 207 of P.L. 108-451 requires the Secretary and the State of Arizona to enter into an agreement to carry out the obligation of the State of Arizona under Section 105(b)(2)(A) of P.L. 108-451 as a condition precedent to the enforceability of Title II of P.L. 108-451 and the Amended and Restated Gila River Indian Community Water Rights Settlement Agreement (“GRIC Settlement Agreement”); and

2.7 WHEREAS, Section 207 of the Gila River Indian Community Water Rights Settlement Act of 2004, Title II of P.L. 108-451 requires as a condition precedent to the enforceability of Title II of P.L. 108-451 and the GRIC Settlement Agreement that the State of Arizona enact legislation to authorize the firming required by section 105 of P.L. 108-451; and

2.8 WHEREAS, Section 306 of the Southern Arizona Water Rights Settlement Amendments Act of 2004, Title III of P.L. 108-451, requires that the State of Arizona contribute \$3,000,000 toward the firming obligation identified in Section



105(b)(1)(A) of P.L. 108-451 either in the form of cash or in-kind goods and services in accordance with a schedule that is acceptable to the Secretary and the State; and

2.9 WHEREAS, Paragraph 8.23 of the GRIC Settlement Agreement confirms the State of Arizona's obligation to firm 15,000 acre feet per year of CAP NIA Priority Water to the equivalent of CAP M&I Priority Water for a period of 100 years after the Title II Enforceability Date; and

2.10 WHEREAS, Paragraph 5.10 of the Tohono O'odham Settlement Agreement dated May 5, 2006, confirms the obligation of the Secretary to firm 28,200 acre feet per year of CAP NIA Priority Water to the equivalent of CAP M&I Priority Water for a period of 100 years after the Title III Enforceability Date and confirms the requirement of the State of Arizona to provide assistance to the Secretary in firming that water; and

2.11 WHEREAS, in 2005, the Legislature of the State of Arizona enacted HB 2728 which created the Arizona Water Firming Program Study Commission ("Study Commission") and directed the Study Commission: (a) to study options for a water firming program to satisfy the State of Arizona's obligations under Section 105 of P.L. 108-451, (b) to identify appropriate mechanisms to firm water, (c) to study the existing powers and duties of the Authority and the general statutory authorities necessary to implement the firming program, and (d) to make recommendations regarding the appropriate statutory and regulatory provisions necessary to fully implement the water firming program; and

2.12 WHEREAS, the Study Commission met frequently in 2005 to perform technical studies and to discuss the issues related to Indian firming and the Study Commission then issued its Final Report to the Legislature on January 6, 2006, which recommended that the Arizona State Legislature empower the Authority to include a variety of programs to address Indian firming needs within its Annual Plan of Operation

and the 10-Year plan and identified the most feasible mechanism to satisfy the State's firming obligation and provide funding; and

2.13 WHEREAS, in 2006, the Arizona State Legislature enacted HB 2835, codified as amendments to Arizona Revised Statutes Title 45 Section 2423, which adopts the recommendations of the Study Commission and provides that the Authority shall be designated as the agent for the State of Arizona to carry out the obligations of the State under Section 105 of P.L. 108-451; and

2.14 WHEREAS, in 2006, the Arizona State Legislature enacted Arizona Revised Statutes Title 45 Section 2491 to provide statutory authority for the Authority to perform the measures necessary to satisfy the firming obligations; and

2.15 WHEREAS, in 2006 the State of Arizona enacted HB 2863 (Laws 2006, Chapter 344), which deposits \$13,500,000 from the General Fund into the Arizona Water Banking Fund in FY 2007 for the purposes of carrying out the firming obligations of the State beginning after the Enforceability Date of the P.L. 108-451.

NOW THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is agreed as follows:

3. DEFINITIONS:

3.1 "Arizona Water Banking Authority" or "Authority" means the State entity created by the Arizona legislature codified as A.R.S. §45-2401, *et seq*, and duly designated as the State of Arizona's agent for this agreement.

3.2 "Central Arizona Project" or "CAP" means the federal reclamation project authorized by the Colorado River Basin Project Act of 1968, 82 Stat. 885, as amended.

3.3 "CAP Indian Priority Water" means that CAP water having an Indian delivery priority.

3.4 "CAP M&I Priority Water" means that CAP water having municipal and industrial delivery priority.

3.5 “CAP NIA Priority Water” means that CAP water having non-Indian agricultural delivery priority.

3.6 “Delivery” means direct physical delivery of water, exchange of water, or delivery to a lessee.

3.7 “Title II Enforceability Date” means the date on which the Secretary publishes in the Federal Register a statement of findings as required by Section 207 of P.L. 108-451, as such section may be amended, providing full enforceability for the GRIC Settlement Agreement.

3.8 “Title III Enforceability Date” means the date on which the Secretary publishes in the Federal Register a statement of findings as required by Section 302 of P.L. 108-451, as such section may be amended, providing full enforceability for the Tohono O’odham Settlement Agreement dated May 5, 2006.

3.9 “Water Shortage” means available CAP water is insufficient to fully meet the demand of Arizona Indian Tribes and their lessees, if any, for that CAP NIA Priority Water reallocated to the tribes in accordance with P.L. 108-451.

4. EFFECTIVENESS AND TERMINATION: After execution by each of the respective parties, this Agreement shall become effective on January 1 of the next calendar year following the Title II Enforceability Date and shall terminate 100 years thereafter; provided, however, subsection 7.2(g) shall continue under its own provisions.

5. AUTHORITY’S RESPONSIBILITY FOR FIRING GRIC CAP WATER:

5.1 Subject to the provisions of subsection 5.2 below, the Authority shall, in each year of this Agreement in which there is a Water Shortage, firm 15,000 acre-feet of CAP NIA Priority Water reallocated to GRIC in accordance with P.L. 108-451, upon demand of GRIC. To satisfy this firming obligation the Authority shall cause to be delivered to GRIC up to 15,000 acre-feet of water in an amount determined as follows:

(a) Calculate the total water quantity that would have been available to GRIC as if it had received 15,000 acre-feet of CAP M&I Priority Water allocation with the remainder of its reallocated CAP water keeping its CAP NIA Priority Water status.

(b) Calculate the amount of CAP NIA Priority Water made available to GRIC that year.

(c) Subtract the amount calculated in (b) from the amount calculated in (a) to determine the amount of CAP water the Authority shall firm for GRIC.

5.2 In each year of this Agreement in which there is a Water Shortage, the Authority's obligation in subsection 5.1 above to firm CAP NIA Priority Water reallocated to GRIC under P.L. 108-451 shall commence at such time as GRIC entitlements to CAP Indian Priority Water and CAP M&I Priority Water for such year are fully exhausted. See Exhibit A, which is attached hereto and incorporated herein, for representative calculations.

5.3 The parties to this Agreement recognize that the Authority may enter into a separate contract with GRIC with respect to the conditions under which GRIC will demand and the Authority will cause to be delivered water firmed by subparagraph 5.1 of this Agreement, which contract may have the effect of modifying the extent to which GRIC will receive water otherwise available to GRIC under this Agreement, and further recognize that the Secretary need not be a party to such contract.

6. AUTHORITY'S RESPONSIBILITY FOR FIRING CAP WATER FOR OTHER TRIBES:

6.1 Subject to the provisions of subsection 6.2 below, the Authority shall, in each year of this Agreement in which there is a Water Shortage, firm 8,724 acre-feet of CAP NIA Priority Water to the extent such water has been reallocated to other Arizona Indian tribe(s) in accordance with Section 104(a)(1)(A)(iii) of P.L. 108-451, upon demand of such tribe(s). To satisfy this firming obligation, the Authority will cause to be

delivered to such tribe(s) a quantity of water up to that portion of the 8,724 acre-feet of water reallocated to that tribe in an amount calculated as follows:

(a) Calculate the total water quantity that would have been available to each tribe as if it had received a quantity of CAP M&I Priority Water equal to the amount of firmed water reallocated to that tribe, with the remainder of that tribe's reallocated CAP water keeping its CAP NIA Priority Water status.

(b) Calculate the amount of NIA Priority Water available to that tribe that year.

(c) Subtract the amount calculated in (b) from the amount calculated in (a) to determine the amount of CAP water the Authority shall firm for that tribe.

6.2 In each year of this Agreement in which there is a Water Shortage, the Authority's obligation in subsection 6.1 above to firm 8,724 acre-feet of NIA Priority Water reallocated to other Arizona Indian Tribes under P.L. 108-451 shall commence with respect to each such tribe at such time as the entitlements of each such tribe to Indian Priority Water and M&I Priority Water, if any, are fully exhausted. See, Exhibit A hereto, for representative calculations.

6.3 The parties to this Agreement recognize that the Authority may enter into a separate contract with such other Arizona Indian Tribe(s) with respect to the conditions under which such tribes will demand and the Authority will cause to be delivered water firmed by subparagraph 6.1 of this Agreement, which contract may have the effect of modifying the extent to which such other tribes will receive water otherwise available to such other tribes under this Agreement, and further recognize that the Secretary need not be a party to such contract.

7. AUTHORITY'S RESPONSIBILITY FOR ASSISTING THE SECRETARY IN FIRING CAP WATER FOR THE TOHONO O'ODHAM NATION:

7.1 The Authority shall contribute \$3,000,000.00 in either cash or in-kind goods and services, which may include water, to assist the Secretary in fulfilling the federal obligation to firm 28,200 acre-feet of NIA priority water reallocated to Tohono O’odham Nation as set forth in P.L. 108-451.

7.2 The schedule for the Authority’s \$3,000,000.00 contribution shall be as follows:

(a) Within the first year beginning January 1 after the Title III Enforceability Date, the Authority shall identify and reserve or create for the purpose of assisting the Secretary in fulfilling the federal obligation to firm the 28,200 acre-feet of NIA priority water reallocated to Tohono O’odham Nation sufficient Long Term Storage Credits (Credits) developed under Arizona state law to equal the number of Credits then in existence plus the number of Credits to be developed in that year by the Secretary that are available to be used to meet the federal firming obligation to the Tohono O’odham Nation, not to exceed a value of \$3,000,000.00 as calculated in accordance with subsection 7.2 (c) below.

(b) Within four years beginning January 1 after the Title III Enforceability Date, the Authority shall identify and reserve or create for the purpose of assisting the Secretary in fulfilling the federal obligation to firm the 28,200 acre-feet of NIA priority water reallocated to Tohono O’odham Nation, such additional Credits as will, together with the Credits identified and reserved or created in subsection 7.2(a) above, equal a total value of \$3,000,000.00 as calculated in accordance with subsection 7.2(c) below.

(c) The total number of Credits reserved or created in subsections 7.2(a) and 7.2(b) shall be based upon the sum of: (i) the least expensive rate available to the Federal government for purchasing CAP water for storage from the CAWCD for the year in which the Credits were reserved or created; and (ii) any applicable fee specific to the facility where those credits are stored that may apply to the Authority; and (iii) an

administrative fee equal to 5% of the cost of services which the Arizona Department of Water Resources provides to the Authority in any year in which Credits are transferred to the Authority's sub-account created under this Agreement.

(d) The Authority shall establish a separate sub-account to hold Credits reserved or created by the Authority under subsections 7.2(a) and 7.2(b). During the term of this Agreement, the Authority shall hold all such Credits in this sub-account until such time as the Secretary determines that a Water Shortage exists and that water deliveries are required to meet the federal firming obligation for the 28,200 af NIA priority water reallocated to the Tohono O'odham Nation.

(e) In any year of this Agreement in which the Secretary determines that a Water Shortage exists and that water deliveries are required to meet the federal firming obligation for the 28,200 af NIA priority water reallocated to the Tohono O'odham Nation, the Authority shall, upon request of the Secretary, direct Credits to be used to transfer water for that purpose, not to exceed the number of Credits necessary to fulfill the federal firming obligation for that year for the 28,200 af NIA priority water reallocated to the Tohono O'odham Nation, until such time as the Credits held in the sub-account created under subsection 7.2(e) are exhausted.

(f) The Authority and the Secretary agree that assistance to the Secretary under this paragraph does not include recovery and delivery of water.

(g) If after 100 years from the Title III Enforceability Date, any Credits remain in the sub-account created under subsection 7.2(d) above, such Credits shall revert to the Authority and the requirement to assist the Secretary in meeting the federal firming obligation to the Tohono O'odham Nation shall be deemed satisfied.

7.3 In no event shall the Authority have any obligation under this Article 7 prior to the Title III Enforceability Date.

8. MISCELLANEOUS PROVISIONS:

8.1 OFFICIALS NOT TO BENEFIT: No member of or Delegate to Congress, Resident Commissioner, or official of the Authority shall benefit from this Contract other than as a water user or landowner in the same manner as other water users or landowners.

8.2 CONTINGENT ON APPROPRIATION OR ALLOTMENT OF FUNDS: The expenditure or advance of any money or the performance of any obligation by the United States under this Contract shall be contingent upon the appropriation or allotment of funds. Absence of appropriation or allotment of funds shall not relieve the Authority from any obligations under this Contract. No liability shall accrue to the United States in case funds are not appropriated or allocated.

8.3 ASSIGNMENT LIMITED; SUCCESSORS AND ASSIGNS OBLIGATED: The provisions of this Contract shall apply to and bind the successors and assigns of the Parties hereto, but no assignment or transfer of this Contract or any right or interest therein by either Party shall be valid until approved in writing by the Contracting Officer.

8.4 PRIORITY OF CLAIMS OF THE UNITED STATES: Fiscal claims of the United States arising out of this Contract shall have priority over all others, secured or unsecured, to the extent provided by applicable law.

8.5 EFFECT OF WAIVER OF BREACH OF CONTRACT: All rights of action for breach of any of the provisions of this Contract are reserved to each Party as provided by appropriate law. The waiver of a breach of any of the provisions of this Contract shall not be deemed to be a waiver of any other provisions hereof, or any other subsequent breach of any provisions hereof.

8.6 REMEDIES UNDER CONTRACT NOT EXCLUSIVE: Nothing in this Contract shall be construed in any manner to abridge, limit, or deprive either Party of any means to enforce any remedy either at law or in equity for the breach of any provisions hereof, or any other remedy which it would otherwise have.

8.7 BOOKS, RECORDS AND REPORTS: Subject to applicable Federal laws and regulations, each Party to this contract shall have the right during office hours to examine and make copies of the other Party's books, records and reports and relating to matters covered by this Contract.

8.8 COMPLIANCE WITH CIVIL RIGHTS LAWS AND REGULATIONS: The Authority shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), Section 504 of the Rehabilitation Act of 1973 (Public Law 93-112, as amended), the Age Discrimination Act of 1975 (42 U.S.C. 6101, et seq.), Title III of the American's with Disabilities Act of 1990, and any other applicable civil rights laws, as well as with their respective implementing regulations and guidelines imposed by the U.S. Department of the Interior and/or Reclamation.

8.9 The parties shall comply with Chapter 9, Title 41, Arizona Revised Statutes, Arizona Executive Orders 75-5 and 99-4 and any other state laws relating to equal opportunity and non-discrimination.

8.10 There are no third-party beneficiaries, express or implied, to this Agreement.



8.11 This Agreement shall be subject to the provisions of A.R.S. § 38-511.

9. NOTICES: Any notice, demand, or request authorized or required by this Agreement shall be deemed to have been given, when mailed, postage prepaid, or delivered to the below addresses. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this section for other notices.

On behalf of the Authority, to both:

Regional Director  
Bureau of Reclamation  
Lower Colorado Region  
PO Box 61470  
Boulder City, NV 89006-1470

and

Area Manager  
Bureau of Reclamation  
Phoenix Area Office  
6150 West Thunderbird Road  
Glendale, Arizona 85306-4001

On behalf of the United States, to:

Chairperson  
Arizona Water Banking Authority  
3550 N. Central Ave.  
Phoenix, Arizona 85012

10. CONTRACT DRAFTING CONSIDERATIONS: Section 1 through 10 of this Contract have been drafted, negotiated, and reviewed by the Parties hereto, each of whom is sophisticated in the matters to which this Contract pertains, and no one party shall be considered to have drafted the stated sections.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, including Exhibit A, the day first above written.

Approved as to Legal Sufficiency

**THE UNITED STATES OF AMERICA**

By: \_\_\_\_\_  
Field Solicitor

By: \_\_\_\_\_  
[Person of Significance]

**ARIZONA WATER BANKING  
AUTHORITY**

By: \_\_\_\_\_  
Chairperson

Attest: \_\_\_\_\_  
Secretary

48-3715.02. Tax levy for water storage

(Rpld. 1/2/17)

A. Until January 1, 1997, the following applies:

1. On or before August 19, 1991, August 17, 1992, August 16, 1993, August 15, 1994 and August 21, 1995 the district board shall fix the amount to be raised by direct taxation in the respective tax year for the purpose of carrying out section 48-3713, subsection B, paragraphs 7 and 8 and shall levy a tax, based on the assessed valuation certified under section 48-3715, sufficient to raise that amount, except that this tax shall not:

(a) Exceed four cents per one hundred dollars of assessed valuation in the district.

(b) Be levied in any county in the district in which the annual water allocation by the United States secretary of the interior of central Arizona project water for municipal and industrial uses is less than fifty thousand acre-feet.

2. The district board shall certify the tax rate to the board of supervisors of each county in the district in which the district board levies this tax, and the boards of supervisors at the time of levying general county taxes shall levy and cause to be collected taxes on the taxable property in the county at the tax rate fixed by the district board. The tax when collected shall be deposited, pursuant to sections 35-146 and 35-147, in the state water storage fund established by section 45-897.01. All taxes levied pursuant to this section in counties having a population greater than five hundred thousand but less than one million five hundred thousand persons according to the most recent United States decennial census shall be deposited in account A of the fund established by section 45-897.01. All taxes levied pursuant to this section in counties having a population greater than one million five hundred thousand persons according to the most recent United States decennial census shall be deposited in account B of the fund.

B. Beginning in 1996, in addition to the tax authorized in sections 48-3713 and 48-3715, on or before the second Monday in August of each year, the district board shall fix the amount to be raised by direct taxation in the respective tax year for the purpose of carrying out section 48-3715.03 and shall levy a tax based on the assessed valuation certified under section 48-3715 sufficient to raise that amount, except that this tax shall not exceed four cents per one hundred dollars of assessed valuation in the district.

C. The district board shall certify the tax rate fixed pursuant to subsection B of this section to the board of supervisors of each county in the district, and the boards of supervisors at the time of levying general county taxes shall levy and cause to be collected taxes on the taxable property in the county at the tax rate fixed by the district board. The tax when collected shall be deposited, pursuant to sections 35-146 and 35-147, and credited as prescribed by section 48-3715.03.

**Central Arizona Water Conservation  
District**

**Conceptual Plans to Recover Stored  
Water**

**DRAFT  
JUNE 12, 2007**

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# CENTRAL ARIZONA WATER CONSERVATION DISTRICT

## CONCEPTUAL PLANS TO RECOVER STORED WATER

### EXECUTIVE SUMMARY

A key component of CAP's drought contingency plan is the recovery and use of underground storage credits. The Arizona Water Banking Authority (AWBA) has stored approximately 2.65 million acre-feet (maf) of CAP water underground as storage credits, from 1996 through the end of 2006. CAP staff, in cooperation with the AWBA, is planning to recover approximately 2.126 maf of the stored CAP credits for interstate water banking, firming CAP M&I subcontract water, and firming municipal and industrial users that share CAP's fourth priority for Colorado River water ("on-river P4"). The remaining AWBA credits, approximately .524 maf, are for Indian firming and water management purposes, and outside the scope of this study.

The planning process is composed of four phases: developing conceptual plans, preparing detailed plans including cost-estimates, implementing detailed plans, and reassessing the water supply conditions as necessary. The draft conceptual recovery plans are completed. Detailed plans will be completed in 2009 – 2010 timeframe. Implementation may begin within the 2009 – 2010 timeframe, depending upon water supply conditions.

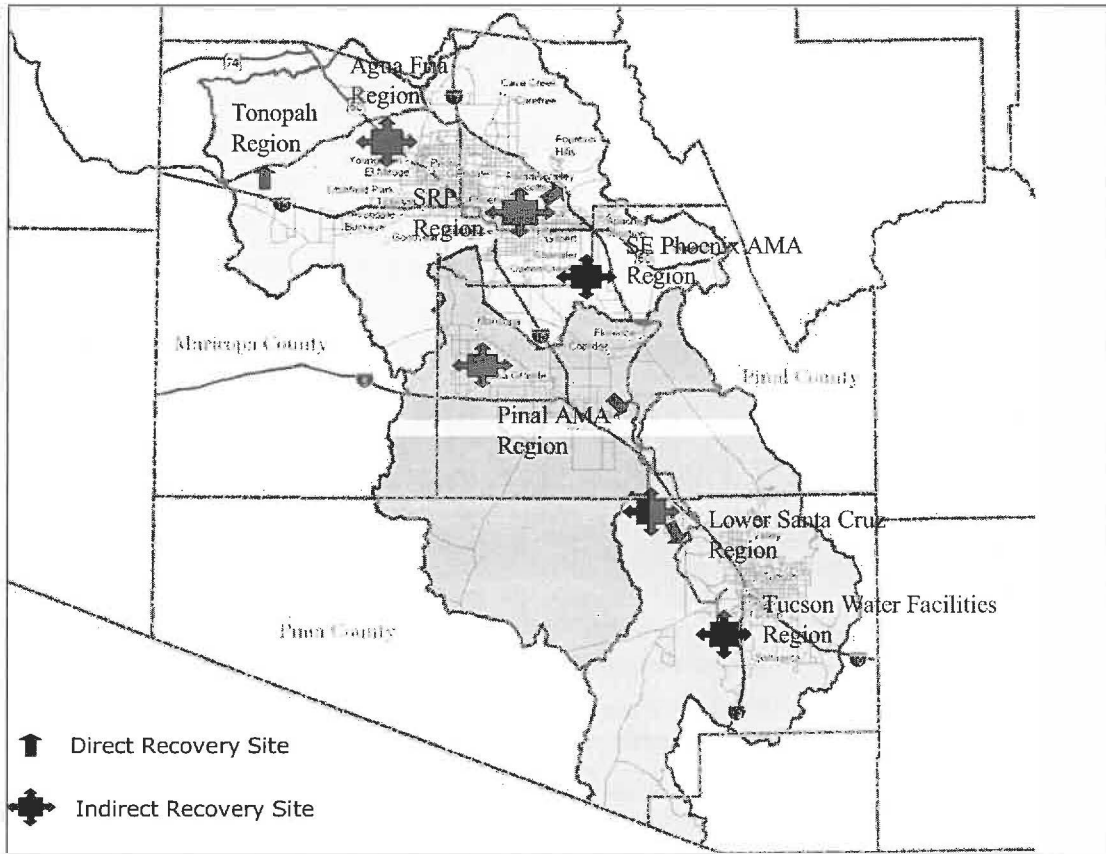
The draft conceptual plans address recovery for two purposes: interstate recovery for Southern Nevada Water Authority and Metropolitan Water District of Southern California, and intrastate recovery to firm CAP M&I subcontractors' supplies and on-river P4 contractors during times of shortage. Recovery to firm Indian CAP supplies pursuant to the Arizona Water Settlements Act is being addressed separately by the AWBA.

The timing of recovery for M&I firming and on-river P4 firming is directly related to declared shortages of Colorado River water that impact deliveries to CAP M&I subcontractors and on-river P4 uses. Shortages will be determined based guidelines expected to be adopted by the Secretary of the Interior in 2007. The guidelines are anticipated to be based on the water levels in Lake Mead as described in the Basin States alternative. Based on Colorado River modeling, the earliest possible shortage could occur in 2011. However, if average or even slightly below average run-off conditions occur, shortages are not predicted before 2031. Assuming full recovery for M&I firming and on-river P4 uses, the amount of recovery needed to meet demands ranges from 45,000 af/yr to 83,000 af/yr depending upon the timing of shortage. In addition, interstate recovery could range up to 40,000 af/yr. The total recovery demand ranges from 85,000 af/yr to 123,000 af/yr. Adding a 25% contingency factor to the maximum estimated recovery demand yields a recovery capacity requirement of approximately 154,000 af/yr by 2031.



The conceptual plans describe three ways to recover the stored water: direct recovery by pumping stored credits into the CAP canal, indirect recovery by assigning stored credits to a CAP customer as part of their CAP supply, and credit exchange with direct recharge customers. The conceptual plans are defined by the general location of individual recovery projects. The direct recovery conceptual plans include: Tonopah Region, SRP Region, Pinal AMA Region, and the Lower Santa Cruz Region. The conceptual plans for indirect recovery include: the Agua Fria Region, SRP Region, Southeast Phoenix AMA Region, Pinal AMA Region, Lower Santa Cruz Region, and Tucson Water Facilities Region. Credit exchange will be considered with in-direct recovery plans. Figure 1 shows the location of the conceptual recovery plan projects. In addition, the plans reflect input and suggestions received from CAP customers and other stakeholders, from over 30 meetings and workshops. The stakeholders are listed in Appendix A.

The next step in recovery planning is to prepare detailed plans for each of the conceptual plans. The detailed plans will define the optimal recovery capacity, as well as cost estimates for construction, operation and maintenance of recovery facilities. After detailed plans and cost estimates are prepared, likely in 2009/10, CAWCD will decide which recovery projects to implement, based on a continuing reassessment of Colorado River water supplies and CAP demands. Due to the dynamic nature of Colorado River water supply and CAP demands, recovery planning and implementation is expected to be a long-term commitment for CAWCD in terms of staff and financial resources.



**Figure 1 - General Location of Conceptual Recovery Plan Projects**

## **1.0 INTRODUCTION**

### **1.1 PURPOSE OF PLANNING FOR RECOVERY OF STORED CAP WATER**

A key element of the Central Arizona Water Conservation District's (CAWCD) 2006 strategic plan is the development of a drought contingency plan. The primary component of the drought contingency plan is the preparation and implementation of a plan to recover CAP water stored underground, as storage credits. Due to the reduced water supply conditions on the Colorado River system, CAWCD and its customers believe it is timely to prepare for potential shortages of Colorado River water by developing and implementing recovery plans. In addition, due to interstate water banking agreements entered into by the AWBA and CAWCD's operating agreements with the AWBA, it is timely to prepare for recovery for interstate purposes and use recovery planning in the consideration of the AWBA's storage decisions.

The recovery and use of stored CAP will mitigate the impacts of possible shortages of CAP water on CAP's M&I subcontractors and on municipal and industrial users that share CAP's fourth priority for Colorado River water in Arizona ("on-river P4 users"). In addition, recovery of water stored for interstate purposes is essential to the successful operation of interstate water banking agreements with the Southern Nevada Water Authority (SNWA) and the Metropolitan Water District of Southern California (MWD). Recovery planning is a cooperative effort between CAWCD, the Arizona Water Banking Authority (AWBA), and interested stakeholders.

### **1.2 SCOPE OF THE PLANNING EFFORT**

The conceptual plans for recovery of stored water address the recovery of stored CAP water for interstate water banking, to firm CAP M&I subcontracts against shortage, and to firm on-river P4 users. The AWBA is preparing plans to firm Indian CAP water pursuant to the Arizona Water Settlements Act. The Indian firming plans prepared by the AWBA are outside the scope of this study.

The conceptual plans are based on estimated water supplies, water demands, and storage locations from 2007 through 2031. The time frame includes the interim operations period (2008 – 2026) covered by the Record of Decision to be adopted by the Secretary of the Interior in 2007. It is assumed that the Basin States alternative is extended from 20026 through 2031. The storage locations available in 2007 are assumed to be operating and available through 2031, and storage trends continue at existing locations. No new water storage locations are assumed to be available during the period. However, if new storage locations emerge, their storage can be accommodated in the preparation of detailed plans in later stages of recovery planning. The 2031 timeframe shows almost full use of CAP M&I subcontracts and CAP Indian priority uses to illustrate possible impacts of shortages to those uses.

It is assumed that CAWCD will firm the entire volume of shortage to CAP M&I subcontractors using available AWBA storage credits through 2031. It is assumed that the entire volume of on-river P4 uses shortages are firmed through 2031 using available AWBA storage credits. However, the on-river P4 users may elect alternative firming strategies, such as fallowing arrangements with agriculture users, but such arrangements are outside the current scope of this study. In addition, the conceptual plans describe the possible cost components for recovery activities. The actual cost components will be defined through the development of detailed recovery plans.

### **1.3 RECOVERY PLANNING PROCESS**

Recovery planning is a four step process: preparation of conceptual plans, development of detailed plans, implementation of detailed plans, and reassessment of water supply and recovery needs. The conceptual plans are prepared using the following process:

- o Identify the location of current AWBA storage credits. The location of storage credits relative to potential recovery, either delivered directly to the CAP canal or indirectly to CAP users, guides the identification of conceptual plans.
- o Identify the mechanisms for recovering stored water. The mechanisms to recover stored credits are defined by existing laws and agreements. The Arizona storage and recovery statutes (ARS § 45-801 – 898 et seq.), the Storage and Interstate Release Agreement between the United States and the AWBA, and the Agreement to Develop Intentionally Created Unused Apportionment between the AWBA and CAWCD serve to guide the mechanisms currently available for recovery.
- o Define the timing shortages and the triggers for recovery. Because the timing of shortages can directly impact the magnitude of needed recovery capacity, i.e. early shortages may require less recovery capacity because the CAP supplies are not fully utilized for uses requiring firming, the estimated timing of shortages influences the development of conceptual plans. There are three possible triggers for recovery; interstate requests, shortages to CAP, and outages on the CAP system. The timing of interstate requests is based upon discussions with SNWA and MWD. Shortages to CAP are based on the timing of Colorado River shortages. The timing of possible CAP system outages is outside the scope of this study.
- o Define conceptual recovery plans. The conceptual recovery plans match the storage to the recovery mechanisms. The plans identify the general infrastructure and institutional requirements to facilitate recovery of stored water.
- o Receive input from CAP customers. The CAP customers provided comments and preferences regarding recovery mechanism and the components of the conceptual recovery plans.
- o Identify the process to develop detailed plans. Detailed recovery plans are required before cost estimates can be prepared. The cost estimates will be used to compare recovery alternatives to determine the priority for implementing recovery projects.



## **2.0 CURRENT AWBA UNDERGROUND STORAGE CREDITS**

### **2.1 ARIZONA WATER BANKING AUTHORITY STORAGE PROGRAM**

The AWBA has accrued more than 2.650 maf of CAP underground storage credits for the period 1996 through the end of 2006. The AWBA has stored water using four funding sources: General Fund, CAP 4-cent water storage tax, Withdrawal Fees, and interstate water banking. Each funding source has unique constraints for the manner in which the storage credits may be used.

The General Fund storage credits, generated from general funds appropriated by the Arizona Legislature, may be used for firming on-river P4 users, firm CAP M&I subcontractors, aid in settling Indian water rights claims, and the credits may be extinguished to further water management goals. However, the AWBA has established a priority for using the General Fund storage credits. The priority is as follows, from highest to lowest priority; firming on-river P4 uses, aid in settling Indian water rights claims, firm CAP M&I subcontracts, and to fulfill water management objectives. In addition, the AWBA has entered into a contract with the Mohave County Water Authority (MCWA) for recovery of general fund credits to firm their supplies. The AWBA has accrued approximately 396 kaf of underground storage credits with General Fund monies.

The CAP 4-cent tax storage credits, funded from CAP's 4-cent water storage tax, assessed in Maricopa, Pinal, and Pima County, may be used for firming CAP M&I subcontract uses from shortages of Colorado River water or disruption in CAP deliveries. The funds may be used for the benefit of the county in which the funds were collected. In addition, the current law allows that if the AWBA determines that the amount of storage of credits with CAP 4-cent tax funds exceeds the need for firming CAP M&I subcontracts in that particular county, then the credits may be used to firm other surface water supplies experiencing shortage in that county. At present, the AWBA has accrued approximately 1.317 maf of storage credits from CAP 4-cent tax funds.

The Arizona Department of Water Resources (ADWR) collects groundwater withdrawal fees from groundwater users in the Phoenix, Pinal, and Tucson Active Management Area (AMA) that are used to fund water storage by the AWBA. The Withdrawal Fees may be used only to benefit the AMA in which the fees were collected. The stored credits may be used to facilitate Indian water rights settlements or be extinguished to further water management objectives in each AMA. At present, the AWBA has accrued approximately 524 kaf of storage credits from Withdrawal Fees monies.

The AWBA has entered into interstate water banking agreements with the SNWA. The agreement states that the AWBA will make 1.25 maf of underground storage credits available to SNWA for recovery, upon request by SNWA. The maximum annual amount of recovery requested by SNWA is as follows:

- o 20 kaf for 2007 – 08,

- o 30 kaf/yr for 2009 –10, and
- o 40 kaf/yr in 2011 through 2060, or earlier until the credits are fully recovered.

The SNWA will pay the AWBA \$330 million in the aggregate, with \$100 million paid in 2005 into a resources account, and 10 payments annually of \$23 million to an operating account beginning in 2009. The funding is estimated to be sufficient to pay all costs associated with storing sufficient CAP water to meet the AWBA’s 1.25 maf obligation. The estimated cost of storage is approximately \$230 million. The \$100 million paid to a resource account is intended to insure that Arizona can meet its obligation. The use of the resource account is at the discretion of the State of Arizona. If the funding is not sufficient to meet the AWBA’s 1.25 maf storage credit obligation, the agreement states that the AWBA and SNWA will meet and confer as to whether to reduce the obligation or SNWA will pay for additional water storage. Through the end of 2006, the AWBA has accrued approximately 413 kaf of credits for SNWA, approximately 33% of the 1.25 maf obligation. The current AWBA storage includes 50 kaf stored on behalf of SNWA by CAWCD prior to the creation of the AWBA.

Table 1 summarizes the accrual of storage credits by the AWBA. The table shows the storage credits accrued at each underground storage facility. Figure 2 illustrates the storage at each facility by the funding source for credits.

The conceptual recovery plans focus on recovery of storage credits for CAP M&I firming, firming on-river P4 uses, and interstate water banking operations. Therefore, the conceptual recovery plans do not include recovery capacity for credits stored with Withdrawal Fees monies. The amount of stored credits available for recovery through the conceptual plans is 2.126 maf. The Withdrawal Fees credits may be addressed through the AWBA’s Indian firming study or reserved for potential extinguishment for water management purposes. Figure 3 shows the distribution of credits available for recovery through the conceptual plans exclusive of Withdrawal Fees storage.

## **2.2 MARICOPA COUNTY – PHOENIX AMA AWBA STORAGE CREDITS**

The AWBA has earned approximately 1.234 maf of storage credits in Maricopa County and the Phoenix AMA. The storage is located at 12 storage facilities. There are 4 direct underground storage facilities (USF) with AWBA storage credits. They are: Tonopah Desert Recharge Project, Hieroglyphic Mountains Recharge Project, Agua Fria Recharge Project, and the Granite Reef Underground Storage Project (GRUSP). There are 8 groundwater savings facilities (GSF) with AWBA storage credits: Tonopah Irrigation District, Maricopa Water District, Salt River Project, Roosevelt Water Conservation District, Chandler Heights Citrus Irrigation District, Queen Creek Irrigation and Drainage District, New Magma Irrigation and Drainage District, and the Gila River Indian Community Irrigation and Drainage District.

The AWBA has approximately 1.061 maf of credits available for recovery for firming or interstate recovery. The distribution of credits is almost evenly split between GSFs (518 kaf) and USFs (543 kaf). The majority of the CAP M&I firming credits were earned at GRUSP (342 kaf) and New Magma Irrigation and Drainage District (263 kaf). The

Tonopah Desert Recharge Project USF is the only facility with interstate storage in the Phoenix AMA with approximately 24 kaf of interstate storage credits. In general, there are four regional groupings of AWBA water storage:

- o Tonopah Region: Western Maricopa County - includes 1 USF; the Tonopah Desert Recharge Project and 1 GSF; Tonopah Irrigation District. Approximately 100 kaf of storage credits have been earned for recovery in this region.
- o Agua Fria Region: Agua Fria River area - includes 2 USFs; Hieroglyphic Mountains Recharge Project and the Agua Fria Recharge Project, and 1 GSF; Maricopa Water District. Approximately 125 kaf of storage credits have been earned for recovery in this region.
- o Salt River Project Region: Central and eastern Salt River valley - includes 1 USF, GRUSP, and 3 GSFs, Salt River Project, Roosevelt Water Conservation District, and Chandler Heights Citrus Irrigation District. Approximately 484 kaf of storage credits have been earned for recovery in this region. Almost 50% of the AWBA's storage in Maricopa County is in the SRP region.
- o Southeast Phoenix AMA Region: Queen Creek area - includes 3 GSFs, Queen Creek Irrigation and Drainage District, New Magma Irrigation and Drainage District, and the Gila River Indian Community Irrigation and Drainage District. Approximately 352 kaf of storage credits have been earned for recovery in this region.

### **2.3 PINAL COUNTY – PINAL AMA AWBA STORAGE CREDITS AND CAWCD'S MWD CREDITS**

The AWBA has earned approximately 987 kaf of storage credits at four storage facilities in Pinal County. There are no USFs in the Pinal AMA that have AWBA storage credits. There are 4 GSFs that have AWBA storage credits. They are: Hohokam Irrigation and Drainage District (HIDD), Central Arizona Irrigation and Drainage District (CAIDD), Maricopa-Stanfield Irrigation and Drainage District (MSIDD), and the Gila River Indian Community Irrigation and Drainage District.

The AWBA has accrued approximately 714 kaf of storage credits available for recovery, which excludes credits stored with withdrawal fees funds. These credits are stored at three GFS: HIDD, CAIDD, and MSIDD. Approximately 40% of the storage credits are at MSIDD. There are approximately 310 kaf of interstate credits at the three GSFs, which is approximately 75% of all AWBA interstate storage.

Prior to the creation of the AWBA, CAWCD entered into interstate water storage agreements with MWD and SNWA. CAWCD stored 89,000 af of water for MWD, and over 50,000 af for SNWA at MSIDD, CAIDD, and HIDD. CAWCD accrued 80,909 af of storage credits for MWD and 50,000 af of credits for SNWA. The credits for SNWA have been transferred to the AWBA as part of the AWBA interstate water banking



program. In 2007, CAWCD, AWBA and MWD entered into an agreement and CAWCD is recovering a portion MWD's credits in 2007. MWD and SNWA paid for water storage and recovery as part of their storage agreements with CAWCD.

## **2.4 PIMA COUNTY – TUCSON AMA AWBA STORAGE CREDITS**

The AWBA has earned approximately 429 kaf of storage credits at 6 storage facilities in the Tucson AMA/Pima County area. The storage is primarily at 4 USFs: Avra Valley Recharge Project (AVRP), Lower Santa Cruz Recharge Project (LSCR), Central Avra Valley Storage and Recovery Project (CAVSRP), and Pima Mine Road Recharge Project (PMRRP). In addition, there are two GSFs with AWBA storage: Kai Farms – Red Rock and BKW Farms.

There are approximately 351 kaf of storage credits available for recovery. Two-thirds of the AWBA's storage in the Tucson AMA is for CAP M&I firming, almost entirely at USFs. There are two regional groupings of AWBA storage in the Tucson area:

- o Lower Santa Cruz Region: Marana area – includes 2 USFs; AVRP and LSCR, and 2 GSFs; Kai Farms and BKW Farms. Approximately 204 kaf of storage credits have been earned for recovery, or approximately 60% of the available credits in the Tucson area.
- o Tucson Water Facilities Region: Central Avra Valley and Pima Mine Road area – includes 2 USFs; CAVSARP and PMRRP. Approximately 147 kaf of storage credits have been earned for recovery in this region.

**Table 1 - Summary of AWBA Storage Credits (actuals through 2005 + 2006 estimates)**

<b>AWBA CREDITS (2005 Actuals + 2006 Estimates)</b>						
<b>PHOENIX AMA</b>	<b>General Fund</b>	<b>Withdrawal Fees</b>	<b>CAP 4 cent tax</b>	<b>Interstate</b>	<b>Total Credits</b>	
TONOPAH DESERT	0	9,656	74,180	23,944	107,781	
TONOPAH ID	0	296	2,072	0	2,368	
HIEROGLYPHIC MTNS	0	18,468	35,800	0	54,268	
MWD	6,199	2,849	38,124	0	47,172	
AGUA FRIA	0	21,832	44,655	0	66,486	
GRUSP	21,974	35,483	342,510	0	399,967	
SRP	2,836	11,394	63,097	0	77,327	
RWCD	6,437	7,900	44,238	0	58,575	
CHANDLER HGTS CID	14	1,143	3,357	0	4,513	
QUEEN CREEK	5,928	4,236	65,836	0	76,000	
NEW MAGMA	16,551	48,322	263,478	0	328,351	
GRIIDD-PHX	0	11,523	0	0	11,523	
<b>Total Credits</b>	<b>59,937</b>	<b>173,103</b>	<b>977,348</b>	<b>23,944</b>	<b>1,234,332</b>	
<b>PINAL AMA</b>						
HOHOKAM	129,630	136,598	48,534	55,008	369,770	
CAIDD	51,627	33,837	18,710	79,333	183,507	
MSIDD	115,556	97,170	39,159	126,097	377,982	
GRIIDD-Pinal	0	5,737	0	0	5,737	
<b>Total Credits</b>	<b>296,813</b>	<b>273,341</b>	<b>106,404</b>	<b>310,437</b>	<b>986,996</b>	
<b>TUCSON AMA</b>						
KAI FARMS (Red Rock)	2,305	2,951	4,499	0	9,755	
KAI FARMS (Avra)	0	0	0	0	0	
BKW-FARMS	0	1,386	65	0	1,451	
AVRA VALLEY	3,030	5,148	31,161	265	39,604	
LOWER SANTA CRUZ	18,152	34,407	92,638	52,124	197,321	
CAVSARP	7,529	13,040	37,572	75	58,216	
PIMA MINE RD	8,731	20,488	67,246	26,065	122,530	
<b>Total Credits</b>	<b>39,748</b>	<b>77,420</b>	<b>233,180</b>	<b>78,530</b>	<b>428,877</b>	
<b>Total Credits</b>	<b>396,498</b>	<b>523,864</b>	<b>1,316,932</b>	<b>412,911</b>	<b>2,650,205</b>	
<b>CAP 4-cent Tax + General Fund + Interstate</b>			<b>GSF</b>	<b>USF</b>	<b>TOTAL</b>	
Maricopa Co + PHX AMA			518,166	543,063	1,061,229	
Pinal Co + Pinal AMA			713,654	0	713,654	
Pima Co + TUC AMA			6,870	344,587	351,457	
<b>TOTAL</b>			<b>1,238,690</b>	<b>887,650</b>	<b>2,126,341</b>	

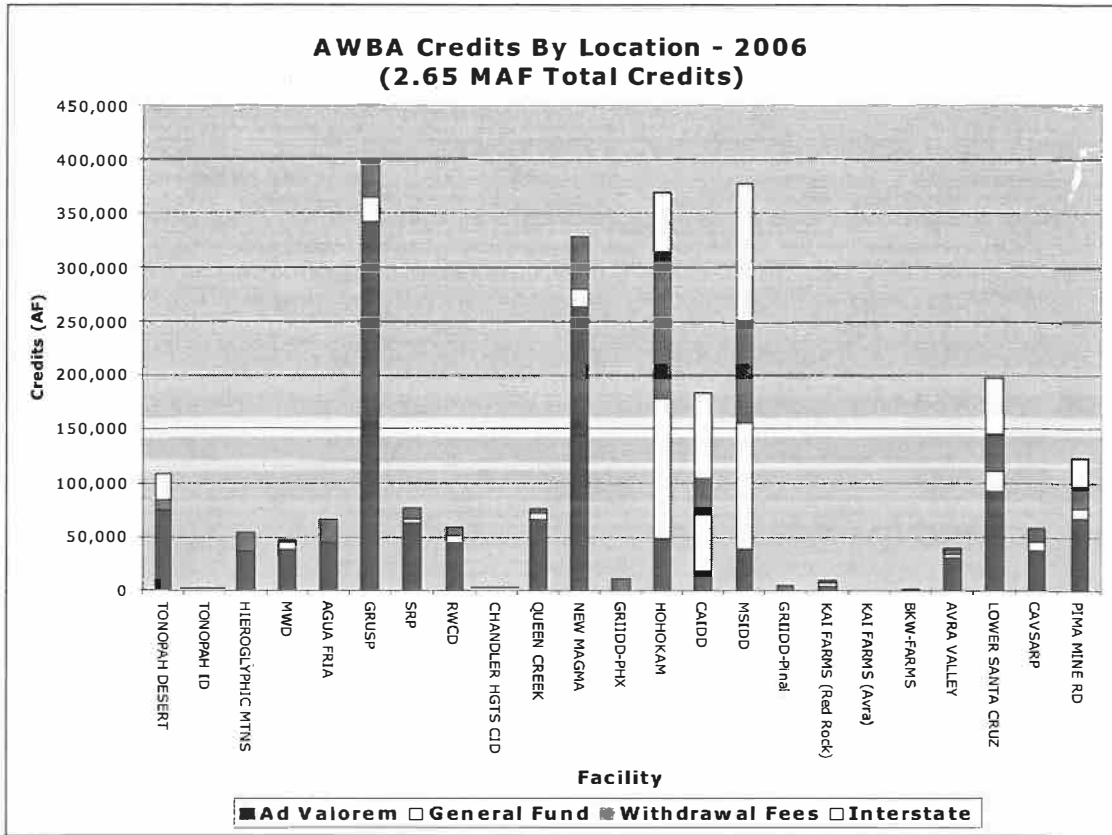
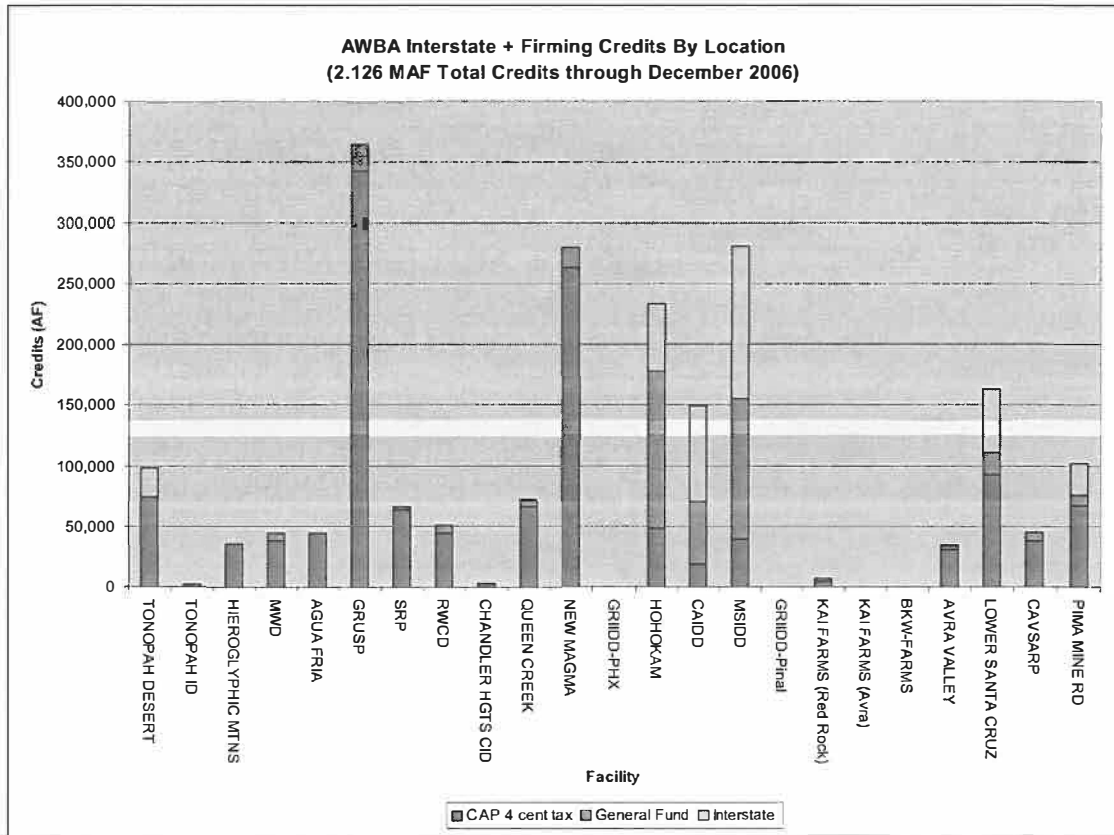


Figure 2 - Summary of the Distribution of AWBA Storage Credits by Location and Funding Source



**Figure 3 - Summary of the Distribution of AWBA Storage Credits Available for Recovery by Location and Funding Source**

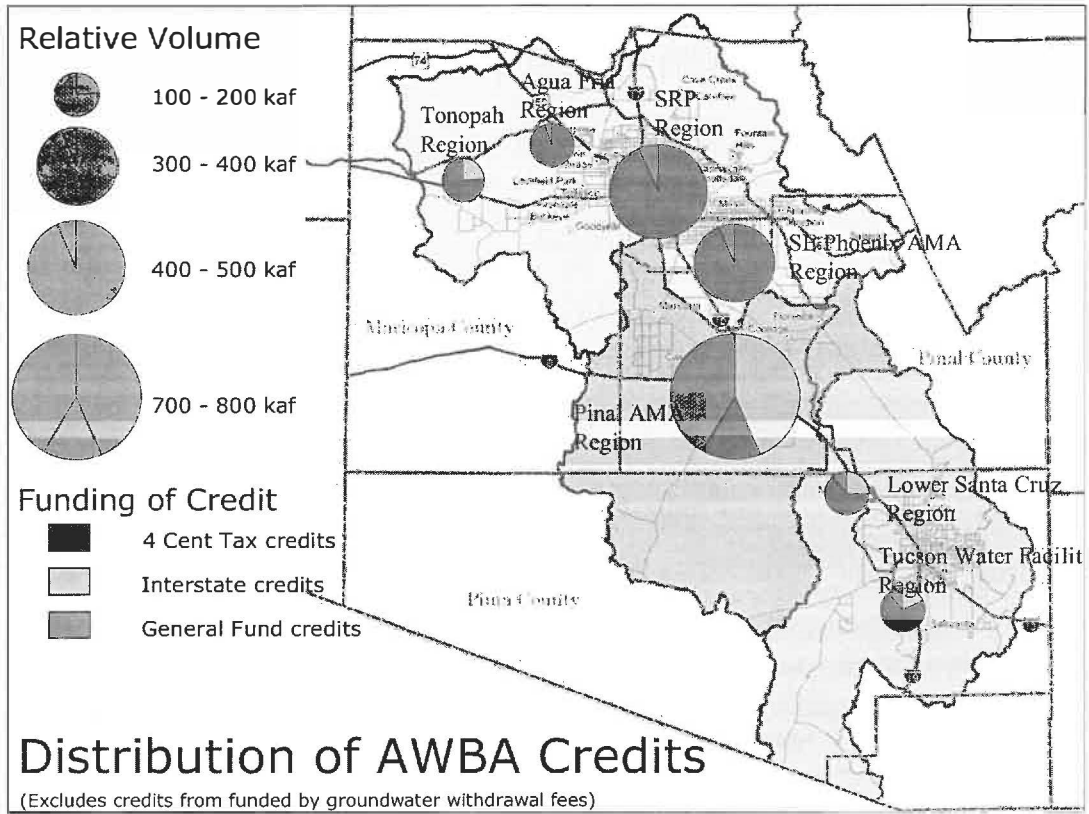


Figure 4 - Summary of Regional Distribution of AWBA Storage Credits Available for Recovery

### **3.0 RECOVERY MECHANISMS**

There are three mechanisms available to recover stored water: Direct, Indirect, and Credit Exchange. The determination of which method is appropriate for a particular facility or location is driven by the physical and economic parameters of recovery, such as depth to groundwater, available groundwater production capacity, groundwater production and delivery costs, and permitting requirements.

By statute, recovery can occur anywhere within the same AMA as the original storage. However, CAP customers have expressed a preference to link recovery to the storage location. Therefore, CAWCD has prepared conceptual plans that are hydraulically linked to the location of storage. In general, this means that the recovery capacity for a conceptual recovery plan will be limited to the storage in the general region of the recovery project. For example, a direct recovery project in the Tonopah Region will be sized to recover storage at the Tonopah Desert Recharge Project and the Tonopah Irrigation District. In the future, CAWCD may consider recovery projects not hydraulically linked to storage locations if such projects meet specific water management goals.

#### **3.1 DIRECT RECOVERY**

Direct recovery describes the recovery of stored credits by pumping groundwater and delivering the groundwater to the CAP canal for delivery as CAP water. Direct recovery requires wells to pump groundwater and pipelines or other conveyance to deliver the recovered water to the CAP canal.

Direct recovery cost components include the operation and maintenance of the recovery wells and conveyance system, as well as the capital costs for construction of the wells and conveyance. In general, direct recovery projects are cost efficient if recovery is adjacent to the CAP canal, and depth to groundwater is relatively shallow. Recovery wells require permits acquired from ADWR. Water quality of recovered water delivered through the CAP system will be managed by CAWCD policies. Increased groundwater pumping adjacent to the CAP canal may raise concerns regarding subsidence.

#### **3.2 IN-DIRECT RECOVERY**

In general, in-direct recovery involves the assignment of storage credits to CAP customers as part of their CAP supply. The CAP customer receives a reduced CAP supply and pumps groundwater storage as part of their CAP supply to replace the reduced CAP water delivery. Indirect recovery is currently underway for recovery of interstate credits for MWD. MSIDD and CAIDD are receiving a reduced CAP supply and pumping stored water from wells to replace the reduced CAP delivery.

In-direct recovery requires a CAP customer to have excess or unused well capacity available to use when CAP deliveries are reduced. In-direct recovery may potentially avoid or reduce possible subsidence impacts by keeping groundwater pumping away from the CAP canal in existing well fields. Indirect recovery cost components include the

## **4.0 ESTIMATED TIMING AND MAGNITUDE OF RECOVERY**

The potential timing of recovery for interstate purposes is based upon the request for recovery by SNWA or MWD. MWD has requested recovery for 2007 and CAWCD, along with MSIDD and CAIDD is meeting the request. Recovery for firming requires a shortage of Colorado River water to Arizona. The timing of shortages of Colorado River water is driven by water levels in Lake Mead. The water levels in Lake Mead are largely the result of Colorado River basin run-off, as well as water use trends in the Upper Basin. The magnitude of shortages to CAP and on-river P4 users depends in part on the amount of water used by other Arizona Colorado River users.

### **4.1 ESTIMATED TIMING OF RECOVERY**

The timing of recovery is different for interstate purposes and firming purposes. Interstate recovery is largely at the request of the interstate entity, while firming recovery requires a shortage of Colorado River water for CAP delivery.

#### ***4.1.1 Interstate Recovery Timing***

Interstate recovery is governed by the requests of the interstate banking entities; SNWA and MWD. MWD has a 80,909 af of storage credits stored at the MSIDD, CAIDD, and HIDD GSFs in the Pinal AMA. MWD, per its agreement with CAWCD and AWBA, requested recovery in 2007. CAWCD is recovering for MWD per a recovery schedule for 16,804 af, in 2007, with credits recovered by MSIDD and CAIDD. It is anticipated that MWD will continue to request recovery through 2010 until its storage credits are exhausted. The estimated timing and magnitude of recovery for MWD is shown in Figure 5.

SNWA, per the Agreement for Interstate Water Banking with the AWBA, may request recovery beginning in 2007. Per the agreement, SNWA may request recovery on the following schedule:

- o 2007-08: up to 20,000 af/yr,
- o 2009-10: up to 30,000 af/yr,
- o 2011- 2060: up to 40,000 af/yr, until credits are exhausted.

Discussions with SNWA staff suggest that SNWA will may request a modest amount of recovery before 2011. It is assumed for the purposes of this study, that SNWA requests recovery of 5,000 af in 2009, 15,000 af in 2010, and 40,000 af in 2011. In addition, SNWA may request recovery during shortage conditions. Per the AWBA's agreement, SNWA may request recovery pursuant to the recovery schedule (up to 40,000 af/yr 2011 and beyond) plus recovery sufficient to allow full use of Nevada's 300,000 af consumptive use entitlement. The AWBA may meet the request if it has determined that sufficient recovery capacity is available to meet Arizona's needs and the SNWA request. Further, if a shortage sufficient to cause a reduction in CAP deliveries to CAP M&I and

supplies to on-river P4 domestic uses, SNWA's right to request recovery will be reduced proportionately to the reduction sustained by the CAP M&I subcontractors and the on-river P4 domestic uses. To the extent that SNWA has borne a share of costs to develop recovery capacity, SNWA has a right to request the use of their share of such capacity in the event of a shortage.

#### ***4.1.2 On-River P4 Uses Recovery Timing***

The timing of recovery for on-river P4 uses is directly related to the timing of Colorado River shortages to Arizona. Based on CAWCD's 6/21/2007 Drought Impact Analysis report, the earliest potential onset of shortages could occur in 2011. However, average run-off conditions do not generate shortages to Arizona users. Therefore, from a planning perspective, CAWCD assumes shortages beginning in 2011 and persisting for the entire period study period.

#### ***4.1.3 CAP M&I Subcontractors Recovery Timing***

The timing of recovery for CAP M&I subcontractors is a function not only of shortage conditions on the Colorado River, but also of the use of long-term contract supplies within the CAP, and by other non-CAP Colorado River users in Arizona. So long as 981,901 af of CAP water supplies are available to deliver to long-term CAP M&I subcontract and Indian priority uses in the CAP system, not including higher priority water in the CAP system obtained through prior Indian water rights settlement acts such as the Yuma Mesa water provided in the Ak Chin settlement, then no recovery for CAP M&I firming is required. Based on the analysis of build-up of CAP long-term demands, the timing of shortages, and estimated uses by non-CAP Colorado River users in Arizona, there are no CAP M&I shortages observed in the study period. The analyses are shown in Figure 6. However, even though CAWCD's Drought Impact Analysis shows that CAP M&I firming is unlikely during the study period, for planning purposes, it is assumed that a minimum level of CAP M&I firming is required, beginning in 2025.

## **4.2 ESTIMATED MAGNITUDE OF RECOVERY**

The amount of water to be recovered relates to the type of recovery: interstate and firming, and the magnitude of shortages.

#### ***4.2.1 Magnitude of Interstate Recovery***

Recovery for interstate purposes is governed by existing interstate recovery agreements. The schedule proposed for MWD recovery is shown in Figure 5. The schedule for SNWA is based on the assumption that they request recovery beginning in 2009 and reaching their full amount in 2011. The agreements allow for SNWA to request recovery during a shortage to Arizona. It is assumed that Arizona meets the request for recovery during a shortage. However, since the shortages do not appear to trigger firming for CAP M&I subcontracts, it is assumed that there is no firming to assist SNWA to meet their full Colorado River entitlement.



#### ***4.2.2 Magnitude of On-River and CAP M&I Firming***

The magnitude of on-river P4 firming and CAP M&I firming is related to the amount of shortage to Arizona uses, the amount of other non-P4 Arizona Colorado River uses and the amount of CAP M&I and Indian priority uses. The degree of shortage, i.e. first, second, or third level shortage triggers, as defined in the shortage guidelines in the ROD to be adopted by the Secretary of the Interior in 2007, indicates the amount of shortage to Arizona. The first shortage trigger requires 320 kaf of shortage to Arizona, while the second shortage trigger requires 400 kaf of shortage to Arizona, and the third shortage trigger requires 480 kaf of shortage to Arizona. The amount of shortage is then shared proportionally between CAP and on-river P4 users, based on their entitlements. In general, on-river P4 users take approximately 10% of Arizona's shortage (32 kaf, 40 kaf, and 48 kaf respectively for level 1, 2, and 3), while CAP receives the remaining 90% of shortage (288 kaf, 360 kaf, and 432 kaf respectively for level 1, 2, and 3).

The potential impacts of shortage trigger levels to CAP uses are shown in Figure 6. In general, shortages to CAP result in reductions to the available excess supply, primarily used by the AWBA, then to full cost excess uses such as CAGR annual replenishment uses, and finally the third shortage trigger results in reductions to CAP's Ag pool supply, and potentially into the Non-Indian Agricultural priority supplies. However, none of these requires CAP M&I firming. In the most conservative case, if it is assumed that higher priority non-CAP Colorado River users accelerate their water uses well beyond their current and historic uses, and all Indian priority and CAP M&I subcontractors accelerate their use of CAP water, then there is a limited potential to reach a CAP M&I firming requirement in a third shortage trigger event. In addition, the analysis shows a modest reduction in Colorado River water available to CAP due to assumed build up of higher priority Arizona Colorado River uses.

Based on analyses by ADWR, the most conservative estimate of on-river P4 firming and CAP M&I firming is shown in Figure 7. The analysis shows the maximum potential firming requirement for on-river P4 and CAP M&I firming is a total of approximately 83 kaf, in the most conservative case at total buildout.

#### ***4.2.3 Total Estimated Recovery Capacity Requirement***

The total estimated recovery capacity requirement is time sensitive based on: requests for recovery for interstate purposes, the build up of CAP and on-river uses, and the timing and magnitude of shortages. The estimated required recovery capacity is shown in Figure 8. The capacity ranges from 16 kaf for interstate in 2007 to 123 kaf in 2030. In addition, actual constructed capacity will likely require additional capacity to cover contingencies and uncertainties, estimated at 25% of required capacity, so that total constructed capacity could reach approximately 154 kaf.