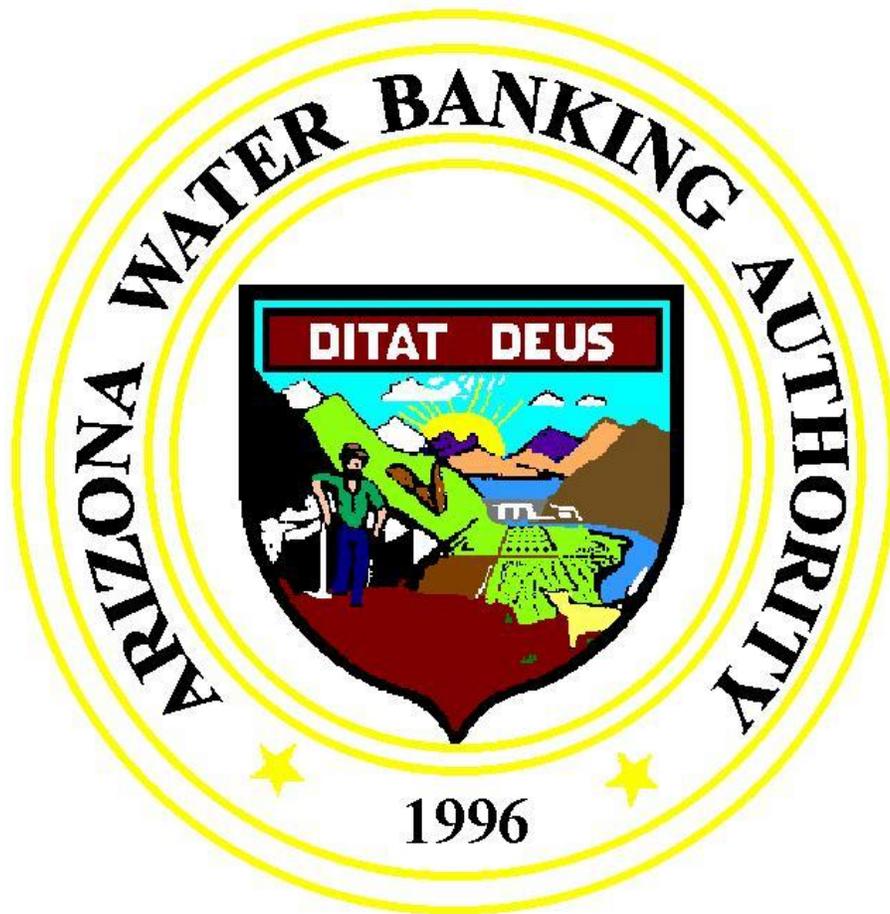


**ARIZONA WATER BANKING AUTHORITY**  
**ANNUAL PLAN OF OPERATION**  
**2012**



Sandra A. Fabritz-Whitney, Chairman

December 2011

# The Arizona Water Banking Authority

## Summary

The Arizona Water Banking Authority (AWBA; Water Bank) was created in 1996 to store the unused portion of Arizona's annual allocation of the Colorado River. By storing this unused water the AWBA secures a dependable water supply necessary to ensure the state's long-term prosperity.

The Water Bank stores unused Arizona Colorado River water to meet future needs for:

- Firming (to secure) adequate water supply to municipal and industrial users in the Central Arizona Project service area and along the Colorado River in times of shortages;
- Meeting the management plan objectives of the Arizona Groundwater Code;
- Meeting the State's obligation pursuant to Indian Water Rights Settlements;
- Assisting the Colorado River fourth priority municipal and industrial users in developing credits that could be used to increase their future supplies; and
- Assisting Nevada and California through interstate water banking.

Each year, the AWBA pays the delivery and storage costs to bring Colorado River water into Central and Southern Arizona through the Central Arizona Project canal. The water is stored underground in existing aquifers (direct recharge) or is used by irrigation districts in lieu of pumping groundwater (indirect or in lieu recharge). For each acre-foot stored, the AWBA accrues credit that can be redeemed in the future when Arizona's communities, Indian Tribes or neighboring states need this backup water supply.

The money that funds the AWBA and, specifically, water storage for the benefit of Arizona (intrastate storage) comes from three sources. Restrictions on the ways these monies can be used depend on the source of the monies, which currently include:

- Fees for groundwater pumping currently collected within the Phoenix, Pinal and Tucson Active Management Areas (AMA). These monies can only be used to benefit the AMA in which the fees are collected. Included as a benefit to the AMA are both municipal and industrial firming and Indian firming.
- A four cent *ad valorem* property tax collected in the three county CAP service area. These monies can only be used to benefit the county in which the tax is levied.
- A general fund appropriation received at the discretion of the Legislature.

Another source of funding is used for water storage to aid Nevada (interstate storage) and is received pursuant to an Agreement for Interstate Water Banking.

In 2012, the Water Bank will store approximately 119,000 acre-feet of water at a cost of approximately \$15 million. The amount of water available to the AWBA was decreased because CAWCD reduced the amount of water in the pool available to the AWBA. The amount of water available overall in Excess Cap water pool has decreased because of increased demand from priority M&I subcontractor and Indian orders. This trend is expected to continue into the future. There is no interstate storage planned for 2012.

Furthermore, the AWBA will deliver an additional 1,000 acre-feet of water for the Southside Replenishment Bank at a cost of \$122,000.

To date, the AWBA has delivered for storage approximately 3.9 million acre-feet (MAF) of water at a cost of \$287 million; 3.3 MAF for intrastate storage at a cost of \$178 million and 594,000 acre-feet for interstate storage at a cost of \$109 million. A total of 3,000 acre-feet has been delivered for Southside Replenishment purposes at a cost of \$348,000.

## **INTRODUCTION**

The Arizona Water Banking Authority (AWBA) was created to store Arizona's unused Colorado River water entitlement in western, central and southern Arizona to develop long-term storage credits to: (1) firm existing water supplies for municipal and industrial users (M&I) along the Colorado River and Central Arizona Project (CAP) M&I users during Colorado River shortages or CAP service interruptions; (2) help meet the water management objectives of the Groundwater Code; and (3) meet the State's obligations in the settlement of Indian water rights claims. Changes in the AWBA's enabling legislation in 1999 authorized the AWBA to participate in other water banking activities, however, no new water banking activities are included in this annual Plan of Operation.

The AWBA's storage of water is accomplished through the Underground Water Storage, Savings and Replenishment Act enacted by the Arizona legislature in 1994 and administered by the Arizona Department of Water Resources (ADWR). Through this program, the AWBA stores renewable water that currently has no immediate direct use in either underground storage (USF) or groundwater savings (GSF) facilities. A USF is a facility that allows water to physically be added to an aquifer. A GSF is a facility where the water is used in place of groundwater, creating a groundwater savings. The program mandates the accounting of the water stored and the development of long-term storage (LTS) credits. The LTS credits developed will then be utilized by the AWBA when future conditions warrant. The use of LTS credits for the three objectives listed is dependent on the source of funds utilized to develop them.

The AWBA is required by statute to approve an annual Plan of Operation (Plan) by January 1 of each year. Prior to approval of the final Plan, the AWBA is required to solicit public comment. A draft of the Plan was presented to the Groundwater Users Advisory Councils (GUAC) for the Phoenix, Pinal and Tucson Active Management Areas (AMA). Presentation of the draft Plan must be made at publicly-noticed open meetings at which members of the public are permitted to provide comment. The AWBA also makes the Plan available on its web page and accepts public comment in writing up to the time the final draft Plan is presented for approval.

The Plan is intended to govern the operations of the AWBA over the course of the entire calendar year. The AWBA recognizes that day-to-day adjustments in the normal operations of the CAP or the individual storage facilities may affect the actual monthly deliveries made on behalf of the AWBA. If the adjustments do not impact the overall annual delivery projections contained in the Plan, they will be addressed by staff and reported to the AWBA members on an as-needed basis.

## 2011 PLAN OF OPERATION

In 2011, the AWBA recharged and directly delivered approximately 137,440 acre-feet of Colorado River water. Arizona is forecast to use its full entitlement of 2.8 MAF (see Figure 1).

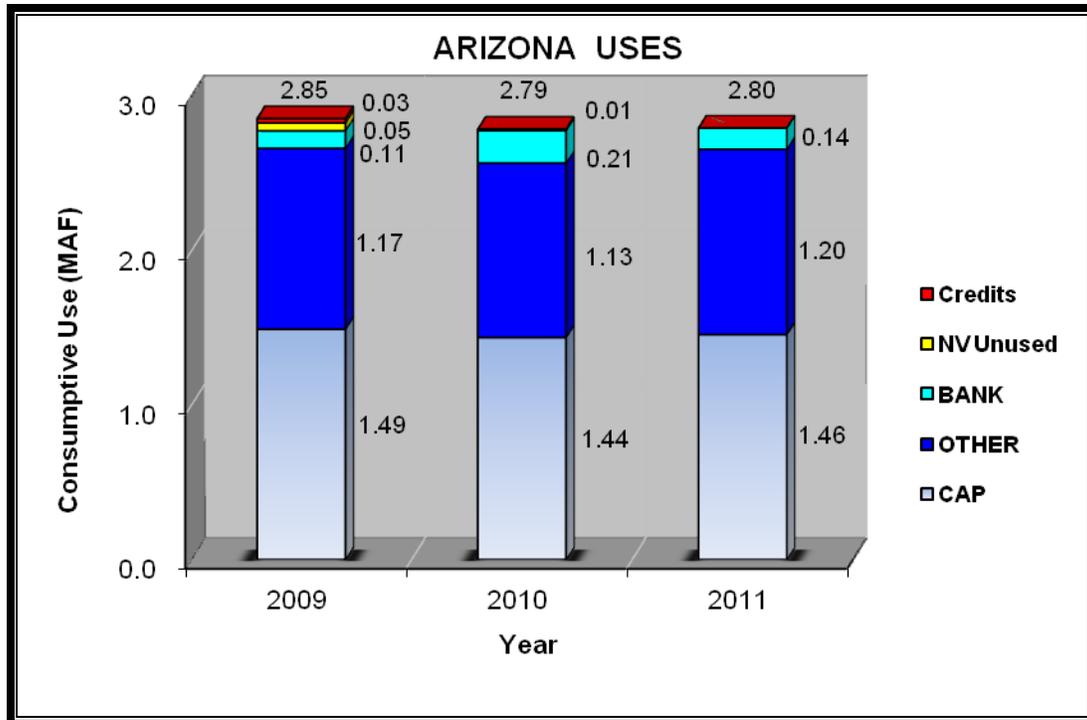


Figure 1. Recent Comparison of Colorado River Water Uses by Arizona

Forecasted direct use of Colorado River water in the Lower Basin is 7.37 MAF in 2011 (see Figure 2). California and Nevada also created Intentionally Created Surplus in 2011 for use in future years.

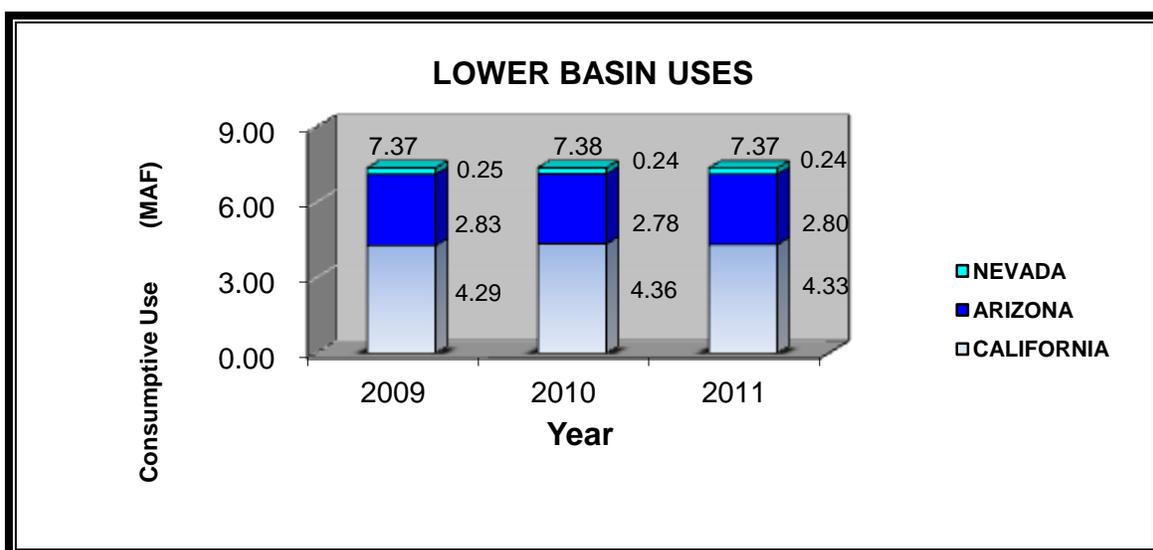


Figure 2. Recent Comparison of Lower Basin Uses of Colorado River Water

The AWBA recharged water at both USFs and GSFs in 2011. Table 1a lists the AWBA's recharge partners for 2011, the amount of water that can be stored under each AWBA water storage permit, and the amount of water delivered to the facility by the AWBA in 2011. Values are based on actual deliveries through October with November and December deliveries estimated. The amount of water delivered to a facility is always greater than the amount of long-term storage credits earned by the AWBA because credits are computed by subtracting approximately 3% for losses and 5% for a "cut to the aquifer" from the total annual deliveries. Final figures for credits earned generally become available in the middle of the following year after review of the annual reports filed with the ADWR and are reported in the AWBA's Annual Report.

**Table 1a. Recharge Partners and Water Deliveries for 2011**

AMA	Facility	Type	Permit Capacity (acre-feet)	Delivered (acre-feet)	
				Intrastate	Interstate
PHOENIX AMA	Tonopah Desert	USF	150,000	53,830	0
	New Magma ID	GSF	54,000	5,000	0
	Queen Creek ID	GSF	28,000	7,055	0
	<i>Intrastate/Interstate AMA Subtotal</i>			<b>65,885</b>	<b>0</b>
	<i>Phoenix AMA Subtotal</i>			<b>65,885</b>	
PINAL AMA	Central Arizona IDD	GSF	110,000	22,500	0
	Hohokam IDD	GSF	55,000	4,120	0
	Maricopa-Stanfield IDD	GSF	120,000	7,500	0
	<i>Intrastate/Interstate AMA Subtotal</i>			<b>34,120</b>	<b>0</b>
	<i>Pinal AMA Subtotal</i>			<b>34,120</b>	
TUCSON AMA	Avra Valley	USF	11,000	1,636	0
	Lower Santa Cruz	USF	50,000	11,801	0
	SAVSARP	USF	60,000	20,923	0
	Cortaro-Marana ID	GSF	20,000	1,000	0
	Kai Farms-Red Rock	GSF	11,231	1,077	0
	<i>Intrastate/Interstate AMA Subtotal</i>			<b>36,437</b>	<b>0</b>
	<i>Tucson AMA Subtotal</i>			<b>36,437</b>	
<b>TOTAL INTRASTATE &amp; INTERSTATE DELIVERIES</b>					<b>0</b>
<b>TOTAL RECHARGE DELIVERIES</b>				<b>136,442</b>	

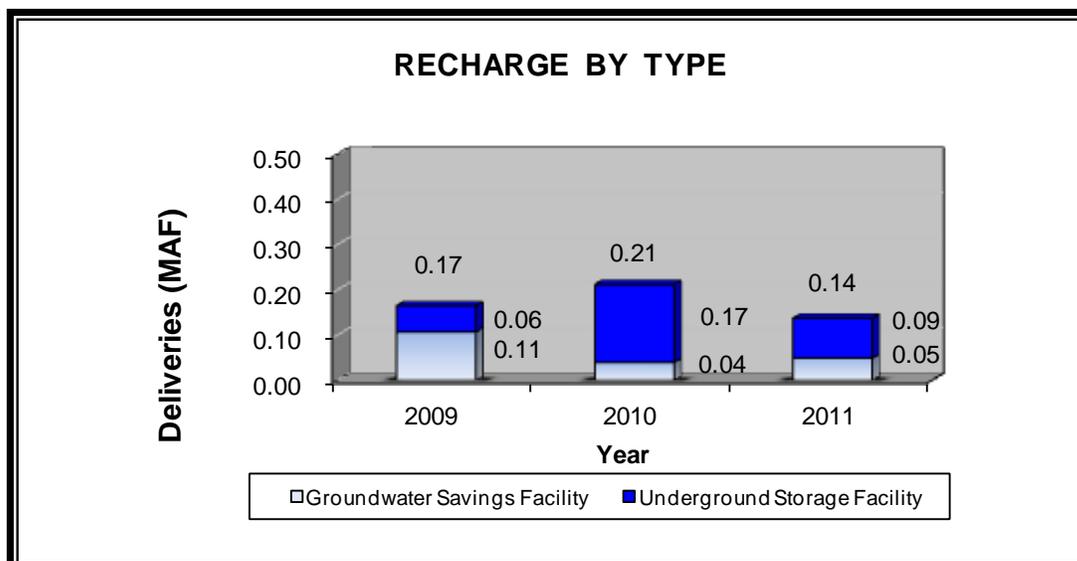
In addition to recharge deliveries, the AWBA also delivered water to meet the requirements of the Gila River Indian Community Water Settlement Program (Settlement Program). In 2009, the AWBA entered into an intergovernmental agreement (IGA) with the Gila River Indian Community that identifies the procedure for delivering water for meeting a replenishment obligation and/or for establishing the Southside Replenishment Bank identified in the Settlement Program. While these deliveries do not accrue long-term storage credits that may be recovered in the future, the Replenishment Bank receives a credit for each acre-foot of water delivered. The replenishment bank can be used to offset any replenishment obligations created as a result of pumping limitations included in the Arizona Water Settlements Act (Settlements Act). Table 1b identifies the amount of water the AWBA delivered to the Replenishment Bank. There was no replenishment obligation in 2011.

**Table 1b. Replenishment Deliveries**

Southside Replenishment Activities	2011 Deliveries (acre-feet)	Cumulative Deliveries (acre-feet)
Replenishment Obligations	0	0
Replenishment Bank	1,000	3,000
<b>TOTAL DIRECT DELIVERIES</b>	<b>1,000</b>	<b>3,000</b>

The AWBA again participated in the AWBA and Central Arizona Groundwater Replenishment District (CAGR) Replenishment Reserve Excess CAP water pool created by CAWCD. The 2011 Plan identified the delivery of 137,441 acre-feet of water for storage. The Plan was amended in August to reflect the redirection of water supplies from the Tucson AMA to the Pinal AMA. The Plan was also amended to include an additional cost share component paid by the Pinal AMA groundwater savings facility (GSF) operators for the redirected water supplies. For 2011, the AWBA delivered for storage an estimated 137,441 acre-feet of water: Figure 3 shows the acre-foot breakdown between GSFs and USFs for 2011 and a comparison between 2011 and previous years.

**Figure 3. Recent Comparison of Annual Deliveries to GSFs and USFs**



## 2012 PLAN OF OPERATION

The AWBA will store 119,002 acre-feet of intrastate water in 2012. Water storage will be occurring in facilities in all three counties. The AWBA is not planning any interstate storage. The AWBA will also deliver 1,000 acre-feet of water for the Southside Replenishment Bank.

When developing a Plan of Operation, the AWBA evaluates four critical factors: (1) the amount of water available to the AWBA for delivery; (2) the CAP capacity available to the AWBA for the delivery of water; (3) the funds available and the costs required to deliver the water; and (4) the capacity available for use by the AWBA at the various recharge facilities. In addition to these critical factors, the AWBA takes into consideration recommendations made by the Groundwater Users Advisory Councils (GUAC) of the three AMAs regarding water management objectives and priorities for storage. For 2012, the amount of water available to the AWBA is the limiting factor for this Plan.

### I. Water Availability

The factor of water availability consists of two parts: (1) the amount of water available on the Colorado River for diversion by the CAP within Arizona's allocation; and (2) the amount of CAP water available to the AWBA for delivery under the existing pool structure.

The proposed Annual Operating Plan (AOP) for water year 2012 distributed by the Bureau of Reclamation (Bureau) stated that the Intentionally Created Surplus (ICS) Surplus Condition is the criterion that will govern the release of water for the states in the Lower Basin during calendar year 2011. Because Arizona has not created ICS, the State will operate under normal conditions, which allows 2.8 MAF of water available for use within Arizona. Arizona's on-river use is forecast to be 1.21 MAF, leaving approximately 1.59 MAF available for diversion by CAP.

For 2012, the AWBA will purchase water from the Excess CAP water pool that is available for use by the AWBA and CAGRDR for replenishment reserve purposes. Under this pool the AWBA shares an equal priority for municipal and industrial (M&I) firming with the CAGRDR for replenishment reserve purposes. The Federal government may also order water from this pool for the purpose of meeting its Indian firming obligations. The CAWCD Board of Directors (Board) originally identified a volume of 175,000 acre-feet for this pool. However for 2012, due to higher than expected priority M&I subcontractor and Indian orders the CAWCD Board modified the quantity available in this pool to approximately 137,000 acre-feet.

Subtracting the projected uses for the CAGRDR replenishment reserve (5,525 acre-feet) and the Bureau (11,768 acre-feet), leaves a remaining balance of approximately 120,002 acre-feet for the AWBA.

## II. CAP System Capacity

Under normal operating conditions, CAP can divert approximately 1.6 MAF of water. Reclamation estimates that approximately 1,587,000 acre-feet will be available for delivery by the CAP in 2012. This quantity includes the volume of water available to the AWBA. Because there is still capacity available in the CAP to deliver additional supplies, capacity within the CAP for the delivery of AWBA water is not a limiting factor in this Plan.

## III. Available Funds

The AWBA will have withdrawal fees collected in 2012 available for use in this Plan. Total withdrawal fees are estimated at \$3.1 million, which includes \$1.5 for the Phoenix AMA, \$1.2 million for the Pinal AMA and \$400,000 for the Tucson AMA.

As in previous years, the CAWCD Board resolved to continue to retain the county *ad valorem* property taxes collected and not transfer those revenues to the AWBA Fund. Property tax revenues retained by CAWCD can be used to offset the cost of AWBA water deliveries in the tri-county CAWCD service area. The estimated *ad valorem* tax balances available for 2012, including carryover, are: Maricopa County (\$129 million), Pinal County (\$1.3 million), and Pima County (\$5.42 million).

While funding was not a limiting factor in developing the Plan for the Phoenix AMA, funding did limit the amount of water available for storage in the Pinal and Tucson areas. The amount of funds collected in both the Pinal and Tucson AMAs is expected to be a limiting factor in these areas in the future.

## IV. Available Storage Facility Capacity

AWBA staff conferred with facility operators to discuss their delivery schedules and their continued interest in participating with the AWBA. These discussions confirmed that there was significant interest from facility operators in all three AMAs in partnering with the AWBA. If additional supplies become available, the AWBA still has sufficient capacity to meet its anticipated needs. Storage capacity is therefore not a limiting factor for this Plan.

The Water Delivery Schedule (Table 2) identifies the AWBA's partners for 2012 and the amount of water scheduled to be recharged. The second column in this section identifies the AWBA's water storage permit capacities for each facility based on the facility permits. The capacity available as shown does not always equate to the storage permit capacity because the storage facility operators may have agreements with other storage partners. In addition to recharge deliveries, Table 2 also identifies the amount of water scheduled for meeting the AWBA's Southside Replenishment obligations.

## **SHORTAGE REPARATION FUNDS**

Southern Nevada Water Authority (SNWA) agreed to provide \$8 million to the AWBA to assist Arizona in offsetting impacts from shortages pursuant to the Arizona-Nevada Shortage-Sharing Agreement. Approximately \$3 million of these funds has been

expended since 2008. If additional water becomes available the AWBA will evaluate the feasibility of expending a portion of these funds to purchase that additional water.

## **NEW FACILITIES**

CAWCD's Superstition Mountains Recharge Project (SMRP) has been included in the Plan for the first time. The facility is permitted for 25,000 acre-feet per year. The AWBA is expecting to store approximately 4,000 acre-feet at the facility in 2012.

**Table 2  
Water Delivery Schedule (Acre-Feet)  
Calendar Year 2012**

AWBA-Recharge Sites		Permitted Capacity (AF)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PHOENIX AMA :															
USF	HIEROGLYPHIC MTN	35,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	AGUA FRIA	100,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	TONOPAH DESERT	150,000	4,000	4,000	8,000	7,000	412	0	0	0	0	0	0	0	23,412
	SUPERSTITION MTNS	25,000	0	1,000	1,000	1,000	350	0	0	0	0	0	0	0	3,350
															26,762
GSF	NEW MAGMA	54,000	0	0	4,000	4,000	4,000	4,000	4,000	4,000	4,000	2,000	0	0	30,000
	QUEEN CREEK	28,000	0	0	0	0	0	0	175	1,343	2,285	1,142	1,143	1,142	7,230
	TONOPAH ID	15,000	0	0	0	0	0	0	0	0	0	0	0	0	0
															37,230
<b>AMA TOTAL INTRASTATE</b>			4,000	5,000	13,000	12,000	4,762	4,000	4,175	5,343	6,285	3,142	1,143	1,142	63,992
PINAL AMA :															
GSF	CAIDD	110,000	0	0	0	0	500	1,500	1,500	4,170	1,000	0	0	0	8,670
	HOHOKAM	55,000	734	0	0	0	0	0	0	0	734	734	734	734	3,670
	MSIDD	120,000	508	636	1,589	1,335	1,335	636	318	318	572	500	670	254	8,670
															21,010
<b>AMA TOTAL INTRASTATE</b>			1,242	636	1,589	1,335	1,835	2,136	1,818	4,488	2,306	1,234	1,404	988	21,010
TUCSON AMA:															
USF	AVRA VALLEY	11,000	0	0	0	0	0	0	0	0	0	260	670	670	1,600
	LOWER SANTA CRUZ	50,000	2,000	2,000	2,000	2,000	2,000	0	0	0	2,000	1,000		700	13,700
	CAVSARP	100,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAVSARP	60,000	2,000	2,000	2,000	2,000	2,000	0	0	0	0	1,000	2,000	2,000	15,000
															30,300
GSF	CORTARO-MARANA ID	20,000	0	0	0	500	500	500	500	0	0	0	0	0	2,000
	KAI FARMS (Red Rock)	11,231	0	0	0	500	500	500	0	0	0	0	0	0	1,500
	BKW Farms	14,316	0	0	100	100	0	0	0	0	0	0	0	0	200
															3,700
<b>AMA TOTAL INTRASTATE</b>			4,000	4,000	4,100	5,100	5,000	1,000	500	0	2,000	2,260	2,670	3,370	34,000
<b>TOTAL INTRASTATE</b>			9,242	9,636	18,689	18,435	11,597	7,136	6,493	9,831	10,591	6,636	5,217	5,500	119,002
<b>TOTAL INTERSTATE</b>			0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL RECHARGE</b>			9,242	9,636	18,689	18,435	11,597	7,136	6,493	9,831	10,591	6,636	5,217	5,500	119,002
DIRECT DELIVERY (Non-Storage):															
	Southside Replenishment Bank		1,000	0	0	0	0	0	0	0	0	0	0	0	1,000
	Southside Replenishment Obligation		0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>TOTAL DIRECT</b>		1,000	0	0	0	0	0	0	0	0	0	0	0	1,000
<b>TOTAL DELIVERIES</b>			10,242	9,636	18,689	18,435	11,597	7,136	6,493	9,831	10,591	6,636	5,217	5,500	120,002

## INDIAN SETTLEMENTS

The Plan does not specifically identify storage to meet the State's firming obligations under the Settlements Act; however it does incorporate replenishment deliveries required under the Gila River Indian Community (GRIC) Settlement Program.

### Indian Firming

The Settlements Act recognizes three categories where the State has firming responsibilities. The first two obligations pertain to firming of water for the GRIC and other Arizona tribes in times of shortage for a 100-year period; the third obligation pertains to providing assistance to the Secretary of the Interior (Secretary) in carrying out obligations of the Southern Arizona Water Rights Settlement Act.

1. GRIC - The AWBA must ensure that up to 15,000 acre-feet per year of CAP NIA priority water be made available to the GRIC. The AWBA did not receive a general fund appropriation for 2012 to specifically store water to help meet this obligation. Withdrawal fees may be utilized for Indian firming purposes after appropriated funds are expended. The 2012 Plan does not identify expenditures specifically for this purpose. However, credits accrued through the use of withdrawal fees could be used to meet this obligation if necessary.
2. Other Tribes - The AWBA is also required to firm up to 8,724 acre-feet per year of CAP NIA priority water for other Indian Settlements. The White Mountain Apache Tribe has entered into a settlement which requires the AWBA to firm 3,750 acre feet per year of the 8,724 acre-feet CAP NIA priority water. As with the GRIC obligation, no general fund appropriations were made available for this purpose. However, credits developed in this plan using withdrawal fees could be used for this purpose if needed. Settlements for other Indian Tribes have not been enacted at this time.
3. Federal Assistance - The AWBA has completed the State obligation to contribute \$3 million in cash or in-kind services to assist the Secretary in meeting the Federal obligation to the Tohono O'odham Nation.

### Southside Replenishment Bank

In addition to the firming requirements of the Settlements Act, the AWBA, acting as agent for the State, is required to deliver 15,000 acre-feet of water to the GRIC for the purpose of establishing the Southside Replenishment Bank. The AWBA must deliver a minimum of 1,000 acre-feet per year to establish this Bank. The Southside Replenishment Bank will fulfill the obligations created under the Settlements Act for protection of the Reservation from off-reservation groundwater pumping. The 2012 Plan includes 1,000 acre-feet of direct deliveries to the GRIC for this purpose, creating a cumulative total of 4,000 acre-feet toward meeting this obligation.

## Assignment of Long-term Storage Credits by the Tohono O'dham Nation

Pursuant to A.R.S. § 45-841.01, the Tohono O'dham Nation (Nation) must offer ten percent of the any credits they accrue at the Mission Mine Complex to the AWBA at a price per acre-foot that is equal to the AWBA's delivery and storage costs at the time of sale. If the Nation offers the AWBA credits in 2012, the AWBA will evaluate the offer to determine if it is reasonable to purchase those credits. While these credits may be used for M&I firming or for water management purposes, there is a restriction that the credits not be recovered within five miles of the exterior boundary of the reservation.

## **INTERSTATE WATER BANKING**

The 2012 Plan does not include an interstate storage for Nevada. The AWBA and SNWA executed a letter agreement, December 9, 2010, which suspends certain provisions of Second Amended Agreement for Interstate Water Banking (Second Amended Agreement). Pursuant to the letter agreement, AWBA agreed to forego storing additional water for SNWA through the end of calendar year 2014 and SNWA has agreed to forego requiring the development of ICUA during this period. In order to accommodate these operational adjustments, and unless otherwise agreed to by the AWBA and SNWA, payment dates specified in Subarticle 2.4.1.2 of the Second Amended Agreement will be extended by six years.

From 2009 to the present, Legislative transfers from the AWBA Nevada Resource subaccount total \$19.65 million.

## **RECOVERY**

No recovery of AWBA long term storage credits is anticipated in this Plan.

Staffs of ADWR, CAWCD and the AWBA have begun meeting to develop a draft Intergovernmental Agreement (IGA) among the ADWR, CAWCD and AWBA. This draft IGA will identify the duties and responsibilities of the parties as they relate to recovery of long term storage credits and delivery of the water created by that recovery. While the actual recovery of AWBA credits for firming is not expected for several years, a better understanding of the how that recovery is expected to occur would be very beneficial. As the staffs continue these efforts they will seek input from all interested parties.

## **PRICING**

In June 2011, the CAWCD Board approved its water delivery rate schedule for calendar years 2011/2012. The AWBA rate for recharge is now equivalent to the rate for excess M&I water at \$137 per acre-foot.

Groundwater pumping costs in the Phoenix, Pinal and Tucson AMAs vary depending on energy sources used and the location of wells, i.e. depth to water. The AWBA cost share in 2012 for the GSF partners in the Phoenix and Pinal AMAs is \$33 per acre-foot for, which is comparable to the average groundwater pumping costs in these areas.

Based on the range of groundwater pumping costs and cost shares paid by other partners, it was determined the cost share in 2012 for the Tucson AMA will be \$15 per acre-foot.

Table 4 reflects the water delivery rate CAWCD will charge the AWBA, the cost share GSF operators pay, and the rates the AWBA pays to utilize different USFs for M&I firming. When storing water for other than M&I firming purposes, the AWBA also pays a facility capital charge component. There is no administrative cost component in the facility cost because the AWBA pays the CAWCD administrative costs on an annual basis. While no interstate banking is anticipated in this Plan the rate established for interstate banking is \$163 per acre-foot, plus facility costs and facility capital costs.

**Table 3. 2012 Water and Facility Rates**

CAWCD delivery rate to AWBA for water storage	\$137 per acre-foot
Interstate rate	\$163 per acre-foot
Groundwater Savings Facility operator cost share rate <sup>1</sup>	
Intrastate	
Phoenix and Pinal AMAs	\$33 per acre-foot
Tucson AMA	\$15 per acre-foot
Interstate	\$26 per acre-foot
Underground Storage Facility rate paid by AWBA	
Agua Fria Recharge Project <sup>2</sup>	\$8 per acre-foot
Hieroglyphic Mtn. Recharge Project <sup>2</sup>	\$8 per acre-foot
Superstition Mountain Recharge Project <sup>2</sup>	\$8 per acre-foot
Tonopah Desert Recharge Project <sup>2</sup>	\$8 per acre-foot
West Maricopa Combine	\$25 per acre-foot
Avra Valley Recharge Project	\$15 per acre-foot
Lower Santa Cruz Recharge Project <sup>3</sup>	\$15 per acre-foot
Pima Mine Road Recharge Project <sup>3</sup>	\$15 per acre-foot
Clearwater Facility (CAVSARP/SAVSARP)	\$15.17 per acre-foot
CAWCD rate to AWBA for Southside Replenishment Bank deliveries	\$122 per acre-foot

<sup>1</sup> This rate is paid directly to CAP by the GSF operators and is not available as revenue to the AWBA. The AWBA's rate for delivery of in lieu water is thus reduced to \$104/af for intrastate deliveries to the Phoenix and Pinal AMAs, \$122/af to the Tucson AMA, and \$137/af for interstate deliveries.

<sup>2</sup> Additional capital charge of \$15 per acre-foot for interstate storage.

<sup>3</sup> Additional capital charge of \$9 per acre-foot for interstate storage.

## ACCOUNTING

The AWBA's enabling legislation required the development of an accounting system that allows the tracking of all credits accrued by the AWBA and the funding sources from which they were developed. The ADWR maintains the accounting of the credits. The AWBA accounts for the expenditure of the funds.

The estimated total cost of the AWBA's 2012 Plan is approximately \$15 million. Table 5 provides estimates of the funds available to be utilized by the AWBA, an estimate of funds to be collected during the year, the funds to be utilized, the entity that holds the funds, and the credits that will accrue to those accounts based on the 2012 Plan.

**Table 4. Funding for 2012 Annual Plan of Operation**

	Funds Available (\$)		Funds Utilized (\$)		Credits (AF)
	AWBA	CAWCD	AWBA	CAWCD	
<b>Withdrawal Fees</b>					
Phoenix AMA	\$1,500,000	-	\$1,500,000	-	11,390
Pinal AMA <sup>1</sup>	\$1,200,000	-	\$1,200,000	-	9,540
Tucson AMA	\$400,000	-	\$400,000	-	2,470
<b>Four Cent Tax</b>					
Phoenix AMA	\$0	\$129,000,000	\$0	\$6,252,000	47,480
Pinal AMA	\$0	\$1,300,000	\$0	\$1,107,000	9,790
Tucson AMA <sup>2</sup>	\$0	\$5,420,000	\$0	\$4,660,000	28,810
<b>Other</b>					
<b>General</b>	\$0				
Phoenix AMA		-	\$0	-	0
Pinal AMA		-	\$0	-	0
Tucson AMA		-	\$0	-	0
<b>Gifts, Grants, Donations</b>					
Shortage Reparations (NV):	\$0				
Phoenix AMA		-	\$0		0
Pinal AMA		-	\$0		0
Tucson AMA		-	\$0		0
<b>Interstate Banking- Nevada</b>					
Operating <sup>3</sup>		\$0		\$0	0
	<b>Total Funds Available</b>		<b>Total Funds Expended</b>		<b>Credits</b>
	\$138,820,000		\$15,119,000		109,480

<sup>1</sup> Includes expenditure for 1,000 acre-feet of direct deliveries to establish the Southside Replenishment Bank under the Gila River Indian Water Settlement Program.

<sup>2</sup> Includes revenue from CAWCD's capital charge for construction of state demonstration projects when facilities are used for interstate purposes and by entities that do not pay the 4¢ *ad valorem* tax. Revenue through 2011 is estimated to be \$2,194,811.

<sup>3</sup> Pursuant to a letter agreement between AWBA and SNWA executed December 9, 2010, storage of water on behalf of SNWA and annual payments to the Operating account have been suspended through 2014.

The 2012 Plan was developed expending all available withdrawal fees in the three AMAs. The Plan also shows CAWCD utilizing a portion of the four-cent tax collected in Maricopa County and all of the four-cent tax collected in Pinal and Pima Counties to offset water costs to the AWBA.

Table 6 provides an estimate of the AWBA funds expended and the location of the credits accrued since inception.

**Table 5. Cumulative Totals of Long-term Storage Credits 1997-2011**

	<b>FUNDS EXPENDED</b>	<b>CREDITS <sup>1</sup> AMOUNT (AF)</b>	<b>LOCATION</b>
<b>Withdrawal Fee</b>			
Phoenix AMA	\$17,134,991	277,760	Phoenix AMA
Pinal AMA <sup>2</sup>	\$14,290,367	380,741	Pinal AMA
Tucson AMA <sup>3</sup>	\$7,378,472	94,889	Tucson AMA
<b>Four Cent Tax</b>			
Maricopa County	\$80,093,703	1,271,155	Phoenix AMA
Pinal County	\$8,465,665	177,650	Pinal AMA
Pima County	\$35,902,315	360,618	Tucson AMA
<b>Other</b>			
General Fund <sup>4</sup>	\$11,100,865	403,830	
	\$1,522,115	42,316	Phoenix AMA
	\$6,394,964	306,968	Pinal AMA
	\$3,183,786	54,546	Tucson AMA
Indian Firming Appropriation	\$2,338,171 \$0 \$0 \$2,338,171	28,481 0 0 28,481	Phoenix AMA Pinal AMA Tucson AMA
Shortage Reparations	\$2,999,742 \$1,099,339 \$1,708,580 \$191,823	82,050 20,642 60,181 1,227	Phoenix AMA Pinal AMA Tucson AMA
Pinal Redirect <sup>5</sup>	N/A	13,800	Pinal AMA
<b>Interstate</b>			
Nevada <sup>6</sup>	\$109,087,822 \$10,053,945 \$86,589,032 \$12,444,845	600,651 51,009 439,851 109,791	Phoenix AMA Pinal AMA Tucson AMA
<b>TOTAL</b>	<b>\$288,792,113</b>	<b>3,691,625</b>	

<sup>1</sup> Actual credits used for 1997-2010; credits estimated for 2011.

<sup>2</sup> Includes expenditure of \$348,000 for Southside Replenishment Bank deliveries.

<sup>3</sup> Includes expenditure of \$22,698 for the assignment of 234 acre-feet of credits to the AWBA from the Tohono O'odham Nation pursuant to §45-841.01.

<sup>4</sup> 256,174 AF of credits reserved pursuant to contract with Mohave County Water Authority.

<sup>5</sup> Credits accrued from water scheduled for the Tucson AMA and redirected to the Pinal AMA for storage at GSFs. Facility operators paid 100% of the water delivery rate.

<sup>6</sup> Includes 50,000 acre-feet of credits transferred from CAWCD pursuant to Amended Agreement for Interstate Water Banking.

Table 7 identifies the progress made on the AWBA's goals and obligations through 2012.

**Table 6. Projected Percent of Goals and Obligations Achieved through 2012**

Location and Objective	Funding Source	Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits Accrued (AF)	Percent Goal/Oblig. Achieved
<b>Phoenix AMA</b> M&I Firming Groundwater Mgmt <sup>1</sup>	Ad valorem tax Withdrawal Fees	1,566,000 AF			1,318,328 289,461	84% 103%
<b>Pinal AMA</b> M&I Firming Groundwater Mgmt <sup>1</sup>	Ad valorem tax Withdrawal Fees	243,000 AF			187,443 390,277	77% 238%
<b>Tucson AMA</b> M&I Firming Groundwater Mgmt <sup>1,2</sup>	Ad valorem tax Withdrawal Fees	864,000 AF			389,415 91,753	45% 56%
<b>On-River M&amp;I Firming</b> <sup>3</sup>	General Fund	420,000 AF			403,830	96% <sup>4</sup>
<b>Indian Settlements:</b>  GRIC Firming	Withdrawal Fees	350,000 AF <sup>5</sup>	up to 15,000 AF/YR		0	0%
Future Settlements	Withdrawal Fees	200,000 AF <sup>5</sup>	up to 8,724 AF/YR		0	N/A
Federal Assistance Tucson AMA	Appropriation Withdrawal Fees		\$3,000,000	\$3,000,000 \$2,338,171 \$630,490	39,723 34,102 5,621	100%
	Cost of Services <sup>6</sup>			\$31,339	n/a	
Southside Repl. Bank	Withdrawal Fees		15,000 AF Direct Delivery		4,000	27%
<b>Interstate Water Banking - NV</b>	Contract with Nevada		1,250,000 AF <sup>7</sup>		600,651	48%
<b>Other:</b>  Shortage Reparations- Nevada	Gifts, Grants, Donations	\$8,000,000		\$2,999,748	82,050	37%
Pinal Redirect Credits <sup>8</sup>	N/A				13,800	N/A

<sup>1</sup> Withdrawal fees could be utilized in addition to 4¢ ad valorem tax revenues for M&I firming if needed to reach firming goals.

<sup>2</sup> Includes 234 AF credits acquired from the Tohono O'odham Nation pursuant to §45-841. 01.

<sup>3</sup> By resolution passed in 2002, the AWBA established on-river firming as the highest priority of use for credits accrued through expenditure of general fund appropriations. 256,174 AF of credits reserved pursuant to contract with Mohave County Water Authority.

<sup>4</sup> This percentage reflects full utilization of general fund credits accrued to date and would change as other objectives are identified by the AWBA.

<sup>5</sup> Based on estimates from the Indian Firming Study Commission Report dated January 6, 2006.

<sup>6</sup> Include \$14,883 and \$16,456 deducted for payment of cost of services for FY08 and FY09, respectively.

<sup>7</sup> Pursuant to the Amended Agreement for Interstate Water Banking, the AWBA has committed to have this number of long-term storage credits within the Nevada sub-account.

<sup>8</sup> Credits accrued from 15,000 AF of water that was scheduled for the Tucson AMA and redirected to the Pinal AMA for storage at GSFs. These credits will be used for M&I firming in the Tucson AMA and would meet 1% of the firming goal.

## **PUBLIC REVIEW AND COMMENT**

The AWBA staff held meetings with the GUACs for the Phoenix, Pinal and Tucson AMAs as required by statute. The Plan was distributed to the public and was posted on the AWBA web page for public review and comment. In general, the GUACs supported the Plan and had no requests for changes to it.

The City of Tucson/Tucson Water provided comments in support of the 2012 Plan and the AWBA's efforts to meet the M&I firming goal for the Tucson AMA. They also suggested future storage at recharge facilities with existing recovery capabilities, noting the importance of developing a recovery plan and encourage the AWBA's involvement in that process (see letter attached).



CITY OF  
TUCSON  
TUCSON WATER  
DEPARTMENT

November 30, 2011

Virginia O'Connell, Manager  
Arizona Water Banking Authority  
3550 North Central Avenue  
Phoenix, Arizona 85012

Re: Arizona Water Banking Authority 2012 Plan of Operation

Dear Ms. O'Connell:

Tucson Water has reviewed the Arizona Water Banking Authority (AWBA) 2012 Draft Plan of Operation and notes that Table 2 of the Plan was developed with the input of Tucson Water and other interested parties and reflects the 15,000 AF of storage available for the AWBA at SAVSARP. Tucson Water supports the AWBA in its efforts to meet its M&I firming goal of 846,000 AF in the Tucson Active Management Area (TAMA). Tucson Water also supports the storage of as much of this volume as possible in facilities which can provide recovery for wet water management. To that end, should additional water be made available for storage in TAMA in 2012, Tucson Water would like the opportunity to provide additional storage capacity at either SAVSARP or CAVSARP. In future years it would be advantageous for AWBA to store firming water in facilities with existing recovery capacity, such as Pima Mine Road Recharge and Recovery Project (PMRRP) rather than facilities that have no current capability of recovery such as the Lower Santa Cruz Recharge Project (LSCR) and Groundwater Savings Facilities (GSFs). Tucson Water would also like to take this opportunity to reiterate the importance of the development of a Recovery Plan for future wet water recovery of these long-term storage credits and to encourage the AWBA's continued involvement in the development of such a plan.

If you have any questions regarding the information provided, please contact me at 791-2666.

Respectfully yours,

Sandy Elder  
Interim Director

SE/DK/lr

cc: Andrew H. Quigley, Interim Assistant City Manager  
Christopher Avery, Assistant City Attorney  
Wally Wilson, Tucson Water

