

**ARIZONA WATER BANKING AUTHORITY**  
**ANNUAL PLAN OF OPERATION**  
**2017**



Thomas Buschatzke, Chair

December 2016



## SUMMARY

The role of the AWBA has changed considerably since its inception in 1996. The AWBA was initially established to utilize the unused portion of Arizona's annual Colorado River entitlement. In doing so, the AWBA's objectives were to store water to protect Central Arizona Project and Colorado River municipal and industrial water users against future shortages, to assist the state in meeting Tribal water rights claims, to provide groundwater management benefits, and finally to assist both California and Nevada through interstate banking. Over time, as the AWBA's objectives have become more defined, its responsibilities have expanded in some cases to obligations and in all cases to the development of a resource relied upon by many water providers to create a reliable water supply.

During its twenty years of operation, the AWBA has made considerable progress toward meeting its objectives, storing 4.1 million acre-feet (MAF) of water for future use, 3.5 MAF for Arizona uses and .6 MAF for interstate purposes on behalf of Nevada. To supplement this storage, the AWBA has developed over 46,400 acre-feet of additional credits: 18,400 acre-feet through credit purchase and 28,000 as firming credit equivalents described under the AWBA's firming agreement with the Gila River Indian Community. Although much has been accomplished, more is needed for the AWBA to be fully prepared to meet its future firming obligations.

For 2017, the volume of excess CAP water available to the AWBA is the lowest since inception at 17,630 acre-feet. This water will be stored at groundwater savings facilities within the three Active Management Areas (AMA) that have made capacity available to the AWBA and includes 5,230 acre-feet in the Phoenix AMA, 11,400 acre-feet in the Pinal AMA and 1,000 acre-feet in the Tucson AMA. To compensate for the decrease in water supplies, the AWBA also proposes to utilize all remaining funds available to develop an estimated 87,770 acre-feet of credits: 80,770 acre-feet through the purchase of existing long-term storage credits and 7,000 acre-feet as firming credit equivalents pursuant to the AWBA's firming agreement with the Gila River Indian Community. The total proposed cost of the 2017 Plan of Operation is \$22 million and includes \$2.8 million for storage and up to \$19.2 million for potential credit development.

Consistent with the recommendations of the AWBA's 2015 Annual Report and Ten-Year Plan, the 2017 Plan of Operation continues to focus on achieving municipal and industrial firming goals and meeting the responsibilities of the Settlements Act, while continuing to provide hydrologic water management benefits within the AMAs.

## INTRODUCTION

The AWBA was initially created in 1996 to store Arizona's unused Colorado River water entitlement in central and southern Arizona to develop long-term storage credits (credits) to: (1) firm existing water supplies for Colorado River and CAP M&I water users during Colorado River shortages or CAP service interruptions; (2) help meet the water management objectives of the Groundwater Code; (3) meet the State's obligations in the settlement of Indian water rights claims; and (4) assist Nevada and California through interstate banking. The AWBA's enabling legislation has been amended over time allowing it to store other renewable supplies and to purchase credits on top of excess CAP water supplies. The 2017 Plan does not include the storage of other renewable supplies, however, it does propose purchasing credits.

Although the AWBA can utilize general fund appropriations to conduct its business, in recent years the only funds available to the AWBA have been groundwater withdrawal fees collected in the Active Management Areas (AMA) and *ad valorem* property taxes levied and collected by the Central Arizona Water Conservation District (CAWCD). The availability of these funds for AWBA use varies both on an annual basis and by the amounts collected within each AMA/County. There are also restrictions on how the AWBA may utilize these revenues to meet its firming responsibilities. The costs to store water for Nevada, the AWBA's only interstate partner at this time, would be paid by Nevada at the time storage occurs.

The AWBA's storage of water is accomplished through the Underground Water Storage, Savings and Replenishment Program that is administered by the Arizona Department of Water Resources (ADWR). Through this program, the AWBA stores renewable water supplies in either underground storage facilities (USF) or groundwater savings facilities (GSF), also referred to as indirect storage. The program mandates an accounting of the water stored and the corresponding long-term storage credits accrued. The credits will be distributed by the AWBA when future conditions warrant. The use of the credits is dependent on the source of funds utilized to develop the credits.

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. Presentation of the draft Plan must be made at publicly-noticed open meetings at which members of the public are permitted to provide comment. A draft of the Plan was presented at meetings of the Groundwater Users Advisory Councils (GUAC) for the Phoenix, Pinal and Tucson AMAs. 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.

## 2016 PLAN OF OPERATION

The AWBA had 65,708 acre-feet of excess Colorado River water available for use in 2016. Arizona also plans to leave approximately 195,000 acre-feet of water in Lake Mead as both intentionally created surplus (ICS) (99,000 acre-feet) and system conservation water (96,000 acre-feet). Arizona's estimated use of Colorado River water in 2016 is 2.6 MAF (see Figure 1).

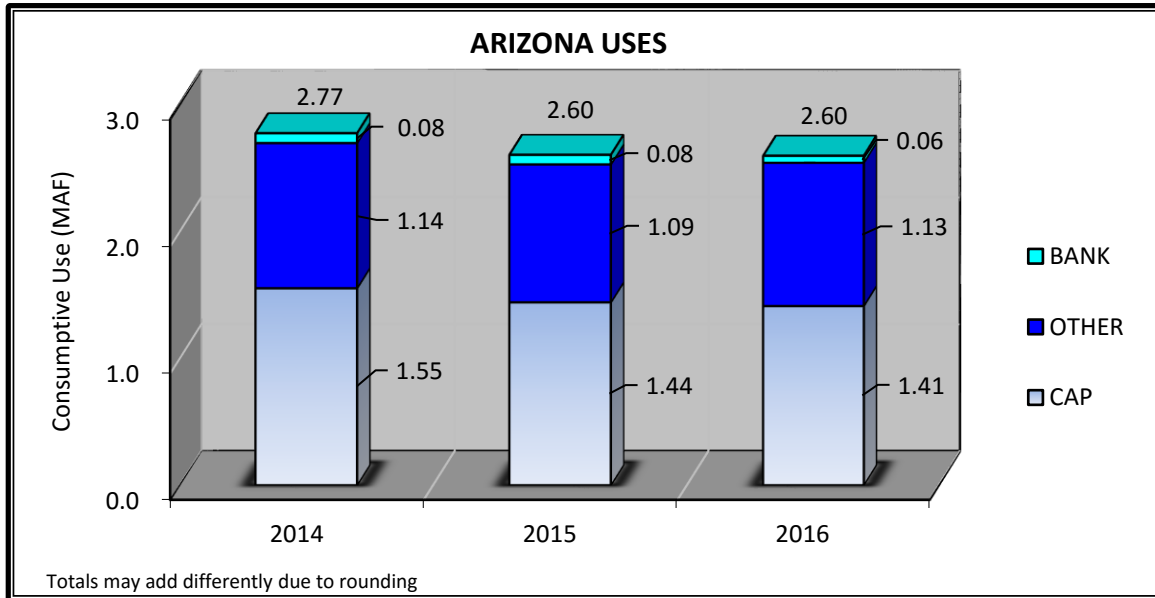


Figure 1. Recent Comparison of Colorado River Water Uses by Arizona

Forecasted use of Colorado River water in 2016 in the Lower Basin is 7.16 MAF as of December 2, 2016, (see Figure 2). This is the lowest volume since 2005.

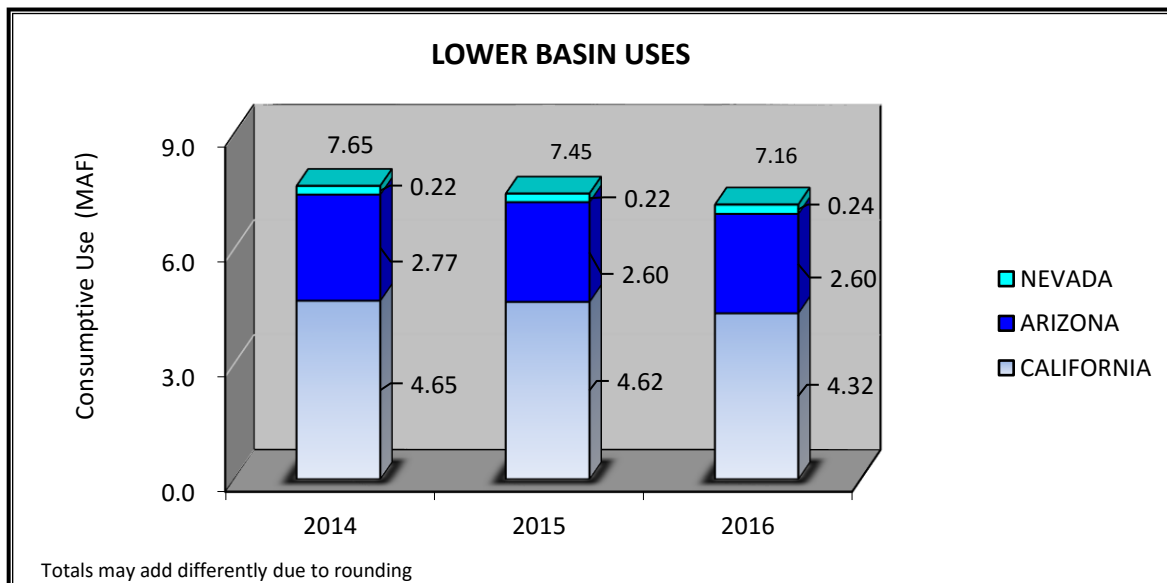


Figure 2. Recent Comparison of Lower Basin Uses of Colorado River Water

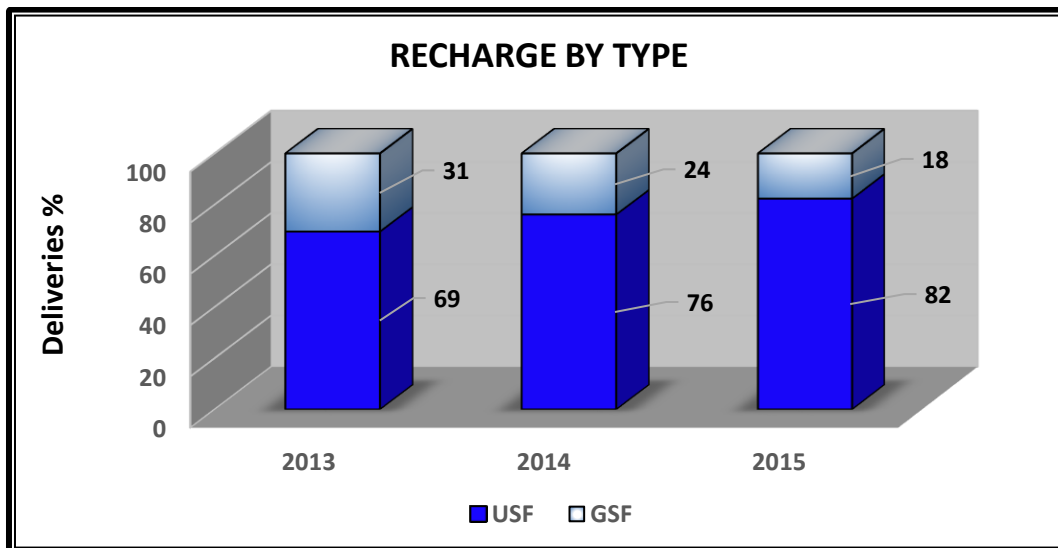
The AWBA stored water at both USFs and GSFs in 2016. Table 1 lists the AWBA's recharge partners for 2016, the amount of water that can be stored under each of the AWBA's water storage permits, and the amount of water delivered to the facility for the AWBA in 2016. The amount of water delivered to a facility is always greater than the amount of long-term storage credits accrued by the AWBA because credits are computed by subtracting approximately 1% to 3% for losses and 5% for a "cut to the aquifer" from the total annual deliveries. Final figures for credits accrued generally become available in the middle of the following year after review of the annual reports filed with the ADWR. These numbers are reported in the AWBA's Annual Report.

**Table 1. Recharge Facilities and Water Storage Deliveries for 2016**

AMA	Facility	Type	AWBA Permit Capacity (acre-feet)	Delivered* (acre-feet)
PHOENIX AMA	Agua Fria	USF	100,000	5,754
	Hieroglyphic Mtns.	USF	35,000	4,907
	Superstition Mtns.	USF	25,000	7,174
	GRUSP	USF	93,000	10,120
	Queen Creek ID	GSF	28,000	6,033
	<b>Phoenix AMA Subtotal</b>			
PINAL AMA	Central Arizona IDD	GSF	110,000	5,840
	Hohokam IDD	GSF	55,000	5,840
	Maricopa-Stanfield IDD	GSF	120,000	5,840
	<b>Pinal AMA Subtotal</b>			
TUCSON AMA	Avra Valley	USF	11,000	1,150
	Lower Santa Cruz	USF	50,000	1,850
	SAVSARP	USF	60,000	8,160
	Cortaro-Marana ID	GSF	20,000	1,500
	BKW Farms	GSF	14,316	1,000
	KAI FARMS -RED ROCK	GSF	11,231	540
	<b>Tucson AMA Subtotal</b>			
<b>TOTAL RECHARGE DELIVERIES</b>				<b>65,708</b>

\*November and December deliveries estimated

Figure 3 identifies the storage breakdown between GSFs and USFs for 2016 and provides a comparison between 2016 and the two previous years. As illustrated, the amount of storage at GSFs has decreased while storage at USFs has increased. The reduction in GSF storage can be attributed primarily to a decrease in storage in the Pinal AMA due to funding availability and annual increases water delivery costs.



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

As a supplement to water storage, the AWBA also accrued 12,000 acre-feet of “firming credits” developed on Gila River Indian Community lands pursuant to its agreements with the Community for meeting firming obligations.<sup>1</sup> Although Maricopa County ad valorem tax monies were reserved for credit purchase in 2016, no credits were purchased using these funds or other revenues available to the AWBA.

<sup>1</sup> Agreements include the *IGA between the AWBA and the GRIC* executed June 16, 2015 and the *Agreement between the AWBA and the GRIC for the Development of Firming Credits* executed June 30, 2016.

Table 2 provides an estimate of funds expended for water storage and credit purchases, including firming credits developed with the Gila River Indian Community, and the location of those credits.

**Table 2. Cumulative Long-term Storage and Firming Credits 1997-2016**

Funding Source	Phoenix AMA		Pinal AMA		Tucson AMA		Total <sup>1</sup>	
	Funds Expended (\$M)	Credits Accrued (AF)	Funds Expended (\$M)	Credits Accrued (AF)	Funds Expended (\$M)	Credits Accrued (AF)	Funds Expended (\$M)	Credits Accrued (AF)
<b>Withdrawal Fees</b>	\$ 29.3	360,138	\$ 19.4	421,577	\$ 9.3	105,728	\$ 57.9	887,443
<b>Ad valorem Tax</b>	\$ 107.7	1,419,016	\$ 13.1	215,916	\$ 53.6	459,682	\$ 174.4	2,094,614
<b>General Fund<sup>2</sup></b>	\$ 1.5	42,316	\$ 6.4	306,968	\$ 3.2	54,546	\$ 11.1	403,830
<b>Indian Appropriation</b>	\$ -	-	\$ -	-	\$ 2.6	28,481	\$ 2.6	28,481
<b>Shortage Reparations</b>	\$ 1.1	20,642	\$ 1.7	60,507	\$ 5.8	28,340	\$ 8.6	109,489
<b>Pinal Redirect<sup>3</sup></b>		-	\$ -	14,125	\$ -	-	\$ -	14,125
<b>Subtotal</b>	\$ 139.6	1,842,112	\$ 40.6	1,019,093	\$ 74.4	676,777	\$ 254.6	3,537,982
<b>Interstate - NV<sup>4</sup></b>	\$ 11.4	51,009	\$ 71.5	440,241	\$ 26.1	109,791	\$ 109.1	601,041
<b>Total</b>	\$ 151.1	1,893,121	\$ 112.1	1,459,334	\$ 100.5	786,568	\$ 363.6	4,139,023

<sup>1</sup>Actual expenditures and credits for 1997-2015; 2016 estimated.

<sup>2</sup>A total of 256,174 acre-feet of credits reserved for the Mohave County Water Authority pursuant to the Amended Agreement to Firm Future Supplies

<sup>3</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>4</sup>Includes 50,000 acre-feet of credits transferred from CAWCD pursuant to Amended Agreement for Interstate Banking.

## 2017 PLAN OF OPERATION

When developing its Plan of Operation, the AWBA evaluates four critical factors: (1) the amount of water available to the AWBA for delivery; (2) the CAP canal 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 comments solicited from the public as well as 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 proposed Annual Operating Plan (AOP) for water year 2016 distributed by the Bureau of Reclamation (Reclamation) 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 2017. In its continuing efforts to assist in protecting against water level declines in Lake Mead, Arizona is proposing to create an estimated 185,000 acre-feet of system conservation in 2017 leaving an estimated 2.62 MAF of water available for use within Arizona. Arizona's on-river use is forecast to be roughly 1.15 MAF, leaving approximately 1.47 MAF available for diversion by CAP.

For 2017, the AWBA will purchase excess CAP water from the Statutory Firming Pool made available for use by the AWBA, CAGR, and Bureau of Reclamation pursuant to the CAWCD Board of Directors (Board) policy approved on March 6, 2014. The CAGR uses this pool to create its replenishment reserve and has an equal priority to the AWBA. The Federal government may also order water from this pool for meeting its Indian firming obligations. The CAWCD Board establishes the volume available in this pool on an annual basis. The quantity available in this pool for 2017 is 18,630 acre-feet.

The CAGR has opted not to order water from this pool in 2017. Subtracting the projected use of 1,000 acre-feet for Reclamation leaves a remaining balance of 17,630 acre-feet for the AWBA. Water availability is the primary limiting factor in developing the 2017 Plan.

## II. CAP System Capacity

CAP system capacity is approximately 1.8 MAF. Under normal operating conditions, CAP diverts approximately 1.6 MAF of water. Reclamation estimates that this amount would be available for delivery by CAP in 2017. This amount includes the volume of water to be delivered for the AWBA. Because there is still capacity available in the CAP aqueduct to deliver additional supplies, capacity within the CAP canal for the delivery of AWBA water is not a limiting factor in this Plan.

## III. Available Funds

The AWBA will have an estimated \$2.8 million in withdrawal fee revenues available for use in 2017. Of this amount, \$1.3 million is estimated to be available for the Phoenix AMA, approximately \$973,000 million for the Pinal AMA, and \$495,000 for the Tucson AMA. Total available revenues include legislative transfers of \$1,411,100 for fiscal year 2017-2018. This amount was deducted proportionally from each AMA subaccount based on revenues collected resulting in 54% for the Phoenix AMA is, 36% for the Pinal AMA and 10% for the Tucson AMA.

As in previous years, the CAWCD Board resolved to retain the *ad valorem* property taxes collected in its three-county service area and not to deposit those revenues into the Arizona Water Banking Fund. Property tax revenues retained by CAWCD can be used to offset the cost of AWBA water deliveries in CAWCD's service area. Estimated funds available from CAWCD for the 2017 Plan are: Maricopa County (\$15.4 million), Pinal County (\$870,000), and Pima County (\$3 million).

Given the amount of water available for AWBA use, funding was not a limiting factor in developing the 2017 Plan.

#### IV. Available Storage Facility Capacity

Because of the low volume of excess CAP water available to the AWBA, storage in all three AMAs was limited to groundwater savings facilities since indirect storage at these facilities provides water management benefits through the continued use of renewal supplies in lieu of groundwater for agricultural irrigation. There is storage capacity available to the AWBA in all three AMAs should additional water become available during the year. However, use of that capacity is still subject to the availability of funds.

The Water Delivery Schedule (Table 3) identifies the storage sites for the AWBA's partners for 2017 and the amount of water scheduled for storage. The second column in this section identifies the AWBA's water storage permit capacities for each facility, which are based on the maximum permitted storage amounts of the facilities. The actual storage capacities available to the AWBA do not typically equal the AWBA's permitted volume because the storage facility operators may have agreements with other storage partners.

**Table 3  
Water Delivery Schedule (Acre-Feet)  
Calendar Year 2017**

AWBA-Storage Sites		Permitted Capacity (AF)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>PHOENIX AMA :</b>															
<b>USF</b>	AGUA FRIA	100,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	GRUSP	93,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	HIEROGLYPHIC MTN	35,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	SUPERSTITION MTNS	35,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	TONOPAH DESERT	150,000	0	0	0	0	0	0	0	0	0	0	0	0	0
															0
<b>Gsf</b>	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	1,230	2,000	1,000	500	500	5,230
															5,230
<b>AMA TOTAL INTRASTATE</b>			0	0	0	0	0	0	0	1,230	2,000	1,000	500	500	5,230
<b>PINAL AMA :</b>															
<b>Gsf</b>	CAIDD	110,000	0	0	0	0	0	0	0	3,800	0	0	0	0	3,800
	HOHOKAM	55,000	0	0	0	0	0	3,800	0	0	0	0	0	0	3,800
	MSIDD	120,000	300	410	710	610	740	410	310	310	0	0	0	0	3,800
															11,400
<b>AMA TOTAL INTRASTATE</b>			300	410	710	610	740	4,210	310	4,110	0	0	0	0	11,400
<b>TUCSON AMA:</b>															
<b>USF</b>	AVRA VALLEY	11,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	LOWER SANTA CRUZ	50,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	PIMA MINE ROAD	30,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	CAVSARP	100,000	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAVSARP	60,000	0	0	0	0	0	0	0	0	0	0	0	0	0
															0
<b>Gsf</b>	CORTARO-MARANA ID	20,000	0	0	0	0	0	0	0	1,000	0	0	0	0	1,000
	KAI FARMS (Red Rock)	11,231	0	0	0	0	0	0	0	0	0	0	0	0	0
	BKW Farms	14,316	0	0	0	0	0	0	0	0	0	0	0	0	0
															1,000
<b>AMA TOTAL INTRASTATE</b>			0	0	0	0	0	0	0	1,000	0	0	0	0	1,000
<b>TOTAL INTRASTATE</b>			300	410	710	610	740	4,210	310	6,340	2,000	1,000	500	500	17,630
<b>TOTAL INTERSTATE</b>			0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL RECHARGE</b>			300	410	710	610	740	4,210	310	6,340	2,000	1,000	500	500	17,630
<b>DIRECT DELIVERY (Non-Storage):</b>															
	Southside Replenishment Bank		0	0	0	0	0	0	0	0	0	0	0	0	0
	Southside Replenishment Obligation		0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>TOTAL DIRECT</b>		0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL DELIVERIES</b>			300	410	710	610	740	4,210	310	6,340	2,000	1,000	500	500	17,630



## INDIAN SETTLEMENTS

The Plan does not specifically identify water storage for meeting other future State firming obligations under the Settlements Act; however, it does focus on the AWBA's firming responsibilities to the Gila River Indian Community (GRIC).

### Indian Firming

CAP supplies will not be shorted in 2017 and no long-term system outages are anticipated that would reduce deliveries to CAP customers. Therefore, the AWBA has no obligation to firm Non-Indian Agricultural (NIA) Priority CAP water supplies in 2017.

The Settlements Act recognizes three categories where the State has firming responsibilities. The first two obligations relate to firming of NIA Priority CAP water for the GRIC and other Arizona tribes in times of shortage for a 100-year period; the third obligation pertains to assisting the Secretary of the Interior (Secretary) in carrying out the 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 NIA Priority CAP water be made available to the GRIC during shortages. To date, 105,390 acre-feet of withdrawal fee credits accrued from water previously stored at the Gila River Indian Irrigation and Drainage District GSF have been dedicated specifically for meeting this obligation. Additionally, 28,000 acre-feet of similar "firming credits" have been developed on GRIC lands since 2015 as described in the AWBA's agreements with the Community for meeting firming obligations. The AWBA proposes to develop an additional 7,000 acre-feet of firming credits in 2017 using this firming method. Thus, the AWBA will have accrued a total of 140,390 acre-feet of water on Reservation or forty percent of the 350,000 acre-feet estimated to be needed to meet future firming obligations.
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 an agreement that will require the AWBA to firm 3,750 acre feet per year of the 8,724 acre-feet once the agreement becomes enforceable. The AWBA has not dedicated credits specifically to this obligation. However, existing withdrawal fee credits, including long-term storage credits accrued under this plan, could be used for this purpose if needed. Legislation approving and authorizing the settlement of the Hualapai Indian Tribe's claims to the Colorado River was introduced in 2016. If enacted, the AWBA would have an obligation to firm 557.5 acre-feet per year under the settlement.
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. This obligation was met by accruing an equivalent amount of credits that will be distributed to the Secretary during shortages.

## Southside Replenishment Bank

In addition to the firming requirements of the Settlements Act, the AWBA was required to deliver 15,000 acre-feet of water to the GRIC to establish the Southside Replenishment Bank. The Replenishment Bank can be used to fulfill the obligations created under the Settlements Act for protection of the Reservation from off-reservation groundwater pumping. This obligation was satisfied in 2015. The AWBA has not had to meet a replenishment obligation or utilize the Replenishment Bank. Therefore, water deliveries for replenishment purposes have not been included in the 2017 Plan.

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

Pursuant to A.R.S. § 45-841.01, the Tohono O'odham Nation (Nation) must offer the AWBA ten percent of any credits determined accruable by ADWR from storage at the Mission Mine Complex at a price per acre-foot that is equal to the AWBA's delivery and storage costs at the time of sale. The 2017 Plan anticipates the purchase of an estimated 2,280 acre-feet of credits at a cost of approximately \$463,000. The amount of credits includes 1,524 acre-feet of credits that may be offered for sale in 2016 from storage that occurred in 2014 and 2015. 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 AWBA, SNWA, and CRCN executed a Third Amended and Restated Agreement for Interstate Banking on May 20, 2013. The amended agreement removed the AWBA's obligation to accrue 1.25 MAF of LTS credits on behalf of SNWA. Under the amended agreement, storage for interstate purposes will be determined by the parties on an annual basis and may include the storage of Nevada's unused apportionment. Storage will be paid for by Nevada on a pay-as-you-go basis. There is no interstate storage planned for Nevada in 2017. Additionally, SNWA has not requested the development of intentionally created unused apportionment (ICUA) for 2017.

## **PRICING**

In June of 2016, the CAWCD Board approved its final water delivery rate schedule for calendar years 2016/2017. The AWBA 2017 rate for recharge is equivalent to the rate for excess M&I water at \$195 per acre-foot, an increase of \$11 per acre-foot from the previous year.

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 2017 for the GSF partners in the Phoenix and Pinal AMAs will remain at \$34 per acre-foot. The cost share for the Tucson AMA will also remain the same at \$16 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. When storing water for

other than M&I firming and water management purposes at CAWCD recharge facilities, the AWBA also pays a facility capital charge. There is no administrative cost component in the facility cost because the AWBA pays the CAWCD and any Salt River Project (SRP) administrative costs on an annual basis.

**Table 4. 2017 Water and Facility Rates**

Recharge Rates	Cost per Acre-foot
CAWCD delivery rate to AWBA for water storage	\$195.00
Groundwater Savings Facility operator cost share rate <sup>1</sup>	
Phoenix and Pinal AMAs	\$34.00
Tucson AMA	\$16.00
Underground Storage Facility rate paid by AWBA	
CAWCD – Phoenix Facilities	\$12.00
CAWCD – Tucson Facilities	\$15.00
Avra Valley Recharge Project	\$16.88
Clearwater Facility (CAVSARP/SAVSARP)	\$17.07
Granite Reef Underground Storage Project	\$15.00

<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 therefore reduced to \$161/af for intrastate deliveries to the Phoenix and Pinal AMAs and \$179/af to the Tucson AMA.

## **PURCHASE OF LONG-TERM STORAGE CREDITS**

The AWBA’s governing statutes were amended in 2014 to allow the AWBA to purchase long-term storage credits after all available excess CAP water supplies have been scheduled for storage, thus providing the AWBA with additional flexibility in meeting its responsibilities. When purchasing credits, the AWBA may use all funding sources authorized for AWBA use, however, the use of *ad valorem* tax funds for this purpose is subject to approval by the CAWCD Board. Additionally, in developing its Plan for the following year, the AWBA must confer with the ADWR and CAWCD on the potential purchase of credits, particularly if CAWCD is anticipated to be the AWBA’s recovery agent for those credits.

For 2017, the AWBA is proposing to purchase credits using *ad valorem* tax funds collected in Maricopa and Pima Counties to make further progress on the CAP M&I firming goals for the Phoenix and Tucson AMAs. Accordingly, the AWBA will request that the CAWCD Board reserve funds for this purpose from monies collected in these counties during the 2017 tax year. The AWBA is aiming to purchase credits at costs similar to the AWBA’s storage costs. In addition to cost, careful consideration will also be given to the location of the credits that are available for sale.

## RECOVERY

Recovery of AWBA long-term storage credits for firming purposes or for the development of ICUA is not anticipated in 2017.

Staff representatives for ADWR, CAWCD and the AWBA, in cooperation with stakeholders, have developed a recovery plan that identifies the duties and responsibilities of the parties as they relate to recovery of the AWBA's long-term storage credits and delivery of that water during Colorado River shortages or for the development of ICUA. Further progress is also being made on the implementation aspects of the plan, including the development of a CAP system use agreement between CAWCD and the Bureau of Reclamation and recovery agreements between CAWCD and its potential recovery partners necessary to carry out future firming requirements and the development of ICUA. While the recovery of AWBA credits for CAP M&I priority subcontract firming, on-River domestic supplies and interstate is not projected for at least the next ten years, recovery for Indian CAP NIA priority may occur sooner. If recovery is necessary, potential opportunities to provide this firming exist.

## 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. ADWR maintains the accounting of the credits, the AWBA accounts for the expenditure of the funds utilized from the Water Banking Fund, and CAWCD accounts for the expenditure of the *ad valorem* tax monies and reports that expenditure to the AWBA.

The estimated water delivery and storage costs for the AWBA's 2017 Plan total approximately \$2.86 million and includes roughly \$ .84 million for the Phoenix AMA, \$1.8 for the Pinal AMA and under \$ .2 million for the Tucson AMA. Additionally, the AWBA anticipates expending up to \$1.15 million to develop firming credits on GRIC lands and proposes to purchase up to \$17.7 million in existing long-term storage credits for firming CAP M&I subcontract supplies: \$14.7 million in the Phoenix AMA and \$3 million in the Tucson AMA. Consequently, the total estimated cost of the 2017 Plan is just over \$22 million. Table 5 provides estimates of the funds available to the AWBA, the funds to be utilized, the entity that holds the funds, and the credits estimated to accrue to those accounts based on the 2017 Plan.

The 2017 Plan was developed to store all available water supplies and to use the remaining funds to purchase credits to make further progress on achieving AWBA firming goals. The 2017 Plan proposes to develop 104,160 acre-feet of credits for a total estimated cost of \$22 million and includes expenditures of \$16.7 in the Phoenix AMA, \$1.84 million in the Pinal AMA and \$3.5 million in the Tucson AMA.



**Table 5. Funding for 2017 Annual Plan of Operation**

Funding Source	Estimated Funds Available		Estimated Funds Utilized		Estimated Credits (AF)	
	AWBA	CAWCD <sup>1</sup>	AWBA	CAWCD	Water Storage	Developed Credits <sup>2</sup>
<b>Withdrawal Fees</b>						
Phoenix AMA <sup>3</sup>	\$1,340,180	-	\$1,340,180	-	1,110	7,000
Pinal AMA	\$973,450	-	\$973,450	-	5,620	0
Tucson AMA <sup>4</sup>	\$495,000	-	\$495,000	-	170	2,280
<b>Four Cent Tax</b>						
Phoenix AMA <sup>4</sup>	\$0	\$15,350,000	\$0	\$15,349,850	3,750	65,920
Pinal AMA	\$0	\$870,000	\$0	\$861,950	4,980	0
Tucson AMA <sup>5</sup>	\$0	\$3,000,000	\$0	\$3,000,000	760	12,570
<b>General Fund</b>	\$0					
Phoenix AMA		-	\$0	-	0	0
Pinal AMA		-	\$0	-	0	0
Tucson AMA		-	\$0	-	0	0
	<b>Total Funds Available</b>		<b>Total Funds Expended</b>		<b>Total Credits</b>	
	\$22,028,630		\$22,020,430		16,390	87,770

<sup>1</sup> The figures shown are estimates provided by CAWCD staff based on anticipated collections during the 2016-2017 tax year and carryover for Maricopa County. If utilization is greater than estimated, there may be additional funds held by CAWCD that could be made available at the discretion of the CAWCD Board of Directors.

<sup>2</sup> Includes purchased long-term storage credits and contractual firming credit equivalents.

<sup>3</sup> Includes up to \$1.15 million toward the development of firming credits pursuant to the IGA between the AWBA and the Gila River Indian Community for the Development of Firming Credits.

<sup>4</sup> Includes up to \$463,000 to purchase credits pursuant to §45-841.01.

<sup>4</sup> Includes up to \$14.7 million toward the potential purchase of credits for M&I firming.

<sup>5</sup> Includes up to \$2.86 million toward the potential purchase of credits for M&I firming.

Table 6 identifies the progress expected to be made on the AWBA's goals and obligations through 2017. Proposed credit purchases were not included in the totals due to the uncertainty in the acquisition of those credits.

**Table 6. Projected Percent of Goals and Obligations Achieved through 2017**

Location and Objective	Funding Source	Estimated Goal	Non-Credit Goal Achieved	Credits Accrued (AF)	Goal Achieved
<b>CAP M&amp;I Firming</b> Phoenix AMA Pinal AMA Tucson AMA	Water Storage Tax (4¢ <i>Ad valorem</i> ) collected by County	1,566,000 AF		1,422,766	91%
		243,000 AF		220,896	91%
		864,000 AF		460,442	53%
<b>On-River M&amp;I Firming<sup>1</sup></b>	General Fund	420,000 AF		403,830	96%
<b>Indian Settlement Obligations:</b> GRIC Firming <sup>2</sup> <i>up to 15 KAF/yr</i>	General Fund Withdrawal Fees	350,000 AF <sup>3</sup>		140,390	40%
			0		
Future Settlements - <i>up to 8.7 KAF/yr</i>	General Fund Withdrawal Fees	200,000 AF <sup>3</sup>		0	N/A
Federal Assistance (SAWRSA)- <i>\$3 million</i>	General Fund Tucson W/Fees Cost of Services <sup>4</sup>		\$3,000,000	34,102	100%
			\$2,338,171	28,481	
			\$630,490	5,621	
Southside Repl. Bank - <i>15 KAF direct delivery</i>	General Fund Pinal W/Fees			15,000	100%
				1,342	
				13,658	
<b>Groundwater Management<sup>5</sup></b> Phoenix AMA Pinal AMA Tucson AMA <sup>6</sup>	Withdrawal Fees collected by AMA			244,935	
				410,120	
				100,277	
<b>Other:</b>					
Shortage Repairs <sup>7</sup>	Agreement with Nevada	\$8,000,000	\$8,000,000	109,423	100%
Pinal Redirect Credits <sup>8</sup>	N/A			14,125	N/A

<sup>1</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. Pursuant to the Agreement to Firm dated February 4, 2005, a total of 230,280 acre-feet of credits were transferred to the AWBA long-term storage subaccount for MCWA in 2005. An additional 25,894 acre-feet of credits have been reserved under Exhibit C of the Amended Agreement to Firm, dated December 8, 2010, for a total of 256,174 acre-feet.

<sup>2</sup> Credits accrued and reserved for firming pursuant to the Agreement between the AWBA and the Gila River Indian Irrigation and Drainage District of the Gila River Indian Community for storage of Central Arizona Project Water at a GSF, executed June 16, 2006. Credits include 88,313 AF accrued in the Phoenix AMA and 17,077 AF accrued in the Pinal AMA. Also includes 35,000 AF of firming credits developed in accordance with the IGA between the AWBA and the Community.

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

<sup>4</sup> Expenditures include \$14,883 and \$16,456 deducted for payment of cost of services for FY08 and FY09, respectively.

<sup>5</sup> Withdrawal fees could be utilized in addition to 4¢ ad valorem tax revenues for M&I firming if needed to reach firming goals and for Indian settlement obligations in the absence of general fund appropriations.

<sup>6</sup> Includes 234 AF of credits acquired from the Tohono O'odham Nation pursuant to § 45-841.01.

<sup>7</sup> Includes 3,665 AF of credits acquired from the Tohono O'odham Nation pursuant to § 45-841.01.

<sup>8</sup> Credits accrued from water provided to Pinal AMA GSFs at full cost to the GSF operators. These credits are currently identified for use in the Tucson AMA.

## **PUBLIC REVIEW AND COMMENT**

AWBA staff presented the Plan to the public in conjunction with the Groundwater Users Advisory Councils (GUAC) meetings for the Phoenix, Pinal and Tucson AMAs as required by statute. The Plan was also distributed to the public for review and comment.

The GUACs in all three AMAs supported the Plan as presented and commended the accomplishments of the AWBA to date. In the Tucson AMA, there were comments expressing appreciation of the AWBA's efforts to focus storage in that AMA in recent years. This was confirmed in a letter received from the Metropolitan Domestic Water Improvement District who also indicated support for the AWBA's evaluation of location when considering the purchase of long-term storage credits (attached).





November 28, 2016

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

**Re: Support of Draft 2017 Plan of Operation**

Dear Ms. O'Connell:

Thank you for the opportunity to comment on the Draft 2017 Annual Plan of Operation for the Arizona Water Banking Authority (AWBA). Metropolitan Domestic Water Improvement District (District) supports AWBA's Table 3 in the draft 2017 Plan of Operation. The AWBA has steadily helped contribute towards achieving the CAP M&I Firming goal for the Tucson Active Management Area (TAMA).

On purchase of long-term storage credits, the District is pleased AWBA will be including the location of the credits as a selection criteria. As AWBA knows, wet water recovery is a regional concern within the TAMA for water providers.

Please consider amending "a direct use of the water" in the first sentence under Section IV of Page 8 which is inconsistent with "indirect storage" in the first sentence of the third paragraph on Page 2. The District recommends "a direct use of the water" should be replaced with "in-lieu of using groundwater."

Again, thank you for the opportunity to comment on the draft plan. Please call me at (520) 575-8100, if you have any questions on the District's comments.

Sincerely,

A handwritten signature in black ink that reads "Michael Block". The signature is fluid and cursive, with the first letter of "Michael" being a large, prominent capital "M".

Michael W. Block  
Water Resources Manager

MWB/mwb

c: Joseph Olsen