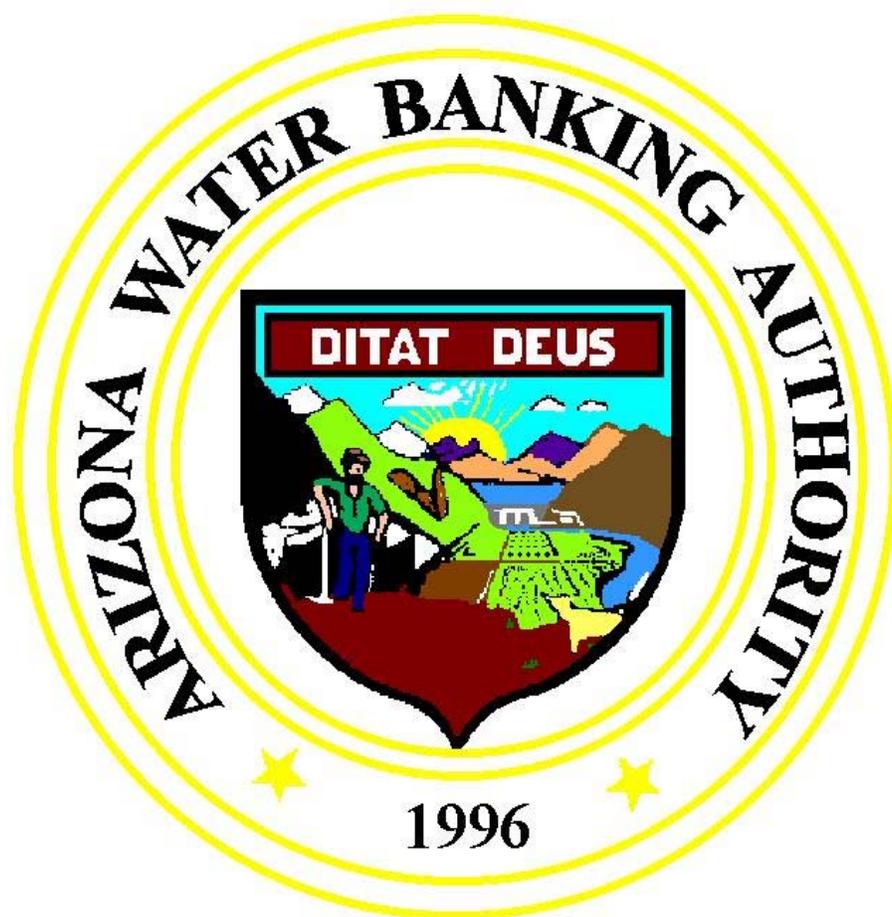


ARIZONA WATER BANKING AUTHORITY
ANNUAL PLAN OF OPERATION
2010



Herbert R. Guenther, Chairman

December 2009

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. Until the AWBA was created, Arizona had not used its full 2.8 million acre-foot share of Colorado River water. Leaving a portion of Arizona's water in the Colorado River was a lost opportunity; the AWBA has seized this opportunity to further secure dependable water supplies 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 for firming; 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 that are either from existing revenue sources or from fees charged to those benefiting directly from the stored water. 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 2010, the Water Bank will store approximately 152,600 acre-feet for intrastate storage at a cost of approximately \$20 million. There is no interstate storage planned

for 2010. Furthermore, the AWBA will deliver an additional 1,000 acre-feet of water for the purpose of establishing the Southside Replenishment Bank at a cost of \$118,000.

To date, the AWBA has delivered for storage approximately 3.6 million acre-feet of water at a cost of \$247 million; 3.0 million acre-feet for intrastate storage at a cost of \$136 million and 589,000 acre-feet for interstate storage at a cost of \$111 million.

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 by the AWBA will then be utilized by the AWBA when future conditions warrant. The use of LTS credits for the three objectives listed above may differ and 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.

2009 PLAN OF OPERATION

In 2009, the AWBA recharged and directly delivered approximately 182,670 acre-feet of Colorado River water, which includes 40,000 acre-feet of intentionally created unused apportionment (ICUA) from Nevada stored for interstate purposes. Arizona is planning to use its full entitlement of 2.8 MAF, which includes 27,500 acre-feet of ICUA developed for and diverted by California. CAWCD recovered and utilized credits previously stored for the benefit of California allowing the creation of ICUA (see Figure 1). Arizona is forecasted to divert approximately 2.81 MAF, which includes the 40,000 acre-feet of ICUA from Nevada.

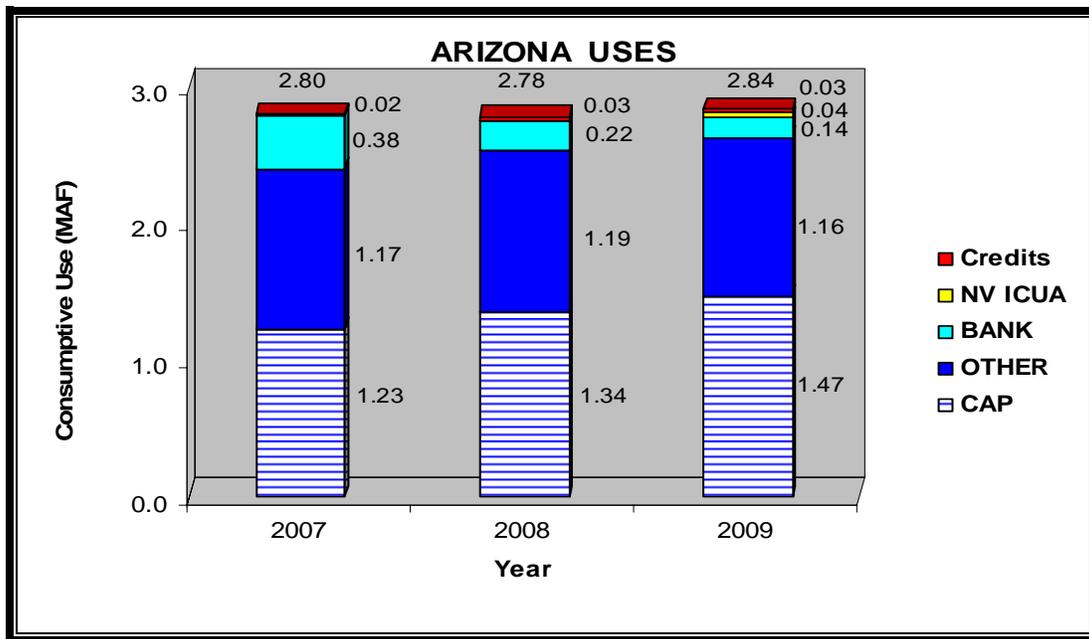


Figure 1. Recent Comparison of Colorado River Water Uses by Arizona

Forecasted direct use of Colorado River water in the Lower Basin is 7.35 MAF in 2009 (see Figure 2). California and Nevada also created Intentionally Created Surplus in 2009 for use in future years.

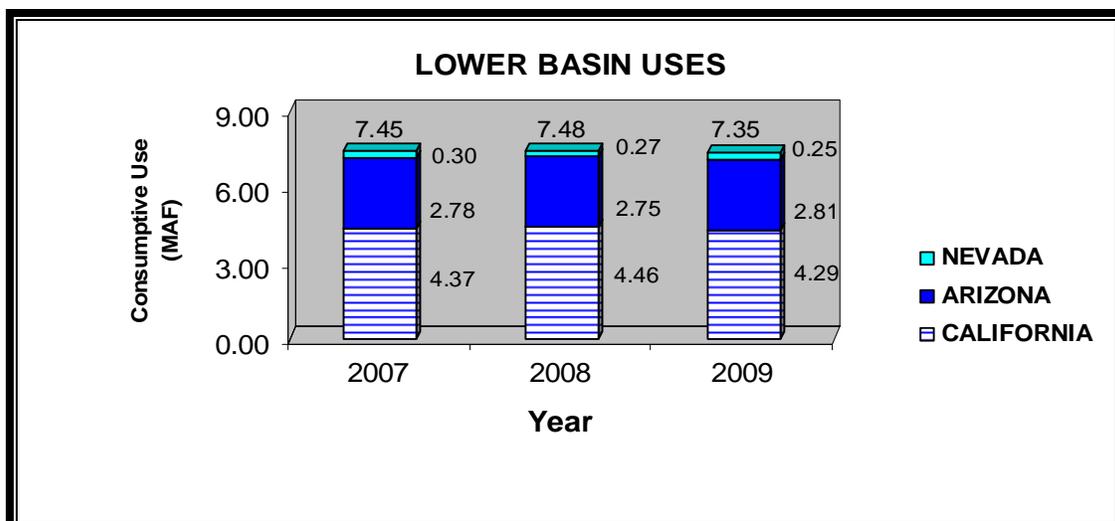


Figure 2. Recent Comparison of Lower Basin Uses of Colorado River Water

The AWBA recharged water at both USFs and GSFs in 2009. Table 1a lists the AWBA's recharge partners for 2009, 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 2009. 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 2009

AMA	Facility	Type	Permit Capacity (acre-feet)	Delivered (acre-feet)		
				Intrastate	Interstate	
PHOENIX AMA	Tonopah Desert	USF	150,000	0	30,000	
	Hieroglyphic Mtn.	USF	35,000	0	5,000	
	Queen Creek ID	GSF	28,000	6,697	0	
	Gila River Indian IDD	GSF	37,520	35,326	0	
	<i>Intrastate/Interstate AMA Subtotal</i>				42,023	35,000
	<i>Phoenix AMA Subtotal</i>				77,023	
PINAL AMA	Central Arizona IDD	GSF	110,000	20,000	12,500	
	Maricopa-Stanfield IDD	GSF	120,000	20,000	20,726	
	<i>Intrastate/Interstate AMA Subtotal</i>				40,000	33,226
	<i>Pinal AMA Subtotal</i>				73,226	
TUCSON AMA	Avra Valley	USF	11,000	3,001	500	
	Lower Santa Cruz	USF	50,000	6,000	2,500	
	Pima Mine Road	USF	30,000	0	2,000	
	CAVSARP	USF	100,000	11,599	0	
	SAVSARP	USF	60,000	4,525	0	
	Kai Farms – Red Rock	GSF	11,231	2,300	0	
	<i>Intrastate/Interstate AMA Subtotal</i>				27,425	5,000
	<i>Tucson AMA Subtotal</i>				32,425	
TOTAL INTRASTATE & INTERSTATE DELIVERIES				109,448	73,226	
TOTAL RECHARGE DELIVERIES				182,674		

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 replenishment credit for each acre-foot of water delivered. Table 1b identifies the amount of water the AWBA delivered for replenishment purposes. A replenishment obligation was not incurred in 2008.

Table 1b. Replenishment Deliveries

Southside Replenishment Activities	2009 Deliveries (acre-feet)	Cumulative Deliveries (acre-feet)
Replenishment Obligations	0	0
Replenishment Bank	1,000	1,000
TOTAL DIRECT DELIVERIES	1,000	1,000

The initial Plan of Operation (Plan) for 2009 proposed to deliver 118,523 acre-feet of water and did not include deliveries for interstate storage. Because demand for excess CAP water exceeded supplies, CAWCD established excess pools based on certain criteria. The AWBA met the criteria for participating in two pools: the Indian firming pool and the agricultural incentive-priced pool. The Plan was amended in April of 2009 to include an additional 16,124 acre-feet of water made available through CAWCD's remarketing process. Legislative transfers from the Arizona Water Banking fund required the Plan to be amended to reclassify 25,000 acre-feet of deliveries to the Pinal AMA as interstate storage for Nevada. The Plan was amended a second time when Nevada made 40,000 acre-feet of intentionally created unused apportionment available to the AWBA. The AWBA also used interstate funds to pay for the storage relinquished by another CAP customer. By the end of the year, the AWBA delivered for storage an estimated 182,670 acre-feet of water: 109,450 acre-feet for intrastate banking and 73,220 acre-feet for interstate banking. Figure 3 shows the acre-foot breakdown between GSFs and USFs for 2009 and a comparison between 2009 and previous years.

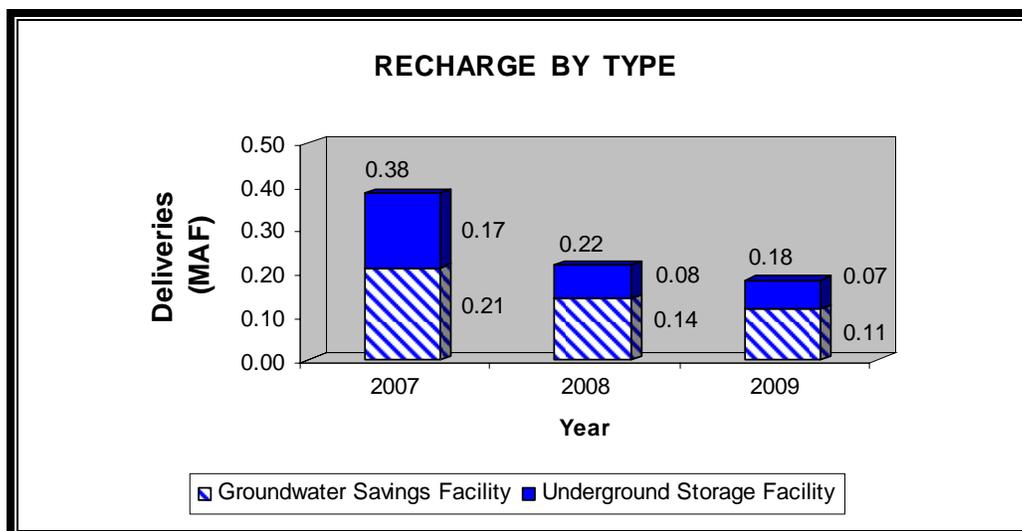


Figure 3. Recent Comparison of Annual Deliveries to GSFs and USFs

2010 PLAN OF OPERATION

For 2010, the AWBA will store 152,600 acre-feet of intrastate water. 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.

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 Bureau of Reclamation (Bureau) distributed the Draft Annual Operating Plan (AOP) for water year 2010 to the states in September of 2009. The AOP 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 2010. 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 1.2 MAF, leaving approximately 1.6 MAF available for diversion by CAP. Pursuant to a letter agreement between the Metropolitan Water District of Southern California (Metropolitan), CAWCD, and the AWBA, Metropolitan has requested the recovery of its remaining balance of 8,663 acre-feet of credits in 2010 which, when exchanged for CAP water, will create Intentionally Created Unused Apportionment (ICUA) available to California from Arizona's apportionment.

With respect to availability of CAP water, the AWBA purchases water from the category that is termed excess water. Excess water is all water available for delivery through the CAP in excess of the quantities scheduled under long-term contracts and subcontracts. The availability of excess water is determined on an annual basis. The AWBA may order any excess water not requested by another entity within the CAP service area. The AWBA shares an equal priority for water for municipal and industrial (M&I) firming with the Central Arizona Groundwater Replenishment District for replenishment reserve purposes.

The CAWCD Board of Directors (Board), in anticipation of increased excess water orders, had directed its staff to develop a comprehensive strategy for distributing excess CAP water among competing demands. In July of 2009, the

Board adopted a five-year policy for the distribution of excess water beginning in 2010. Under this policy, CAWCD created four pools in addition to the agricultural pool previously established. One of these pools is shared between the AWBA, the CAGRDR for replenishment reserve purposes, and the Bureau for Indian firming, and is for a fixed amount of 175,000 acre-feet. The AWBA may use this water for any authorized purpose. After subtracting the projected uses for the CAGRDR and the Bureau, the total amount of water available to the AWBA in 2010 is 153,600 acre-feet.

II. CAP System Capacity

Under normal operating conditions, CAP can divert approximately 1.6 million acre-feet. Although the CAP is capable of delivering approximately 180,000 acre-feet per month, the available capacity does not always total that because of unique situations, i.e. the filling of Lake Pleasant in the winter months, deliveries to the western portion of the aqueduct, New Waddell Dam releases to the aqueduct in the summer months and scheduled maintenance and outages. The amount of water available to be diverted by the CAP within Arizona's 2.8 million acre foot allocation was not a limiting factor in this Plan.

III. Available Funds

The AWBA will have withdrawal fees collected in 2010 available for use in this Plan for intrastate storage. Total withdrawal fees are estimated at \$3.7 million; of that amount, \$1.7 million is available for the Phoenix AMA, and approximately \$1.5 million and \$450,000 are available for the Pinal and Tucson AMAs, respectively.

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 2010, including carryover, are: Maricopa County (\$110 million), Pinal County (\$1.97 million), and Pima County (\$12.6 million).

While funding was not a limiting factor in developing the Plan for the Phoenix and Tucson AMAs, funding in the Pinal area did limit the amount of water available for storage. The 2010 Plan expends funds that have been carried over from previous years' collections in the Tucson AMA. 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 in partnering with the AWBA. If additional supplies become available, the AWBA still has sufficient capacity to meet its anticipated needs.

The Water Delivery Schedule (Table 2) identifies the AWBA's partners for 2010 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.

NEW FACILITIES

There are no new facilities for 2010; however in July of 2009, ADWR issued a permit modification for the Tonopah Desert Recharge Project that allows for the continued storage of 150,000 acre-feet per year, subject to the condition that storage does not exceed 2,000,000 acre-feet at any time. This permit modification provides an additional 62,500 acre-feet per year of storage capacity in the Phoenix AMA. While not a new facility, the AWBA for the first time has entered into a partnership with the Cortaro-Marana Irrigation District for storage at its GSF. The GSF is located in the Tucson AMA and is permitted to store 20,000 acre-feet of water annually.

**Table 2
Water Delivery Schedule (Acre-Feet)
Calendar Year 2010**

AWBA-Recharge Sites		Permitted Capacity (AF)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
PHOENIX AMA :																
USF	West Maricopa Combine	25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	
	HIEROGLYPHIC	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	0	9,000	9,000	9,000	9,000	9,000	9,000	1,345	0	0	0	0	0	46,345
															46,345	
GSF	RWCD	105,000	0	0	0	0	0	0	0	0	0	0	0	0	0	
	CHANDLER HGTS ID	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NEW MAGMA	54,000	0	0	0	0	0	0	0	0	0	0	0	0	0	
	QUEEN CREEK	28,000	0	0	0	0	0	0	0	1,343	2,285	2,285	0	1,142	7,055	
	TONOPAH ID	15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	
															7,055	
AMA TOTAL INTRASTATE			0	9,000	9,000	9,000	9,000	9,000	9,000	1,345	1,343	2,285	2,285	0	1,142	53,400
PINAL AMA :																
GSF	CAIDD	110,000	0	1,000	2,000	1,000	2,000	2,000	2,000	1,400	0	0	0	0	11,400	
	HOHOKAM	55,000	0	500	1,000	500	0	0	0	0	2,460	2,000	2,175	2,365	11,000	
	MSIDD	120,000	800	1,000	2,500	2,100	2,100	1,000	500	500	900	0	0	400	11,800	
															34,200	
AMA TOTAL INTRASTATE			800	2,500	5,500	3,600	4,100	3,000	2,500	1,900	3,360	2,000	2,175	2,765	34,200	
TUCSON AMA:																
USF	AVRA VALLEY	11,000	0	250	250	500	500	500	500	0	0	0	0	0	2,500	
	PIMA MINE RD	30,000	0	0	0	0	0	0	0	0	0	0	0	0	0	
	LOWER SANTA CRUZ	50,000	0	2,500	2,500	2,500	2,500	2,500	2,500	2,500	0	0	0	0	17,500	
	CAVSARP	100,000	0	0	0	0	0	0	0	0	5,000	0	0	0	5,000	
	SAVSARP	60,000	0	0	0	0	5,000	5,000	5,000	5,000	5,000	4,000	3,000	4,000	36,000	
															61,000	
GSF	CORTARO-MARANA ID	20,000	500	500	675	325	500	500	500	500	0	0	0	0	4,000	
	KAI FARMS (Red Rock)	11,231		0	0	0	0	0	0	0	0	0	0	0	0	
															4,000	
AMA TOTAL INTRASTATE			500	3,250	3,425	3,325	8,500	8,500	8,500	8,000	10,000	4,000	3,000	4,000	65,000	
Outside AMA:																
	HARQUAHALA VALLEY ID	50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	
OUTSIDE TOTAL															0	
TOTAL INTRASTATE			1,300	14,750	17,925	15,925	21,600	20,500	12,345	11,243	15,645	8,285	5,175	7,907	152,600	
TOTAL INTERSTATE			0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL RECHARGE			1,300	14,750	17,925	15,925	21,600	20,500	12,345	11,243	15,645	8,285	5,175	7,907	152,600	
DIRECT DELIVERY (Non-Storage):																
	Southside Replenishment Bank		0	0	0	0	0	0	0	0	1,000	0	0	0	1,000	
	Southside Replenishment Obligation		0	0	0	0	0	0	0	0	0	0	0	0	0	
	TOTAL DIRECT		0	0	0	0	0	0	0	0	1,000	0	0	0	1,000	
TOTAL DELIVERIES			1,300	14,750	17,925	15,925	21,600	20,500	12,345	11,243	16,645	8,285	5,175	7,907	153,600	

INDIAN SETTLEMENTS

The Plan does not specifically identify storage to meet the State's firming obligations under the Arizona Water Settlements Act (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 to meet this obligation. Although withdrawal fees may be utilized for Indian firming after appropriated funds are expended, the 2010 Plan does not identify the expenditure of withdrawal fees specifically for this purpose. 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 future Indian Settlements. Settlements for other Indian Tribes have not been enacted at this time, thus the 2010 Plan does not include a component for this obligation.
3. Federal Assistance - The State is required 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. The Secretary and the AWBA agreed to develop long-term storage credits (credits), which will later be transferred to the Federal government. The AWBA completed this obligation in 2009.

GRIC Water Settlement Program

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 2010 Plan includes 1,000 acre-feet of direct deliveries to the GRIC for this purpose.

Assignment of Long-term Storage Credits Pursuant to A.R.S. § 45-841.01

Pursuant to A.R.S. § 45-841.01, an Indian community may accrue credits to further the implementation of Indian water rights settlements. One criterion for accruing credits is that ten percent of the credits be offered 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. The Tohono O'dham Nation (Nation) stored water at the Mission Mine Complex in 2008. In 2009, the Nation offered to assign 234 acre-feet of credits to the AWBA from the credits accrued from its 2008 storage. For 2010, an estimated 812 acre-feet of credits may be available to the AWBA based on the Nation's 2009 storage. 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 2010 Plan does not include an interstate water banking component for the State of Nevada. Because of the reduced water supplies available to the Water Bank in 2010, it is important to complete intrastate water banking with the funds available to the AWBA before interstate water is offered. However, if excess water becomes available later in the year after all storage for intrastate purposes has been maximized, the AWBA could store for interstate banking to ensure that Arizona's full entitlement is diverted from the Colorado River.

RECOVERY

The Metropolitan Water District of Southern California (Metropolitan) has requested that CAWCD recover the remaining 8,663 acre-feet of long-term storage credits (credits) held on its behalf by CAWCD in 2010. Pursuant to the letter agreement between Metropolitan, CAWCD, and the AWBA, these credits will be recovered or exchanged and ICUA created. Table 3 identifies the planned recovery schedule for 2010.

In addition to the efforts to recover credits for Metropolitan, CAWCD staff conducted recovery planning in 2009. Staff presented detailed results of the planning effort to the CAWCD Board at a work-study session on November 19. CAWCD staff then provided the following summary to the AWBA at the AWBA's work-study session on November 23:

- Currently CAWCD has approximately 40,000 AF of recovery capacity available.
- Most of the current capacity is from 35 recovery wells in MSIDD, CAIDD, and HIDD, in the Pinal AMA.
- Modeling efforts show that under extreme conditions, a shortage could be declared as early as 2014.
- Firming of Fourth Priority On-River M&I users would be required first and current recovery capacity would be sufficient to meet these needs.
- Modeling efforts also showed that additional recovery capacity may be needed by 2018 to meet potential requests for recovery by the Southern Nevada Water Authority.
- Current planning efforts focus on meeting the additional capacity needs by the following means: acquisition and refurbishment of underutilized wells, agreements with water providers for indirect recovery, and credit exchange opportunities.
- Modeling efforts suggests that recovery for M&I firming may not be needed until 2025.

Table 3. 2010 CAWCD Recovery Schedule

Entity	Annual Amount (Acre-feet)
Maricopa-Stanfield Irrigation & Drainage District (MSIDD)	2,000
Central Arizona Irrigation & Drainage District (CAIDD)	3,000
Hohokam Irrigation & Drainage District (HIDD)	3,663
TOTAL	8,663

PRICING

In June 2009, the CAWCD Board amended its water delivery rate schedule for calendar years 2009/2010. The Board concluded that because of the recent demand for excess CAP water, the incentive recharge rate was no longer necessary. Thus the rate for incentive recharge is now equivalent to the rate for excess M&I water. The 2010 rate for AWBA is \$133 per acre-foot.

This is the first year that the AWBA will have a different cost share structure between AMAs for its GSF partners. Historically, there has been little interest in GSF partnerships with the AWBA in the Tucson AMA because groundwater pumping costs in that AMA have been much lower than the cost share. Because funding in the Tucson AMA is not sufficient for meeting the M&I firming goal and since storage at GSFs is less expensive than underground storage facilities (USFs), accruing more credits per dollar spent, the AWBA Commission directed staff to pursue GSF opportunities in the Tucson AMA. Based on data submitted by the Tucson GSF operators, which included a range of groundwater pumping costs and cost shares paid by other partners, it was determined that a reasonable cost share for 2010 is \$15 per acre-foot.

Groundwater pumping costs in the Phoenix and Pinal AMAs vary depending on energy sources used and the location of wells, i.e. depth to water. The AWBA increased the cost share for the GSF partners by \$1 to \$33 per acre-foot for the Phoenix and Pinal AMAs, which is comparable to the average groundwater pumping costs in these areas.

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. For other than M&I firming purposes, the AWBA also pays a 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. The rate established for interstate banking is \$231 per acre-foot, plus facility costs and facility capital costs.

Table 4. 2010 Water and Facility Rates

CAWCD delivery rate to AWBA for water storage	\$133 per acre-foot
Interstate rate	\$231 per acre-foot
Groundwater Savings Facility operator cost share rate ¹	
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 (CAWCD) ²	\$8 per acre-foot
Hieroglyphic Mtns. (CAWCD) ²	\$8 per acre-foot
Tonopah Desert Recharge Project (CAWCD) ²	\$8 per acre-foot
West Maricopa Combine	\$26 per acre-foot
Avra Valley (CAWCD) ³	\$15 per acre-foot
Lower Santa Cruz (CAWCD/Pima County) ³	\$15 per acre-foot
Pima Mine Road (CAWCD) ³	\$15 per acre-foot
Clearwater Facility (Tucson Water – CAVSARP/SAVSARP)	\$14.30 per acre-foot
CAWCD rate to AWBA for Southside Replenishment Bank deliveries	\$118 per acre-foot

¹ 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 \$100/af for intrastate deliveries to the Phoenix and Pinal AMAs, \$118/af to the Tucson AMA, and \$205/af for interstate deliveries.

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

³ 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 long-term storage credits accrued by the AWBA and the funding sources from which they were developed. The ADWR has established accounts that track both credits and funds.

The estimated total cost of the AWBA's 2010 Plan of Operation is approximately \$20 million. Table 5 provides estimates of the funds available to be utilized by the AWBA, including any funds carried over from previous years and 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 2010 Plan.

Table 5. Funding for 2010 Annual Plan of Operation

	Funds Available (\$)		Funds Utilized (\$)		Credits (AF)
	AWBA	CAWCD	AWBA	CAWCD	
Withdrawal Fees					
Phoenix AMA	\$1,700,000	-	\$1,700,000	-	12,030
Pinal AMA ¹	\$1,575,000	-	\$1,575,000	-	13,400
Tucson AMA	\$450,000	-	\$450,000	-	2,830
Four Cent Tax					
Phoenix AMA	\$0	\$110,218,000	\$0	\$5,562,000	37,630
Pinal AMA	\$0	\$1,966,000	\$0	\$1,963,000	18,060
Tucson AMA ^{2, 3}	\$0	\$12,700,000	\$0	\$9,160,000	57,740
Other					
General	\$0				
Phoenix AMA		-	\$0	-	0
Pinal AMA		-	\$0	-	0
Tucson AMA		-	\$0	-	0
Indian Firming	\$0				
Phoenix AMA		-	\$0	-	0
Pinal AMA		-	\$0	-	0
Tucson AMA		-	\$0	-	0
Gifts, Grants, Donations					
Shortage Reparations (NV):	\$0				
Phoenix AMA		-	\$0	-	0
Pinal AMA		-	\$0	-	0
Tucson AMA		-	\$0	-	0
Interstate Banking- Nevada					
Operating ⁴	\$31,447,000		\$0		0
Resource	\$5,169,000		\$0		0
	Total Funds Available		Total Funds Expended		Credits
	\$165,200,000		\$20,410,000		141,170

¹ Includes expenditure for 1,000 acre-feet of direct deliveries for establishing the Southside Replenishment Bank under the Gila River Indian Water Settlement Program.

² Includes CAWCD's capital charge recovery for costs of 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 2009 is estimated to be \$1,719,467.

³ Includes expenditure of \$120,176 for the assignment of an estimated 812 acre-feet of credits to the AWBA from the Tohono O'odham Nation pursuant to §45-841.01.

⁴ The amount of funding that will be available from the Southern Nevada Water Authority if water becomes available for interstate storage.

The 2010 Plan was developed expending all available withdrawal fees in the three AMAs. The Plan also requires that CAWCD utilize a portion of the four-cent tax they collect to offset water costs to the AWBA.

Table 6 provides an estimate of the AWBA funds expended and the credits that have accrued to the various accounts based on the AWBA's recharge activities since inception.

Table 6. Cumulative Totals of Long-term Storage Credits 1997-2009

	FUNDS		CREDITS ¹	
	EXPENDED	AMOUNT (AF)	LOCATION	
Withdrawal Fee				
Phoenix AMA	\$14,713,676	261,363	Phoenix AMA	
Pinal AMA ²	\$12,069,167	361,762	Pinal AMA	
Tucson AMA ³	\$6,793,004	90,831	Tucson AMA	
Four Cent Tax				
Maricopa County	\$61,292,863	1,145,822	Phoenix AMA	
Pinal County	\$5,613,865	155,046	Pinal AMA	
Pima County	\$21,103,735	267,120	Tucson AMA	
Other				
General Fund ⁴	\$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	\$2,338,171	28,436		
	\$0	0	Phoenix AMA	
	\$0	0	Pinal AMA	
	\$2,338,171	28,436	Tucson AMA	
Shortage Reparations	\$2,307,919	76,102		
	\$1,099,339	20,642	Phoenix AMA	
	\$1,208,580	55,460	Pinal AMA	
	\$0	0	Tucson AMA	
Interstate				
Nevada ⁵	\$111,603,400	595,620		
	\$14,523,027	56,370	Phoenix AMA	
	\$74,247,908	446,144	Pinal AMA	
	\$22,832,465	93,106	Tucson AMA	
TOTAL	\$248,936,664	3,385,931		

¹ Actual credits used for 1997-2008; credits estimated for 2009.

² Includes expenditure of \$108,000 for Southside Replenishment Bank deliveries.

³ 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.

⁴ 230,280 AF of credits reserved pursuant to contract dated February 2, 2005 with Mohave County Water Authority.

⁵ 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 in 2010.

Table 7. Projected Percent of Goals and Obligations Achieved through 2010

Location and Objective	Funding Source	Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits Accrued (AF)	Percent Goal/Oblig. Achieved
Phoenix AMA M&I Firming Groundwater Mgmt ¹	Ad valorem tax Withdrawal Fees	1,566,000 AF			1,182,162 272,863	75% 93%
Pinal AMA M&I Firming Groundwater Mgmt ¹	Ad valorem tax Withdrawal Fees	243,000 AF			173,106 375,162	71%
Tucson AMA M&I Firming ² Groundwater Mgmt ^{1,2}	Ad valorem tax Withdrawal Fees	864,000 AF			326,057 85,533	38% 48%
On-River M&I Firming³	General Fund	420,000 AF			403,830	96% ⁴
Indian Settlements: GRIC Firming Phoenix AMA Pinal AMA	Withdrawal Fees	350,000 AF ⁵	up to 15,000 AF/YR		0 0 0	0%
Future Settlements	Withdrawal Fees	200,000 AF ⁵	up to 8,724 AF/YR		0	0%
Federal Assistance SAWRSA	Appropriation Withdrawal Fees Cost of Services ⁶		\$3,000,000	\$3,000,000 \$2,338,171 \$630,489	33,968 28,436 5,532	100%
Southside Repl. Bank	Withdrawal Fees		15,000 AF Direct Delivery	15,000 AF	2,000	13%
Interstate Water Banking - NV	Contract with Nevada		1,250,000 AF ⁷		595,620	48%
Shortage Repairs- Nevada	Gifts, Grants, Donations	\$8,000,000		\$2,307,919	76,102	29%

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

² Includes credits acquired from the Tohono O'odham Nation pursuant to §45-841.

³ By resolution passed in 2002, the AWBA established on-river firming as the highest priority of use for credits accrued through expenditure of general fund appropriations. Pursuant to the AWBA Agreement to Firm with the Mohave County Water Authority (MCWA) dated February 4, 2005, a total of 230,280 acre-feet of credits were transferred to the AWBA long-term-storage sub-account for the MCWA in 2005.

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

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

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

⁷ 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.

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.

Phoenix GUAC

In general, the GUAC supported the Plan as presented. There were questions concerning legislative transfers from the AWBA Fund and this would impact the AWBA in meeting its obligations. The GUAC continued to encourage the AWBA to work with appropriate entities to develop recovery plans.

Pinal GUAC

The GUAC supported the Plan as presented. Staff provided background information on the Southside Replenishment Program and on AWBA obligations for delivery of water in establishing the Southside Replenishment Bank. Members expressed overall concern over the legislative transfers from the Arizona Water Banking Fund and the resultant impacts to the AWBA in storing water supplies. The Pinal GUAC fully supports efforts to ensure that the AWBA continues to function as intended and meet its obligations within the AMAs.

Tucson GUAC

General discussion regarding the Plan included the relationship of water availability to CAWCD's rate increase and new policy on pools. There were questions concerning ADWR's recent self funding proposal and, specifically, the option proposing to temporarily redirect existing withdrawal fees from the Arizona Water Bank Fund to ADWR. Comments were made requesting clarification in the Plan on the status of recovery planning efforts. The GUAC supports the AWBA in their efforts to develop different cost share pricing for GSFs in the three AMA's and stated that the lower cost in Tucson will increase participation and help to achieve the M&I firming goal in the Tucson AMA.