

ARIZONA WATER BANKING AUTHORITY

ANNUAL REPORT
2008



Submitted

July 1, 2009

Arizona Water Banking Authority

Annual Report 2008

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

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**Herbert R. Guenther
*Chairman***

**Maureen R. George
*Vice-chairman***

**Tom Buschatzke
*Secretary***

**John T. Mawhinney
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EX OFFICIO MEMBERS

The Honorable Steve Pierce
The Honorable Kirk Adams

July 1, 2009

The Honorable Janice K. Brewer
Governor, State of Arizona
1700 West Washington Street
Phoenix, Arizona 85007

Dear Governor Brewer:

Enclosed is the Annual Report of the Arizona Water Banking Authority (AWBA) for Calendar Year 2008. The Annual Report details the amount of water stored by the AWBA, the monies received by the AWBA, the monies expended for the storage and delivery of excess CAP water and the remaining funds available to the AWBA. The Annual Report also includes a Ten-Year Plan that examines the ability of the AWBA to achieve its statutory purposes into the future.

The AWBA continued to play a pivotal role in assisting the State of Arizona in maximizing the use of its Colorado River entitlement. For the first time since its creation the AWBA activities were limited by the availability of CAP water. In 2008, the AWBA was not immune to the effects of State budget constraints. As part of the budget balancing efforts approximately \$12.4 million was transferred from the Water Banking Fund to support other statewide efforts. The money that was transferred had been provided to assist in meeting the State's obligations under the Arizona Water Rights Settlement Act. While this money has been transferred, the AWBA continues to be responsible for these obligations. The AWBA continued to ensure Arizona utilized its full Colorado River entitlement through its other funding sources.

I am pleased to be submitting to you for the first time, this report detailing the accomplishments of the AWBA. While Arizona continues to struggle with its budget issues, I am confident the AWBA will continue to be an important and potentially expanding component of Arizona's water future.

Sincerely,

Herbert R. Guenther
Chairman

CC: The Honorable Robert Burns, President of the Arizona State Senate
The Honorable Kirk Adams, Speaker of the Arizona House of Representatives
The Honorable Steve Pierce, Arizona State Senate

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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 Water Conservation District (CAWCD) service area and along the Colorado River in times of shortages;
- Meeting the management plan objectives of the Arizona Groundwater Code;
- Assisting in the settlement of Indian water rights claims; 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 (CAP) 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 a credit that can be redeemed in the future when Arizona's communities 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.
- A four cent *ad valorem* property tax collected in the three county CAWCD 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.

In addition to these three sources of funding for intrastate storage, \$8,000,000 was made available from the Southern Nevada Water Authority (SNWA) to assist Arizona in offsetting impacts from shortages that may occur during the Interim Period (2008 through 2026). A portion of these funds were transmitted to the AWBA in early 2008 and were used to purchase and store water supplies to mitigate the impact of shortages on Arizona users. The AWBA also use funds provided by Nevada pursuant to the Amended Agreement for Interstate Water Banking (Amended Agreement) to create credits for the benefit of Nevada.

In calendar year 2008, the Water Bank delivered for recharge a total of 216,990 acre-feet at a cost of \$8,168,094. There were no interstate water deliveries in 2008.

From the Water Bank's inception through calendar year 2008, the AWBA has accrued approximately 3,166,968 acre-feet of credits at a cost of \$223,149,507. Of this total volume, intrastate credits totaled 2,689,448 acre-feet at a cost of \$128,668,889 and interstate credits totaled 477,520 acre-feet at a cost of \$94,480,618. In addition to the credits accrued by the AWBA, 50,000 acre-feet of credits previously accrued by CAWCD were transferred to the account creating a total of 527,520 acre-feet of credits available for Nevada.

Arizona Water Banking Authority Annual Report Requirement

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

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

Update

Prior to 2006, the AWBA was the major user of incentive recharge water; however, in 2006 through 2008, the AWBA began to have many competitors for that supply. Calendar year 2008 started as a year of very limited water availability for the AWBA. Because the cost of incentive recharge water was at a historic low, several entities began storing water that had previously not participated in underground water storage. This increased interest in incentive recharge water had significant impacts on the AWBA. First, it reduced the amount of excess water available to the AWBA. Second, several of the AWBA's storage partners opted to store with these other entities. The AWBA recognized this trend as it developed its 2008 Plan of Operation in the Fall of 2007. Given the AWBA has the lowest priority for that supply, this transition had a significant impact on the AWBA's 2008 operations.

In October, 2007 after water orders had been submitted to CAWCD, it appeared the AWBA would have about 200,000 acre-feet less water available to it as compared to 2007. This limited availability of water to the Water Bank was due to increased water orders by CAP subcontract holders, by Salt River Project to maintain storage in Roosevelt Lake, and the increased interest in excess CAP water. Heavy precipitation events in the Spring, 2008 resulted in CAWCD customers turning back water that was then made available to the Water Bank. By the end of 2008, water deliveries to the AWBA totaled 216,990 acre-feet for intrastate storage. This volume represents about 168,000 acre-feet less water delivered from 2007. Due to the limited water availability, no interstate deliveries were made on behalf of Nevada.

With respect to membership, there was one change to the AWBA Commission in 2008. Following the passing of Senator Jake Flake on June 8, 2008, statutorily appointed Senator Timothy Bee, President of the Senate, served on the Commission as *ex officio* member for the remainder of the year. In October, 2008, Governor Napolitano reappointed Tom Buschatzke, Maureen George, and John Mawhinney to the Commission for another six-year term; their terms were set to expire in January, 2009. Senate confirmation of these reappointments had not occurred by the end of 2008. There were no changes to the AWBA staff members in 2008.

The Agreement between the Secretary of Interior and the State of Arizona for the Firming of Central Arizona Project Indian Water (Secretarial Agreement) was executed on November 15, 2007. The AWBA began meeting some of the obligations outlined in the Secretarial Agreement in 2008. Negotiations continued throughout 2008 with the White Mountain Apache Tribe, Hopi Tribe, and Navajo Nation for Indian water right claims that remain outstanding.

In 2008, Staff coordinated with and presented a draft intergovernmental agreement (IGA) to the Gila River Indian Community for the purpose of establishing the Southside Replenishment Bank (SSR Bank). The AWBA must deliver at least 1,000 acre-feet per year, up to 15,000 acre-feet, to establish the SSR Bank.

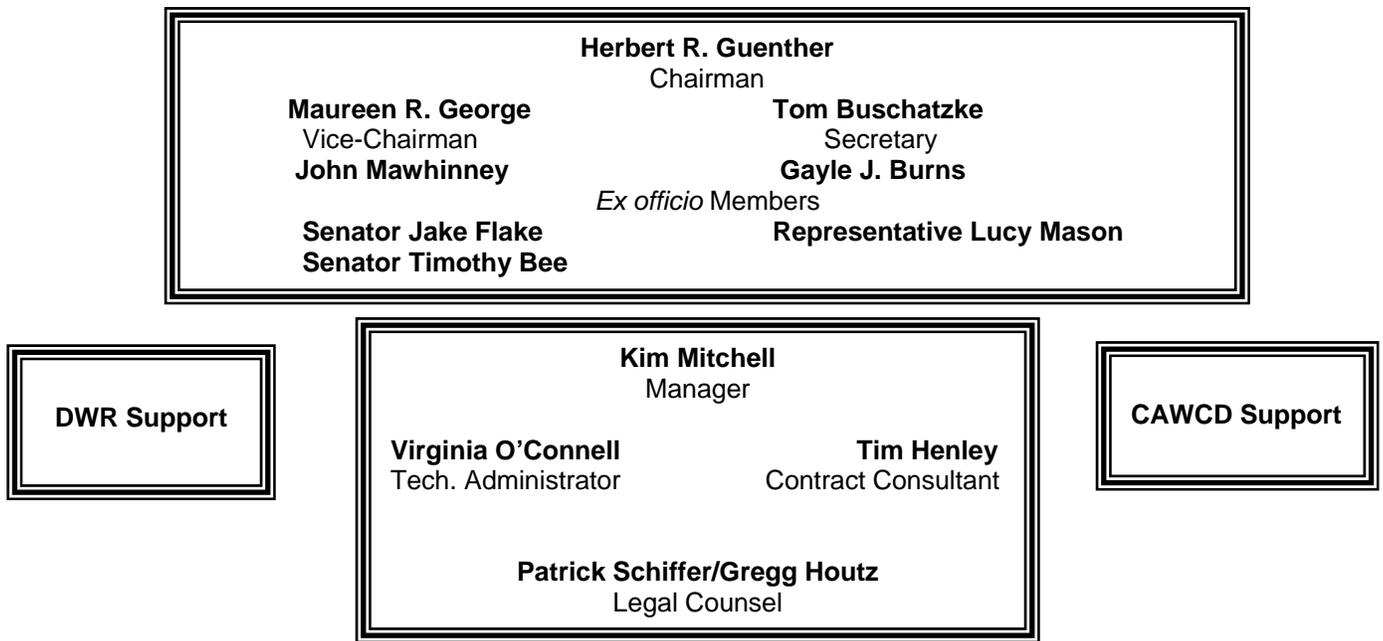


Figure 1. Arizona Water Banking Authority Organizational Chart for 2008

Southern Nevada Water Authority (SNWA) agreed to provide to the AWBA \$8,000,000 to assist Arizona in offsetting impacts from shortages that may occur during the Interim Period. A portion of the \$8,000,000 (\$2.3 million) was transmitted to the AWBA in 2008. These funds were used to purchase and store excess water to mitigate the impact of shortages on Arizona users.

The AWBA executed Resolution 2008-1 in March, 2008 that establishes a long-term storage credit replacement account for 4th priority Colorado River M&I users. This establishes a revolving fund for the credits used and replaced in conjunction with on-river M&I firming.

Excess CAP water orders received in October, 2008 exceeded the available supply by more than 225,000 acre-feet for 2009. Procedures for the distribution of the available water were developed and implemented by CAWCD by November, 2008. AWBA staff coordinated with CAWCD in that process and in developing a comprehensive policy for the distribution of excess CAP water beginning in 2010.

With the AWBA's new obligations under the Arizona Water Settlements Act, the increase in demand for excess CAP water, and the current statutory language that places the AWBA last in receiving excess CAP water, the AWBA began pursuing opportunities with the Legislature to work toward fulfilling the significant number of responsibilities of the Water Bank. The AWBA Commission approved submittal of a legislative amendment that would clarify how the AWBA could participate in any pools created by CAWCD.

The AWBA staff again participated in a poster session at the Colorado River Water Users Association meeting in December. The theme of the exhibit was similar to past years and focused on three areas of Arizona's resources: groundwater management, recharge, and reuse. The exhibit was completed in conjunction with Salt River Project, Arizona Municipal Water Users Association, Agri-Business Council of Arizona, CAWCD, and ADWR.

In 2008, the AWBA delivered for recharge a total of 216,990 acre-feet of water for intrastate purposes. No water was stored on behalf of the Southern Nevada Water Authority (SNWA). The interstate credits accrued through 2008 remained the same at a total of 527,520 acre-feet and fulfills about 42% of Arizona's obligation to Nevada under the Amended Agreement for Interstate Banking (Amended Agreement). The quantity of water received by each facility is described in Appendix A and totaled 79,765 acre-feet of water in the Phoenix AMA, 103,241 acre-feet of water in the Pinal AMA, and 33,984 acre-feet in the Tucson AMA.

In addition to the 2008 deliveries, 28,442 acre-feet of Intentionally Created Unused Apportionment (ICUA) was created and made available to California. This ICUA was created pursuant to the *Amended Letter Agreement for the Creation of Intentionally Created Unused Apportionment with Credits Created Under the 1992 Demonstration Agreement between CAWCD and MWD, December 11, 2007*. For the first time, ICUA was certified in 2008. In June, 2008, the AWBA certified the creation of 16,804 acre-feet of ICUA in 2007,

Based on provisional data, total consumptive use of Colorado River water by Arizona for 2008 was approximately 2.77 million acre-feet. Distribution of that quantity was approximately 1.21 million acre-feet for direct uses along the Colorado River and CAP diversions of approximately 1.56 million acre-feet, (U.S. Bureau of Reclamation, Lower Colorado River Operations, Colorado River Accounting and Water Use Report – 2008, dated April 9, 2009). In 2008, storage by the AWBA assisted Arizona in using its entitlement to Colorado River water.

For more information about the Arizona Water Banking Authority, consult the AWBA website at www.azwaterbank.gov or contact Kim Mitchell (krmitchell@azwater.gov), Virginia O'Connell (voconnell@azwater.gov), or Tim Henley (tjhenley@azwater.gov), or by phone at 602-771-8487.

Activities and Projects - 2008

Indian Firming Program

Secretarial Agreement

On December 14, 2007, the legislation that passed in 2004 approving the Arizona Water Settlements Act (Settlements Act) P.L. 108-451, became enforceable, thus settling longtime claims to water by the Gila River Indian Community (Community; GRIC) and the Tohono O'odham Nation. A key provision affecting the Water Bank within the Settlements Act is the provision authorizing the Secretary of the Interior (Secretary) and the State of Arizona (State) to develop a Firming Program to ensure that 60,648 acre-feet of Non-Indian agricultural (NIA) priority CAP water reallocated to Indian tribes shall be delivered during water shortages in the same manner as water with a municipal and industrial (M&I) priority is delivered during water shortages.

During the 2006 legislative session, House Bill 2835 was signed that provided the AWBA the statutory authorities to act as Arizona's agent in meeting its firming obligations under the Settlements Act. Throughout 2006 and 2007, AWBA staff met with representatives from the U.S. Bureau of Reclamation (Reclamation) to develop an agreement to firm non-Indian agricultural (NIA) priority CAP water for tribal settlements. The Agreement between the Secretary of Interior and the State of Arizona for the Firming of Central Arizona Project Indian Water (Secretarial Agreement) was executed on November 15, 2007.

The Secretarial Agreement identifies the obligations that must be met and develops the method for meeting the obligations between the State and Federal governments. The Settlements Act and Secretarial Agreement recognize three categories where the State has firming responsibilities. The first two obligations pertain to firming of water for the GRIC and other Arizona tribes; the third obligation pertains to providing assistance to the Secretary in carrying out obligations of the Southern Arizona Water Rights Settlement Act. The Secretarial Agreement also allows for the development of agreements between the AWBA and the tribes receiving the water, identifying an acceptable plan for achieving the firming.

Early in 2008, AWBA staff began discussing with the GRIC staff potential firming mechanisms that might be advantageous for both the Tribe and State. Because of the current State's budget shortfall, \$12.4 million of money appropriated for Indian firming was transferred out of the Water Banking Fund Indian firming subaccount. Following this transfer, the AWBA discontinued discussions to assess various options for firming with the GRIC. Until there is an appropriation specifically for Indian firming, the AWBA will work toward this obligation using withdrawal fees collected in the Phoenix and Pinal Active Management Areas to develop credits through storage of water at Groundwater Savings Facilities.

The State has committed to provide support to the Federal government for the Tohono O'odham Nation by contributing \$3 million in either cash or in-kind goods and services. In 2008, the AWBA expended approximately \$2.05 million (\$2,033,354 for water deliveries and storage; \$14,883 for cost of services) for Indian firming to develop 25,756 acre-feet of credits in the Tucson area. These expenditures were from the balance remaining from the \$13.5 million including interest earned on that subaccount.

The AWBA anticipates further development of credits and the subsequent completion of the \$3 million contribution to the Federal government in 2009. A provision of the Secretarial Agreement require the State to meet this obligation within four years, beginning January 1 after the enforceability date; thus the AWBA expects to meet this obligation in advance of the mandated schedule. These credits will later be assigned to the Secretary to satisfy the State's obligation to assist the U.S. in meeting its obligation to firm Tohono O'odham water.

Other Indian Water Rights Settlements

Negotiations continued throughout 2008 with the White Mountain Apache Tribe, Hopi Tribe, and Navajo Nation for Indian water right claims that remain outstanding. The AWBA continued to follow these discussions since the AWBA could be involved in firming responsibilities for these settlements. As stated previously, the U.S. and the State share responsibility for the firming of 17,448 acre-feet, which is dedicated for future Indian settlements. This responsibility is divided equally (8,724 acre-feet each) between the Secretary and the State.

In September, 2008, Federal legislation was introduced to authorize the White Mountain Apache Tribe (WMAT) water rights settlement and to allow the Secretary to enter into an agreement. In January, 2009, Senator Kyl reintroduced the WMAT bill, the WMAT Water Rights Quantification Act of 2009 (Quantification Act) as S.313. Under the Quantification Act, the AWBA and the Federal government will equally share a 7,500 acre-foot per year firming obligation. The AWBA will therefore, be responsible for firming 3,750 acre-feet of non-Indian agricultural (NIA) CAP water for a 100-year period. All of the water under the WMAT Settlement requiring firming will be leased by the Phoenix valley cities.

Negotiations on the Northeastern Arizona Indian Water Rights Settlement Agreement (Navajo Nation/Hopi Tribe) remain ongoing.

Southside Replenishment Bank

In addition to the firming requirements of the Settlements Act, the AWBA, acting as agent for the State, is required to enter into an inter-governmental agreement (IGA) with GRIC for direct delivery of 15,000 acre-feet for the purpose of establishing the Southside Replenishment Bank (SSR Bank). The AWBA must deliver at least 1,000 acre-feet per year, up to 15,000 acre-feet, to establish the SSR Bank. The SSR Bank will fulfill the obligations created under the Settlements Act for protection of the Reservation from off-reservation groundwater pumping. In 2008, staff coordinated with and presented a draft IGA to the GRIC that describes the procedure the AWBA and the Community will follow for delivering water to the Community for the purpose of this obligation. It is anticipated the IGA will be fully executed by mid-summer, 2009. Deliveries cannot be made to the Community for replenishment purposes without the IGA.

Water Availability and AWBA Legislation

Distribution of Excess CAP Water

Within the last two years, CAWCD has experienced increased requests to purchase excess CAP water for underground storage. The CAWCD Board of Directors recognized this trend and, in 2008, adopted a rate-setting strategy to phase out the price subsidy for incentive recharge after 2011.

Additionally, the Board has directed staff to develop a comprehensive policy for future distribution of Excess Water.

Excess CAP water orders for 2008 received by CAWCD in October, 2007 exceeded the available supply by 100,000 acre-feet. Again, in October, 2008, orders for excess CAP water exceeded the available supply by more than 225,000 acre-feet. CAWCD staff held meetings in the Fall, 2008 to begin developing a policy and process to distribute excess CAP water. The meetings focused on developing procedures quickly for distribution of water in 2009.

In November, 2008, the CAWCD Board of Directors adopted a 2009 policy that reserves two pools and allows distribution of the balance of water remaining. The first pool reserved 81,900 acre-feet for use at GSFs and provided pricing incentives for irrigation districts that participated in the CAP recovery programs or assisted in meeting AWBA/CAGRDR storage goals by participating as GSF partners. This agricultural incentive pricing helps ensure that CAWCD can meet recovery expectations of Metropolitan Water District of Southern California. The AWBA and its GFS facility partners were the main participants in this pool. The second pool was for 45,000 acre-feet for use by the AWBA. This pool was intended to be used to assist Arizona in meeting its Indian firming obligations.

Proposed AWBA Legislation

The recent increase in demand for excess CAP water has limited the excess CAP water available for storage by the AWBA. At the time the settlement legislation was enacted identifying the AWBA as the agent for the State, it appeared there would be an abundance of excess CAP incentive water available for storage by the Water Bank. In October, 2008, the AWBA drafted a legislative amendment that clarifies the AWBA's ability to obtain and store any excess CAP water that is made available by CAWCD.

The first draft of the amendment enumerated five purposes for which the AWBA could participate in pools identified by CAWCD. Overall, the proposed legislation was well-received and supported by the various entities that provided feedback. General comments received from these initial meetings and public review included:

- Clarifying changes to specify replenishment related to Gila River Indian Community.
- Specify interstate banking is for newly acquired water using interstate monies.
- Limiting the volume of excess water set aside for AWBA.
- Ensuring the legislation does not affect priority of the agricultural pool.
- Ensuring the legislation does not allow storage of water for interstate banking that would otherwise have been used in Arizona.

Following receipt of public comment and further analysis by the AWBA, AWBA Commission at the December AWBA meeting, approved submittal of a revised legislative amendment to the Legislature clarifying our existing statutes. The revised amendment clarifies how the Water Bank would participate in two specific pools that could be created by CAWCD. The first pool would be for the various intrastate purposes allowed under our statute, including meeting Indian firming obligations, replenishing water under the Gila River Indian Water Settlement program, and storing water for municipal and industrial purposes in times of shortage. The second pool would be for the purpose of meeting interstate contractual obligations and is specific to the storage of new CAP water acquired from the Colorado River with AWBA interstate funds. Because of the budget issues facing this

legislature the AWBA did not submit the amendment; it is anticipated that the amendment will be submitted for consideration in 2010.

Interstate Banking

Intentionally Created Unused Apportionment (ICUA)

The concept of using ICUA to move a portion of one state's Colorado River apportionment to another State comes from a provision of the Decree in *Arizona v. California* known as Article II.b.6. Article II.b.6 provides discretion to the Secretary of the Interior (Secretary) to deliver any apportioned but unused Colorado River in one Lower Basin state to any other Lower Basin state if that state has a beneficial use for that unused water. The discretion to use ICUA would only apply under a very specific set of circumstances. That set of circumstances apply when one state has stored water in another state and then request the recovery of that water to supplement its Colorado River water apportionment.

In order for this concept to work under the "Law of the River", the Secretary of the Interior had to promulgate a rule defining how he would apply his discretion under Article II.b.6 and several contracts needed to be in place:

- Offstream Storage of Colorado River Water and Development and Release of Intentionally Created Unused Apportionment

In 1999, the Secretary of the Interior published a rule allowing interstate banking between authorized state entities. The rule required that the authorized state entities enter into agreements for the storage and release of Colorado River water. The AWBA is the only entity in Arizona authorized to negotiate and enter into Interstate Water Storage Agreements. Shortly after the final ruling, the Director of ADWR determined the ruling did not negatively impact Arizona rights under the "Law of the River" thus allowing the AWBA to enter into contracts with the Secretary and the other states.

- Agreement for Interstate Water Banking, 2001;
Superceded by two Amended Agreements for Interstate Water Banking, 2005 & 2009.

Amended Agreement was negotiated between the AWBA, the Southern Nevada Water Authority (SNWA; Nevada) and the Colorado River Commission of Nevada and creates an obligation on the AWBA to guarantee the storage of 1.25 million acre-feet (MAF) credits for the benefit of Nevada in Arizona and to make water available in the future in response to Nevada's requests. For this guarantee and commitment, SNWA agreed to pay the cost of water storage and recovery and to pay \$100 million over and above the cost of storage/recovery. The AWBA began storing water on behalf of SNWA in 2002.

- Storage and Interstate Release Agreement (SIRA), 2002

The SIRA is an agreement among the Secretary of the Interior, the AWBA, the Southern Nevada Water Authority (SNWA; Nevada) and the Colorado River Commission of Nevada and details the accounting of water movement between states in an interstate banking arrangement. This water movement is based on the principles contained in Article II.b.6 of the Decree in *Arizona v. California*. The SIRA also includes provisions for what water can be stored, creation of LTSC

accounts, reporting requirements, mechanism for creation and release of ICUA and certification of ICUA to the Secretary.

- Agreement for the Development of Intentionally Created Unused Apportionment (ICUA), 2002

The Agreement for the Development of ICUA is negotiated between the CAWCD and the AWBA. CAWCD has the right pursuant to its contract with the Secretary to divert any remaining Arizona entitlement and is, therefore, the entity the AWBA coordinates with to ensure water can be made available, under II.b.6 of the Decree, for Nevada and California when they request it in the future. The Agreement details how the water will be recovered and exchanged for existing CAP orders thus allowing CAWCD to reduce its diversions without reducing its uses. Reduced CAP diversion is left in the Colorado River as unused Arizona entitlement available for delivery to Nevada and California. The Agreement requires the Development of an Interstate Recovery Schedule and an Implementation of Interstate Recovery Schedule.

- Amended Letter Agreement for the Creation of Intentionally Created Unused Apportionment with Credits Created Under the 1992 Demonstration Agreement between CAWCD and MWD, December 11, 2007 (Amended Letter Agreement)

The Amended Letter Agreement was executed to facilitate appropriate accounting of Colorado River consumptive use pursuant to the terms of the 1992 Demonstration Agreement as amended between CAWCD and Metropolitan Water District of Southern California (Metropolitan) and allows for long-term storage credits (LTSC; credits) to be recovered and/or exchanged.

Based on the 1992 Demonstration Agreement, amended in 1994, CAWCD stored 89,000 acre-feet of water in Pinal County in the early 1990s, resulting in 80,909 acre-feet of credits that could be recovered for the benefit of Metropolitan. CAWCD agrees to recover and use these credits which, have been held in CAWCD's long-term storage account, in lieu of diverting a like amount of its Colorado River apportionment. The AWBA is party to the agreement because it is the only entity in Arizona that can request the Secretary release ICUA to California and Nevada. CAWCD began recovering water on behalf of Metropolitan in 2007.

Amended Agreement for Interstate Water Banking

No interstate water deliveries were made on behalf of SNWA during 2008. Interstate deliveries had not been included in the original 2008 Plan of Operation. In Spring, 2008, the AWBA amended the Plan of Operation to include an additional 77,000 acre-feet of additional supplies that became available to the Water Bank. Of that amount, 6,400 acre-feet was scheduled to be delivered for interstate storage as this volume had been full cost municipal and industrial (M&I) subcontract water turned back to CAWCD to be remarketed. By Fall, 2008, planned deliveries were much less than anticipated because of unexpected physical and permitted water storage capacity constraints in Pinal and Tucson AMAs where the interstate water was to be stored initially, thereby resulting in no deliveries for Nevada in 2008.

The AWBA sub-account for Nevada had a balance of 527,520 acre-feet of LTSCs at the end of 2008. Of that balance, 50,000 acre-feet of credits were transferred from CAWCD for storage done in the early 1990's under the demonstration project. Annual interstate storage for 2002 through 2008 is displayed in Table 6b.

Development of and Requests for Creation of Intentionally Created Unused Apportionment

For the second year, ICUA was developed in 2008. In December, 2007 the AWBA provided notice to the Bureau of Reclamation (USBR) of 25,000 acre-feet of ICUA to be created in 2008 through the development of LTSC on behalf of Metropolitan. In late December, 2008, the AWBA received an amended schedule from CAWCD that identified an estimated 28,600 acre-feet of recovery for 2008. By year's end, an estimated 28,442 acre-feet of ICUA was developed in 2008 with 27,442 acre-feet of LTSCs recovered from wells used within two irrigation districts in Pinal County, Arizona. The remaining balance of 1,000 acre-feet of ICUA were developed utilizing the credit exchange method. CAWCD exchanged LTSCs with the Central Arizona Groundwater Replenishment District (CAGR) in lieu of CAGR receiving CAP water that had been scheduled for delivery to an underground storage facility. Below is a summary of ICUA developed for the benefit of Metropolitan through 2008.

Development of ICUA for the Benefit of Metropolitan

Year	Long-term Storage Credits		ICUA Developed	Credits Remaining
	Recovered	Exchanged		
				80,909
2007	10,921	5,883	16,804	64,105
2008	27,442	1,000	28,442	35,663
Total	38,363	6,883	45,246	

In addition to the development of ICUA, Metropolitan requested from CAWCD development of 30,000 acre-feet of ICUA in 2009 (letter dated September, 9, 2008). This request for ICUA was included in the AWBA's 2009 Plan of Operation.

Certification of Intentionally Created Unused Apportionment

For the first time, ICUA was certified in 2008. AWBA is required to certify the creation of ICUA to the Secretary, Metropolitan, and CAWCD in the year following development of the ICUA. In June, 2008, the AWBA certified the creation of 16,804 acre-feet of ICUA in 2007, following the review of annual reports and verification by ADWR of the recovery and exchange of LTSCs in 2007.

Shortage Sharing

Arizona-Nevada Shortage-Sharing Agreement

As part of the overall Basin States Agreement, signed by the Secretary of the Interior on December 13, 2007, Arizona, including the AWBA, and Nevada agreed on how Secretarial shortage declarations of up to 500,000 acre-feet within the United States would be shared between them during an Interim Period (2008 through 2026). In addition to the agreement on how shortages should be allocated between the states, Southern Nevada Water Authority (SNWA) also agreed to provide to the AWBA \$8,000,000 to assist Arizona in offsetting impacts from shortages that may occur during the Interim Period. A portion of the \$8,000,000 (\$2.3 million) was transmitted to the AWBA in 2008. These funds were used to purchase and store water supplies to mitigate the impact of shortages on Arizona users.

Arizona Shortage-Sharing

Leading up to the execution of the Arizona-Nevada Shortage-Sharing Agreement, the Director's Shortage-Sharing Workgroup (Workgroup) established in 2005 was meeting regularly to come up with recommendations to present to the Secretary of the Interior for implementing future shortages in the lower basin and between CAWCD and equivalent 4th priority Colorado River water users. The Basin States Agreement incorporated much of Arizona's recommendations on shortage-sharing strategies either directly or as components to modeling analyses that were used to evaluate environmental impacts.

As part of the recommendation of the Workgroup, a provision was included to establish a "revolving fund" for the credits used and replaced in conjunction with on-river M&I firming. In March, 2008, the AWBA executed Resolution 2008-1 that establishes a LTSC replacement account for 4th priority Colorado River M&I users. As credits are used and replaced, these replacement credits will be placed in a separate replacement subaccount and be earmarked for the entity that reimburses the Water Bank for the replacement of those credits. Additionally, on-river fourth priority M&I users that had not contracted with the AWBA for firming will be given additional opportunities for firming 100% of their entitlements.

Agreement to Firm Future Supplies

The AWBA is required by statute to reserve a reasonable number of credits accrued with General Fund appropriations for entities outside the CAWCD service area. In 2005, the AWBA entered into an Agreement to Firm Future Supplies (Agreement to Firm) with Mohave County Water Authority (MCWA). In the Agreement to Firm, the AWBA agreed to reserve approximately 230,000 acre-feet of credits for MCWA's use. The Mohave County Water Authority agreed to make a \$20 per acre-foot pre-payment of the replacement cost for those credits.

Once those credits were reserved for use by an entity outside of the three-county service area, CAWCD was required to charge the AWBA a fee in lieu of taxes. CAWCD has set the in lieu tax rate at \$20 per acre-foot for AWBA. The AWBA use monies collected from Mohave County Water Authority to make these payments.

Recovery

CAWCD staff continued their planning efforts for the recovery of credits accrued by the AWBA. For the second year, the CAWCD continued recovering credits previously stored in Pinal County for the benefit of Metropolitan. Recovery in 2008 occurred from two irrigation districts in Pinal County; Central Arizona Irrigation and Drainage District (CAIDD) recovered 13,380 acre-feet and Maricopa-Stanfield Irrigation & Drainage District (MSIDD) recovered 14,062 acre-feet.

In 2008, CAWCD began evaluating future recovery options for the Phoenix, Pinal, and Tucson AMAs and began stakeholder discussions on detailed recovery plans, well capacity, and recovery agreements. CAWCD has proposed several general concepts for recovering stored water. Indirect recovery will use available capacity in wells to pump groundwater that, when recovered, will be counted as CAP water delivered to CAWCD customers. Direct recover will use wells that deliver water back to the CAP canal for delivery through the CAP system. Credit exchange recovery entails assigning stored credits to a CAP customer who meets certain criteria. Other concepts are also

being considered. Two studies commenced that evaluate withdrawals of groundwater from several strategic locations. CAWCD staff anticipates completion of the recovery plan by the end of 2009.

Agreement and Facility Permit Activity

In 2008, the AWBA did not execute any new water storage agreements or any water storage permits. Throughout the year, the AWBA worked on draft renewal agreements for water storage at the Gila River Indian Irrigation & Drainage District (GRIIDD) GSF and the Central Avra Valley Storage and Recovery Project (CAVSARP). The CAVSARP agreement also includes provisions for the Southern Avra Valley Storage and Recovery Project (SAVSARP). The GRIIDD and CAVSARP/SAVSARP water storage agreements are expected to be executed in 2009.

At the December AWBA meeting, the Commission approved the renewal of the intergovernmental agreement (IGA) between ADWR, CAWCD and the AWBA that establishes the AWBA's cost for services provided by CAWCD and ADWR. The IGA is expected to be executed in 2009.

2009 Annual Plan of Operation

Pursuant to the initial 2009 Plan approved in December, 2008, projected recharge for the AWBA was 118,523 acre-feet. Of this quantity, 9,000 acre-feet were projected to be recharged at USFs and 109,523 acre-feet were projected to be recharged at GSFs. Recharge for interstate storage was not included in this amount.

In the spring of 2009, the AWBA was informed by CAWCD that an estimated 15,000 acre-feet in additional supplies could potentially be made available to the AWBA due to scheduled deliveries that had been turned back. In April, 2009, the AWBA adopted an amended Plan of Operation that includes an additional 15,124 acre-feet of intrastate deliveries to be stored in the Tucson AMA, reclassifies 25,000 acre-feet of intrastate deliveries to interstate deliveries in the Pinal AMA, and increases intrastate deliveries to the Phoenix AMA by 4,000 acre-feet. The 2009 Amended Plan of Operation is available on the AWBA website.

Website

Staff continue to update the recently enhanced AWBA website to provide timely and accurate information regarding the AWBA's activities to the water community: www.azwaterbank.gov. The web page contains information about the AWBA, Commission members and staff, announcements, meetings, storage facilities and water deliveries. It also contains documents that may be downloaded and provides links to other water-related websites.

Monies Expended from the Banking Fund

Arizona Revised Statutes §45-2425 mandates the various sources of monies for the Water Banking Fund (Fund) that is administered by the AWBA per the statute. In 2008, the AWBA obtained its funding from the following sources:

1. Fees for groundwater pumping are collected within the Phoenix, Pinal and Tucson AMAs. Fees for water banking purposes are charged at \$2.50 per acre-foot. Legislative changes allow for groundwater withdrawal fees to be collected and available to the AWBA beyond 2016 (A.R.S. §45-611(c)(3)). Long-term storage credits accrued with these monies must be used to benefit the AMA in which they were collected.
2. The CAWCD is statutorily authorized through 2016 to levy an *ad valorem* property tax in the three-county CAP service area that cannot exceed four cents per \$100 of assessed valuation and is used either for repayment or OM&R costs of the CAP. If the taxes levied are not needed for those purposes, an annual resolution of the CAWCD board can direct them to the Fund. In June of 2007, the CAWCD board again resolved that all taxes to be levied for the following tax year would be retained by the CAWCD. Consequently, there were no *ad valorem* tax revenues deposited into the Fund in 2008. All *ad valorem* monies previously held in the AWBA Fund have now been expended. Money from this source must be used to benefit the county in which it was collected.
3. The Arizona Legislature provided an initial appropriation of \$13.5 million in October, 2006 to assist the AWBA in meeting the State's obligation under the Settlements Act. These monies must be used to carry out state obligations related to Indian Firming and were not to be expended until after the enforceability date (December 14, 2007) of the Settlements Act. In July, 2008, House Bill 2209 transferred \$12.4 million of the initial appropriation from the Arizona Water Banking Fund.
4. Mohave County Water Authority (MCWA) agreed to prepay the AWBA to set aside 230,280 acre-feet of credits that were transferred to a sub-account in MCWA's name pursuant to the Agreement to Firm. Since those credits were reserved for use by an entity outside the three-county service area, CAWCD is required to charge the AWBA a fee in lieu of taxes. Monies collected from MCWA are used to offset these CAWCD fees which are charged at the same rate and on the same quarterly schedule as MCWA's prepayments to the AWBA.
5. Pursuant to the Agreement for Interstate Water Banking executed in 2001, \$10,053,945 was collected from the Southern Nevada Water Authority (SNWA) and used to purchase water on behalf of Nevada. Pursuant to the Amended Agreement for Interstate Water Banking (Amended Agreement), \$100 million was received from SNWA in 2005 and deposited into the Nevada sub-account (Resource Account) of the Fund. Water was not available to the AWBA for interstate banking in 2008. Monies from this source were not used for interstate water banking in 2008 because no water was available to the AWBA for interstate storage. Pursuant to the Amended Agreement, SNWA is scheduled to begin making payments of \$23 million to the Operating Account.

Table 1 shows the money the AWBA collected and the money that was expended for delivery and storage of water in 2008 by source of funds. Table 2 shows the total money received, expended and remaining through December 2008 by source of funds. Any remaining money is available to be expended in subsequent years; any interest that accrues on this money is available for use.

Table 1. Monies Collected and Expended in 2008 by Source of Funds

Source of Funds	Money Collected	Money Expended
General Funds	\$0	\$0
In-Lieu Fund – MCWA Prepayments	\$921,120	\$921,120
State Indian Firming¹	\$510,225	\$2,033,354
Interstate Water Banking - NV	\$0	\$0
Shortage Reparations - NV	\$2,307,925	\$2,307,925
4¢ Ad valorem Tax²		
Maricopa County	\$0	\$786,573
Pinal County	\$0	\$62,000
Pima County	\$0	\$343,893
Subtotal for Ad valorem	\$0	\$1,192,466
Groundwater Withdrawal Fees		
Phoenix AMA	\$2,067,844	\$1,693,612
Pinal AMA	\$1,476,018	\$849,240
Tucson AMA	\$462,667	\$91,503
Subtotal for Withdrawal Fees	\$4,006,529	\$2,634,355
TOTAL	\$7,745,800	\$9,089,220

¹ Amount shown is interest earnings.

² Money expended by CAWCD to offset the AWBA delivery costs.

Table 2. Monies Collected and Expended through December 2008 and Monies Remaining Available

Source of Funds	Money Collected	Money Expended	Money Available ¹
General Funds	\$11,100,865	\$11,100,865	\$0
In-Lieu Fund - MCWA Pre-payments	\$2,763,360	\$2,763,360	\$0
State Indian Firming²	\$2,299,465	\$2,033,354	\$266,110
Interstate Water Banking-NV	\$110,053,945	\$94,480,618	\$15,573,327
Shortage Reparations - NV	\$2,307,925	\$2,307,925	\$0
4¢ Ad valorem Tax³			
Maricopa County	\$136,695,601	\$58,767,801	\$77,927,800
Pinal County	\$5,566,336	\$3,775,865	\$1,790,471
Pima County	\$27,597,955	\$19,427,263	\$8,170,692
Subtotal for Ad valorem	\$169,859,892	\$81,970,929	\$87,888,963
Groundwater Withdrawal Fees			
Phoenix AMA ²	\$15,093,029	\$14,713,676	\$379,353
Pinal AMA	\$12,637,440	\$11,799,167	\$838,273
Tucson AMA	\$6,494,345	\$6,122,610	\$371,734
Subtotal for Withdrawal Fees	\$34,224,813	\$32,635,453	\$1,589,361
TOTAL	\$332,610,265	\$227,292,498	\$105,317,767

¹ Money remaining in AWBA Fund or collected by CAWCD; includes monies committed for the 2009 Amended Plan of Operation.

² Total money collected was decreased to reflect legislative transfers in FY 2004, FY 2005, and FY 2009.

³ Includes money collected and money expended by CAWCD and used to offset the AWBA delivery costs.

Long-term Storage Credits

The AWBA has established long-term storage credit (LTSC) accounts with ADWR. The Phoenix AMA account number is 70-441150, the Pinal AMA account number is 70-431135, and the Tucson AMA account number is 70-411150. After receiving the AWBA's annual reports for its water storage and water transfer permits and the annual reports for the recharge facilities, ADWR calculates and issues LTSCs to the appropriate accounts. The AWBA receives credit for 95% of the recoverable quantity of stored water. The 5% that is not credited is termed the cut to the aquifer and provides additional groundwater replenishment benefits. This cut to the aquifer is mandated by statute and applies to most storage of water for long-term credit. The recoverable amount of stored water is determined by subtracting facility losses from the quantity of water delivered to the facility. After credits are issued to the account, AWBA staff allocate the credits to the appropriate sub-accounts based on source of funding. The number and distribution of LTSCs for 2008 are listed in Table 3. The cumulative totals of LTSCs accrued by the AWBA through December 2008 are listed in Table 4.

Table 3. Number and Location of Long-term Storage Credits Accrued in 2008

Location and Funding Source	Long-term Storage Credits Accrued (AF)
Phoenix AMA	
4¢ <i>Ad valorem</i> Tax	12,592
Groundwater Withdrawal Fee	42,311
General Fund	0
Indian Firming	0
Shortage Reparations	20,642
Interstate - Nevada	0
AMA Total	75,545
Pinal AMA	
4¢ <i>Ad valorem</i> Tax	2,863
Groundwater Withdrawal Fee	36,966
General Fund	0
Indian Firming	0
Shortage Reparations	55,751
Interstate - Nevada	0
AMA Total	95,581
Tucson AMA	
4¢ <i>Ad valorem</i> Tax	4,982
Groundwater Withdrawal Fee	1,326
General Fund	0
Indian Firming	25,756
Shortage Reparations	0
Interstate - Nevada	0
AMA Total	32,063
Totals by Funding Source	
4¢ <i>Ad valorem</i> Tax	20,437
Groundwater Withdrawal Fee	80,603
General Fund	0
Indian Firming	25,756
Shortage Reparations	76,393
Interstate - Nevada	0
TOTAL	203,189

**Table 4. Cumulative Total and Location of Long-term Storage Credits
Accrued through December 2008**

Location and Funding Source	Long-term Storage Credits Accrued (AF)
Phoenix AMA	
4¢ <i>Ad valorem</i> Tax	1,106,740
Groundwater Withdrawal Fee	261,363
General Fund	42,316
Indian Firming	0
Shortage Reparations	20,642
Interstate Water Banking - Nevada	23,820
AMA Total	1,454,881
Pinal AMA	
4¢ <i>Ad valorem</i> Tax	122,395
Groundwater Withdrawal Fee	357,931
General Fund	306,968
Indian Firming	0
Shortage Reparations	55,751
Interstate Water Banking - Nevada	415,244
AMA Total	1,258,288
Tucson AMA	
4¢ <i>Ad valorem</i> Tax	249,901
Groundwater Withdrawal Fee	85,139
General Fund	54,546
Indian Firming	25,756
Shortage Reparations	0
Interstate Water Banking - Nevada	88,456
AMA Total	503,798
Totals by Source of Funds	
4¢ <i>Ad valorem</i> Tax	1,479,036
Groundwater Withdrawal Fee	704,433
General Fund ¹	403,830
Indian Firming	25,756
Shortage Reparations	76,393
Interstate Water Banking - Nevada	527,520
TOTAL	3,216,967

¹ 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 subaccount for the MCWA in 2005. By resolution passed in 2008, the AWBA established a replacement account for 4th priority Colorado River M&I users.

Since inception, the AWBA has focused its efforts on developing LTSCs for firming purposes and the AWBA has identified 2,700,000 acre-feet of LTSCs as reasonable to firm the CAP M&I subcontracts over the next 100 years. This volume would be divided as 58% to Maricopa County, 32% to Pima County and 9% to Pinal County based on a pro-rata distribution to the three counties on the basis of CAP M&I subcontracts. The AWBA has also identified 420,000 acre-feet of LTSCs as reasonable to firm the on-river communities over the next 100 years. In 2002, the AWBA adopted a resolution that identified on-river firming as the highest priority of use for the general fund credits and established priorities for other uses (Indian settlements, etc.). Consequently, all or part of the general fund credits could be utilized to firm on-river M&I users. It should be noted that the AWBA collects reimbursement

for the replacement cost of credits used for on-river firming. In March, 2008, the AWBA executed Resolution 2008-1 that establishes a LTSC replacement account for 4th priority Colorado River M&I users. As credits are used and replaced, these replacement credits will be placed in a separate replacement subaccount and be earmarked for the entity that reimburses the Water Bank for the replacement of those credits. Table 5 illustrates the progress made by the AWBA towards meeting its established goals.

Table 5 also identifies the estimated remaining costs for meeting the AWBA's goals and obligations. These estimates are developed based on the assumptions contained in the AWBA's ten-year plan for 2010-2019. For obligations that are not met in the ten-year plan, 2020 estimated costs were assumed when calculating the amount remaining to meet the goals. As illustrated in Table 8 of the ten-year plan, most of the goals will be met during the next ten years. Those not met include the Tucson AMA and on-river M&I firming goals, and the Nevada contract obligation. Approximately 74% of the Tucson AMA firming goal will have been met by 2019. Since all of the *ad valorem* tax monies will have been expended by 2016, the AWBA will need to rely on withdrawal fees to meet the remainder of this firming goal. Because revenue from withdrawal fees is limited in the Tucson AMA (less than \$500k/yr), the firming goal would not be met until well beyond 2025. Therefore, estimated rates for 2020 were used to calculate the total remaining costs for the Tucson AMA firming goal. Expenditures under the ten-year plan are estimated at \$48 million, utilizing *ad valorem* tax monies (\$43 million) and withdrawal fees (\$5 million), and the remaining costs are estimated at \$47 million for a total cost of \$95 million. Likewise, because it is not known if or when the AWBA will receive general fund appropriations in the future, the same method was applied to calculate the remaining on-river firming costs. It was also assumed that storage for on-river firming purposes would be at GSFs. However, because funding is not the limiting factor for meeting the Nevada contract obligation, a different assumption was used. Interstate storage costs for the ten-year plan are estimated at \$10 million. It was assumed that at least 90,000 acre-feet could be stored annually at the Pinal GSFs beyond 2019 until the contract obligation is met. Using this assumption, the remaining costs after 2019 are estimated at \$126 million with the obligation being met by 2027. Lastly, the remaining costs for meeting the Indian firming goals were estimated by assuming that because the M&I firming goals could be met using *ad valorem* taxes, all withdrawal fee credits accrued in the Phoenix and Pinal AMAs in the next ten years would be applied toward meeting these goals. Existing withdrawal fee credits in the Pinal AMA, including credits accrued from storage at the Gila River Indian Irrigation and Drainage District (GRIIDD) GSF, could be used to meet the remaining GRIC firming goal and existing withdrawal fee credits from the Phoenix AMA could be used to meet the firming goal for future Indian settlements. Because funding has already been expended for these credits, they were not included in the calculation for remaining costs.

The average annual cost for the AWBA to obtain one acre-foot of LTSCs for intrastate and interstate storage is presented in Tables 6a and 6b, respectively. Table 6a illustrates that the unit cost per LTSC for intrastate storage fluctuates yearly. The unit cost per LTSC generally trended up since inception of the AWBA to 2006, then decreased in 2007 and 2008. Increases are typically a function of three primary factors: annual increases in the cost per acre-foot of water delivered, annual increases in the cost of storage facilities and the mix of storage between USFs and GSFs. Decreases are typically a function of annual decreases in the cost per acre-foot of water delivered and the mix of storage between USFs and GSFs. Similarly, Table 6b illustrates that the unit cost per LTSC for interstate storage increased each year between 2002 and 2005 and then decreased in 2006 and 2007. Although the unit cost of developing interstate LTSCs is also influenced by the same factors as intrastate storage, interstate storage is additionally affected by the fluctuating cost of energy.

Table 5. Identified Uses of Long-term Storage Credits Accrued through December 2008 and Percentage of AWBA Goals Achieved

Location and Objective	Funding Source	Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits Accrued (AF)	Percent Goal/Oblig. Achieved	Estimated ¹ Remaining Costs (\$ Million)
Phoenix AMA M&I Firming Groundwater Mgmt ²	<i>Ad valorem</i> tax Withdrawal Fees	1,566,000 AF			1,106,740 261,363	71% 87%	\$71
Pinal AMA M&I Firming Groundwater Mgmt ²	<i>Ad valorem</i> tax Withdrawal Fees	243,000 AF			120,857 359,468	50% 198%	\$10
Tucson AMA M&I Firming Groundwater Mgmt ²	<i>Ad valorem</i> tax Withdrawal Fees	864,000 AF			249,907 85,134	29% 39%	\$43 \$51
On-River M&I Firming³	General Fund	420,000 AF			403,830	96%	\$2
Indian Settlements: GRIC Firming Phoenix AMA Pinal AMA	Withdrawal Fees	350,000 AF ⁴	up to 15,000 AF/YR		0	0%	\$9
Future Settlements	Withdrawal Fees	200,000 AF ⁴	up to 8,724 AF/YR		0	N/A	\$18
Federal Assistance ⁵ SAWRSA	Appropriation Withdrawal Fees		\$3,000,000	\$2,048,237 \$2,048,237 \$0	25,756 25,756 \$0	68%	\$0.95
Southside Repl. Bank	Withdrawal Fees		15,000 AF Direct Delivery		0	0%	\$2
Interstate Water Banking - NV	Contract with Nevada		1,250,000 AF ⁶		527,520	42%	\$136
Shortage Repairs- Nevada	Gifts, Grants, Donations	\$8,000,000		\$2,307,919	76,393	29%	\$5.7

¹ Based on the ten-year plan and an assumed rate escalation of 2% for water delivery costs and 1% for facility costs after 2014.

² Withdrawal fees could be utilized in addition to 4¢ *ad valorem* tax revenues for M&I firming if needed to reach firming goals.

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 subaccount for the MCWA in 2005.

⁴ Based on estimates from the Indian Firming Study Commission Report dated January 6, 2006.

⁵ Expenditures under the \$3 million include \$14,883 deducted for payment of cost of services.

⁶ 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 subaccount.

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

Year	Credits ¹	Funds Expended	Average Cost (per acre-foot)	% Stored in GSF: % Stored in USF
1996	None	None	\$0	0% : 0%
1997	296,987	\$6,387,000	\$21.51	85% : 15%
1998	202,542	\$7,143,000	\$35.27	68% : 32%
1999	232,142	\$8,733,000	\$37.61	68% : 32%
2000	272,123	\$11,163,000	\$41.02	60% : 40%
2001	275,406	\$10,893,590	\$39.55	62% : 38%
2002	262,317	\$13,700,300	\$52.23	64% : 36%
2003	200,168	\$11,077,666	\$55.34	47% : 53%
2004	251,456	\$17,855,997	\$71.01	41% : 59%
2005	85,782	\$5,615,201	\$65.46	58% : 42%
2006	162,340	\$14,782,313	\$91.06	17% : 83%
2007	245,129	\$15,641,702	\$63.81	37% : 63%
2008	203,189	\$8,168,094	\$40.20	65% : 35%

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

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

Year	Credits	Funds Expended	Average Cost (per acre-foot)	% Stored in GSF: % Stored in USF
2002	61,098	\$8,617,393	\$141.04	100% : 0%
2003	50,000 ¹			
2004	14,162	\$2,899,647	\$204.75	66% : 34%
2005	111,805	\$25,723,366	\$230.07	65% : 35%
2006	175,569	\$35,386,306	\$201.55	68% : 32%
2007	114,886	\$21,853,906	\$190.22	91% : 09%
2008	None	None	\$0	0% : 0%

¹ Long-term Storage Credits transferred from CAWCD.

Long-term Storage Credits Distributed or Extinguished by the Authority

The long-term storage credits (LTSCs) developed by the AWBA to date have been identified as reserved for five purposes: firming the post-1968 Colorado River municipal and industrial (M&I) entitlements; firming the post-1968 M&I entitlements for entities outside the CAWCD service area; firming for the Federal obligation under the Settlements Act; fulfilling the water management objectives set forth in Chapter 2 of Title 45 (Arizona Revised Statutes); and for interstate water banking purposes pursuant to agreements with Nevada. Credits for firming purposes may be distributed or extinguished when the Colorado River system is deemed to be in a shortage or if there is an operational disruption of the CAP. There were no shortages or unplanned CAP operational problems, therefore, no credits were distributed or extinguished for these purposes in 2008. While credits have been developed using withdrawal fees, which are credits that can be used for water management purposes, no credits were distributed or extinguished in 2008.

Under the 1999 amendments to the AWBA legislation, the AWBA is authorized to develop credits with monies collected pursuant to water banking services agreements. In 2008, no credits were developed or distributed under such agreements.

There was recovery of LTSCs previously stored by CAWCD on behalf of Metropolitan in 2008. These credits were recovered by CAWCD and extinguished from their long-term storage account.

Ten-Year Plan

Introduction

Preparation of the ten-year plan is statutorily mandated. The ten-year plan must include a description of any water banking activities the AWBA intends to undertake in addition to the three primary AWBA functions of firming for M&I supplies, assisting in Indian water rights settlements, and fulfilling state water management objectives. The ten-year plan is presented in Table 7. The ten-year plan must also provide an analysis of the AWBA's ability to complete those activities. This analysis is provided in Table 8. The ten-year plan is not a guarantee of future storage activities and is completed for planning purposes only. In any given year, the AWBA's activities are governed by the annual Plan of Operation.

The ten-year plan analyzes activity for the period 2010-2019 (Table 7) and was derived using the information found in Appendices B through J. AWBA accounting for previous years can be found in the 2007 Annual Report and 2009 Plan of Operation. AWBA staff developed the ten-year plan based on the following guiding principles:

1. The intent of the plan is to evaluate if the AWBA can engage in water banking activities beyond the scope of the currently established AWBA role and to what extent.
2. The plan covers a ten-year time period beginning with the next calendar year. For example, this ten-year plan covers the time period 2010-2019.
3. The plan is updated annually based on current priorities of the AWBA.
4. The plan is an important tool to be utilized in development of the next year's annual Plan of Operation.

Ten-Year Plan Components

The following factors are recognized to be important elements in developing the model used to generate the ten-year plan. Inclusion or exclusion of a specific factor or component of a factor was based on whether the extent of the effect of the factor could be predicted over the planning period, and whether the factor was anticipated to be at issue over the planning period.

1. Storage Partners and Storage Capacity

The AWBA currently has 13 water storage permits for GSFs with a total permitted storage capacity of 718,846 acre-feet per year. Of these, two are water storage permits for the Gila River Indian Irrigation and Drainage District (GRIIDD) GSF with a total combined permit capacity of 56,000 acre-feet. While the GSF is permitted to operate until December 31, 2010, it may only operate while it meets the statutory requirements for operating a GSF. In 2010, the Secretary will begin offsetting the water delivery costs to the GRIIDD, thereby making the cost of CAP water reasonably available. In doing so, the permit conditions for operating the GSF will no longer be met resulting in the termination of the facility. Therefore, this ten-year plan does not utilize the GRIIDD GSF. In addition, because most of the GSF operators in the Phoenix and Tucson AMAs have not partnered with the AWBA in the past several years, storage at these facilities has also not been included in this ten-year plan.

Most of the GSF permits will expire within this ten-year plan. In most instances, the AWBA's water storage permits and agreements will also expire. Although the AWBA has not stored water at many of these GSFs in the past few years, it will still pursue renewals of its permits and agreements with those GSF operators who are interested in potential future partnerships with the AWBA. By renewing these permits it could potentially provide additional storage capacity when needed.

The AWBA currently has 11 water storage permits for USFs with a total permitted storage capacity of 711,000 acre-feet per year. The GRUSP, Avra Valley, and Lower Santa Cruz USF permits will expire on December 2010, March 2018 and February 2019, respectively. Any difficulty in obtaining new permits could impact the capacity available to the AWBA. However, impacts of this nature cannot be predicted and were discounted in the analysis of this ten-year plan.

As with the GSFs, all of the agreements for water storage at these USFs will expire within this ten-year planning period. Although the AWBA has current water storage permits for the GRUSP and Vidler USFs, the AWBA's water storage agreements with these facility operators have expired. Thus storage at these two facilities has not been included in this ten-year plan.

Appendix C describes the storage partners, storage permits, and capacity available for use by the AWBA. It also identifies the partners that the AWBA included in development of this ten-year plan.

Table 7. Ten-year plan

ARIZONA WATER BANKING AUTHORITY – Ten-Year Plan																
2009 – 2018																
(Acre-feet)																
YEAR	(a) CAP Water Avail for AWBA	(b) CAP M&I Firming (4¢ tax)		(c) Water Management (Withdrawal Fees)		(d) Appropriation from General Fund		(e) Shortage Repairs (\$8 Million)		(f) Indian Settlement		(g) (h) (i) (j) (k) Interstate Banking				
		Del.	Credits	Del.	Credits	Del.	Credits	Del.	Credits	Del.	Credits	Water Avail.	AWBA Capacity Avail.	Credits	ICUA	Remaining Credits
Pre-Plan ^(h)	n/a	1,571,714		638,254		403,830		76,393		105,993				550,770		
2010	147,955	110,751	102,998	4,115	2,897	0	0	0	0	33,089	30,772	0	120,645	0	0	550,770
2011	144,316	116,339	108,196	3,990	2,780	0	0	0	0	23,987	22,308	0	126,884	0	0	550,770
2012	142,625	94,808	88,171	9,042	2,829	0	0	21,833	20,305	16,942	15,756	0	125,542	0	0	530,770
2013	139,421	93,748	87,186	8,869	2,669	0	0	21,012	19,541	15,791	14,686	0	145,314	0	20,000	500,770
2014	135,650	109,586	101,915	2,770	2,576	0	0	0	0	23,293	21,663	0	184,550	0	30,000	460,770
2015	131,839	106,654	99,189	2,718	2,527	0	0	0	0	22,467	20,894	0	186,361	0	40,000	420,770
2016	128,067	103,289	96,059	2,666	2,479	0	0	0	0	22,112	20,565	0	191,018	0	40,000	380,770
2017	126,688	82,054	76,310	2,615	2,432	0	0	0	0	22,247	20,690	19,772	212,052	18,388	40,000	359,158
2018	126,472	81,755	76,032	2,565	2,385	0	0	0	0	21,850	20,320	20,302	212,184	18,881	40,000	338,039
2019	122,778	81,485	76,032	2,516	2,340	0	0	0	0	21,394	19,725	17,383	212,388	16,166	40,000	314,206
TOTAL		2,483,802		664,168		403,830		116,239		313,372				604,205		

FOOTNOTES:

(a) Assumes AWBA Pool of 175KAF less CAGR projected replenishment reserve uses. See Appendix B.

(b) See Appendix D.

(c) See Appendix E. Includes direct delivery of 1,000 AF of water in 2010 and 2011 and 6,000AF of water in 2012 and 2013 to meet the remaining Southside Replenishment obligation of 14,000 AF.

(d) See Appendix F.

(e) See Appendix G.

(f) See Appendix H. A.R.S. §45-2491(B)(2) allows for the use of withdrawal fees after legislative appropriations for Indian firming have been expended. Withdrawal fee credits accrued in the Phoenix and Pinal AMAs could be utilized to meet this obligation. The State Indian settlement firming obligation is estimated at 550,000 AF. In addition, 34,126 AF of credits are accrued to meet the State's obligation under Section 306 of the AZ Water Settlement's Act (\$3 million for Federal assistance).

(g) Available AWBA CAP supplies minus intrastate deliveries.

(h) See Appendix I.

(i) Cumulative totals for 1997-2009; 2008 are actual credits and 2009 are estimated based on projected deliveries.

(j) Assumes maximum allowable recovery pursuant to the Second Amended Agreement for Interstate Banking.

(k) Credits remaining available in Nevada sub-account after recovery.

Table 8. AWBA Percentage of Goals Achieved through 2019

Location and Objective	Funding Source	Goal	Obligation	Non-Credit Goal/Oblig. Achieved	Credits ¹ Accrued (AF)	Percent Goal/Oblig. Achieved
Phoenix AMA M&I Firming ² Groundwater Mgmt ³	<i>Ad valorem</i> tax Withdrawal Fees	1,566,000 AF			1,716,940 138,659	110%
Pinal AMA M&I Firming ² Groundwater Mgmt ³	<i>Ad valorem</i> tax Withdrawal Fees	243,000 AF			244,927 137,999	101%
Tucson AMA M&I Firming Groundwater Mgmt ³	<i>Ad valorem</i> tax Withdrawal Fees	864,000 AF			521,935 116,741	60% 74%
On-River M&I Firming⁴	General Fund	420,000 AF			403,830	96%
Indian Settlements⁵ GRIC Firming Phoenix AMA Pinal AMA	Withdrawal Fees	350,000 AF ⁶	up to 15,000 AF/YR		350,000 54,789 295,211	100%
Future Settlements	Withdrawal Fees	200,000 AF ⁶	up to 8,724 AF/YR		200,000	N/A
Federal Assistance SAWRSA	Appropriation Withdrawal Fees		\$3,000,000	\$3,000,000 \$2,332,051 \$667,949	34,126 28,246 5,880	100%
Southside Repl. Bank	Withdrawal Fees		15,000 AF Direct Delivery	15,000 AF	0	100%
Interstate Water Banking - NV	Contract with Nevada		1,250,000 AF ⁷		604,205	48%
Shortage Repairs-Nevada	Gifts, Grants, Donations	\$8,000,000		\$8,000,000	116,239	100%

¹1997-2009; actual credits through 2008 and estimated credits for 2009 based on projected deliveries.

²The M&I firming goal for the Phoenix AMA is met in 2018 and the M&I firming goal for the Pinal AMA is met in 2016. The firming goals may be exceeded if monies, water, and capacity are available.

³Pursuant to House Bill 2835, firming M&I supplies is a water management objective for the use of credits developed by groundwater withdrawal fees. By utilizing withdrawal credits in the Tucson AMA, 74% of the M&I firming goal will be met by 2019.

⁴By 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.

⁵A.R.S. §45-2491(B)(2) allows for the use of withdrawal fees after legislative appropriations for Indian firming have been expended. By utilizing credits accrued from storage at the GRIIDD and credits accrued from withdrawal fees in the Pinal and Phoenix AMAs in this ten-year plan, about 42% of the GRIC and 66% of the future settlement firming goals are estimated to be met in 2019. Existing withdrawal fee credits from the Pinal and Phoenix AMAs were used to meet the remainder of the firming goals for the GRIC and future settlements, respectively.

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

⁷Pursuant to the Amended Agreement for Interstate Water Banking, the AWBA has committed to accrue 1,250,000 acre-feet of credits on behalf of the Southern Nevada Water Authority.

2. Recovery

This ten-year plan includes a recovery component for interstate purposes pursuant to the Second Amended Agreement for Interstate Water Banking (Second Amended Agreement) executed in April of 2009. The Second Amended Agreement authorized Nevada to request development of intentionally created unused apportionment (ICUA), if needed, as follows: in the initial year, an amount not exceeding 20,000 acre-feet; the second year, an amount not exceeding 30,000 acre-feet; and in subsequent years, an amount not exceeding 40,000 acre-feet. This ten-year plan also includes a recovery component for the development of ICUA for California pursuant to the Amended Letter Agreement between the Metropolitan Water District of Southern California (Metropolitan), CAWCD and AWBA discussed earlier. The Amended Letter Agreement allows for the creation of ICUA through recovery and the credit exchange method. Of the initial 80,909 acre-feet of credits held by CAWCD on behalf of Metropolitan, approximately 5,600 acre-feet of credits remain available for recovery during this ten-year plan. Recovery of these credits is the responsibility of CAWCD and will occur in the Pinal AMA.

This ten-year plan does not include any shortage years based on model analysis. While shortages are possible during the next ten years, the probability is low that shortages will actually occur. If shortages do occur however, they would impact the ten-year plan. The major impact to the plan would be significant reductions in supplies in the shortage years. The AWBA has the lowest priority for CAP water so any reduction in CAP supplies would impact the AWBA first. A shortage would also cause the recovery of credits to meet firming obligations. It is not likely that credits would have to be recovered to firm CAP M&I supplies because there should be enough lower priority CAP water to absorb any shortage during the next ten years. On-river M&I and NIA water being delivered pursuant to Indian settlements could be at risk. Reductions to the on-river M&I users could trigger the need to recover credits and exchange the recovered water with CAWCD to create water that could be diverted by the on-river M&I users to firm their supplies. In addition to the recovery required for the on-river users, the AWBA might be required to recover credits to meet its obligation for Indian firming. However absent shortages, the only recovery planned for this ten-year plan is for interstate purposes. Even though recovery for shortages is not anticipated for this ten-year plan, any additional recovery provisions should be put in place due to the lead time needed.

3. Water management objectives

The early activities of the AWBA were focused on achieving the goal of full utilization of Arizona's Colorado River allocation. With the exception of 2005, Arizona has been meeting this goal since 2002. Another primary objective of the AWBA was meeting the M&I firming goals. By the end of 2009 the AWBA anticipates having stored over 1.57 million acre-feet (MAF) of credits for that purpose. The ten-year plan again shows that meeting the goal set for firming Tucson AMA supplies is problematic.

4. Funding

AWBA General Fund Appropriation

The AWBA has not received a general fund appropriation that was not subject to restrictions since 2001. Consequently, the AWBA does not anticipate receiving general fund appropriations and did not include expenditure of these funds in this ten-year plan. However, the AWBA will continue to seek appropriations from the Legislature for future ten-year plans.

Groundwater Withdrawal Fees

In 2006, the statutes concerning the collection and utilization of credits accrued through the expenditure of groundwater withdrawal fees by the AWBA had been amended subject to the enforceability of the Arizona Water Settlements Act (Settlements Act) P.L. 108-451, which became effective December 14, 2007. Under A.R.S. §45-2457(B)(6), in addition to meeting the water management objectives of the AMAs in which the fees were collected, the AWBA may also utilize withdrawal fees to meet the M&I demands of CAP subcontractors and to implement the settlement of water rights claims by Indian communities in Arizona. A.R.S. §45-2491(B)(2) further clarifies that groundwater withdrawal fees however, may only be used to accomplish Indian firming goals after the expenditure of any legislative appropriations. Furthermore, A.R.S. §45-611(C)(3) was amended to allow the AWBA to collect groundwater withdrawal fees beyond 2016 and to allow fees collected in the Pinal AMA to be utilized for meeting the AWBA Southside Replenishment obligation. This ten-year plan utilizes withdrawal fees beyond 2016 for the accrual of credits and for the purchase of CAP water for the purpose of establishing the Southside Replenishment Bank.

Ad valorem Tax

Pursuant to A.R.S. §48-3715.03(B), 4¢ *ad valorem* taxes levied and collected by CAWCD that are not deposited in the District fund, shall be deposited into subaccounts held by the AWBA; one for each of the three counties in which the taxes were collected. For the past several years, CAWCD has not deposited monies collected into these AWBA subaccounts. As a result, the AWBA expended all available funds that remained in its subaccounts. CAWCD has however assisted the AWBA by offsetting AWBA water delivery and storage costs using the 4¢ *ad valorem* tax held in its own accounts. This ten-year plan relies on the continuation of CAWCD offsetting the AWBA's costs. It is important to note that A.R.S. §48-3715.02, which provides CAWCD the authority to levy the *ad valorem* tax for water storage, will be repealed effective January 2, 2017. Therefore this ten-year plan does not include collections of the *ad valorem* tax beyond 2016.

Appropriations for Indian Firming

In 2006, the AWBA received an appropriation of \$13.5 million from the Legislature to be utilized specifically for meeting the State's Indian firming obligations. Expenditure of these funds had been anticipated during this ten-year plan. However, in fiscal year (FY) 2009 the Legislature transferred \$12.4 million of these funds from the Arizona Water Banking Fund. The difference, including interest, had been expended in the Tucson AMA for the purpose of assisting the Federal government in meeting its portion of the firming obligation under Section 306 of the Settlements Act. This ten-year plan therefore relies on the expenditure of withdrawal fees for meeting Indian firming obligations.

Funding for Interstate Banking

The Second Amended Agreement requires Nevada to make ten annual payments of \$23 million beginning in 2009, which will be deposited to the Operating Account. It also includes a provision that allows the AWBA and the Southern Nevada Water Authority (SNWA) to revise the annual payment schedule to provide operational flexibility. Water supplies for interstate storage are expected to be minimal during this ten-year plan. When interstate storage occurs, monies from the Operating Account were used for those deliveries.

Gifts, Grants, or Donations

Pursuant to the Arizona-Nevada Shortage-Sharing Agreement discussed under the Activities and Projects section of the Annual Report, Nevada will provide to the AWBA \$8 million in order to assist Arizona in offsetting impacts that may occur during the Interim Period; the period beginning on the date the Secretary issues a Record of Decision (ROD) and ending on December 31, 2025. The AWBA began utilizing a portion of these funds in 2008 for the purchase and storage of CAP water and will expend the remainder of these funds under this ten-year plan.

5. Modifications within CAP with regard to pricing and pool allocation

In May 2000, the CAWCD Board adopted a policy for marketing the non-Indian agriculture (NIA) pool of excess water. This policy established an NIA pool of 400,000 acre-feet from 2004-2016. The pool will decline to 300,000 acre-feet from 2017-2023 and to 225,000 acre-feet from 2024-2030.

In 2008, recognizing that increased demand for subcontract and higher priority CAP water reduced the need for the incentive priced recharge pool, CAWCD adopted a rate schedule for 2009/2010 that phased-out the incentive priced recharge rate by 2012. However, initial water orders for 2009 continued to exceed supply, which prompted CAWCD to develop a policy for distributing excess CAP water among its customers. In June 2009, CAWCD adopted a policy that established four separate pools in addition to the NIA pool discussed above, thereby accounting for all excess CAP water (see Appendix J). While the actual policy is limited to the next five years, this ten-year plan assumes the policy will continue for the entire ten-year period. The AWBA's water availability was determined by subtracting the CAGR's projected storage amounts for replenishment reserve purposes from the shared pool of 175,000 acre-feet identified in the policy. CAWCD also amended its rate schedule by eliminating the incentive priced recharge pool in 2010. The new rates have been incorporated in this ten-year plan.

6. Participation in Indian settlements

One objective of the AWBA is assisting with the settlement of water rights claims by Indian communities within Arizona. The State of Arizona has a 100-year firming obligation under the Settlements Act. In addition, pursuant to HB 2728 executed on April 18, 2005, the AWBA has statutorily mandated responsibilities for the Southside Replenishment obligation. The Indian Firming Study Commission (Study Commission), created by the Arizona Legislature to evaluate the potential alternatives for meeting these obligations, concluded that the AWBA, in cooperation with ADWR and CAWCD is the most appropriate entity to fulfill the State's firming obligations. HB 2835, which included the Study Commission's recommendations, was signed by Governor Napolitano on April 12, 2006.

This ten-year plan includes a component for meeting the State's Indian settlement firming obligation. Since future appropriations from the Legislature cannot be predicted, withdrawal fee credits from the Phoenix and Pinal AMAs could be used to meet this obligation while still maintaining credits for other water management purposes. This includes credits that were previously accrued from water stored at the GRIIDD GSF. It should be noted that the AWBA will retain full rights to the credits developed at the GRIIDD GSF until such time the credits are dedicated specifically for meeting the State's Indian firming obligation.

This ten-year plan also includes a component for meeting the Southside Replenishment obligation of establishing the Southside Replenishment Bank totaling 15,000 acre-feet. The AWBA plans to deliver 1,000 acre-feet for this purpose in 2009 and has identified the remaining deliveries in the first four years of the ten-year plan. Withdrawal fees collected in the Pinal AMA are used to meet this obligation.

7. New recharge facilities and/or expanded capacities at existing facilities

The AWBA completed a revised inventory of existing storage facilities in the state as required by A.R.S. §45-2452, which was approved by the Authority on March 22, 2006. The revised inventory was utilized to develop this ten-year plan.

CAWCD was issued an underground storage facility permit from ADWR to operate the Superstition Mountains Recharge project located in the east Salt River Valley in January 2008. The proposed annual volume for the facility is 56,500 acre-feet. The AWBA expects to utilize capacity at this facility once constructed and has therefore included it in this ten-year plan.

8. Interstate banking

The ten-year plan includes an interstate water banking component for Nevada, but does not include California. This ten-year plan indicates that only 48%, or 604,205 acre-feet of credits of the 1,250,000 acre-feet of credits needed to meet the Nevada obligation, could be met by 2019.

Although this ten-year plan identifies storage for interstate purposes in the last three years of the plan, it is not certain that water will be available for this purpose because the amount of water available in the AWBA's pool, if any, could be less. In addition, the water identified for interstate storage could also be stored for intrastate purposes if there are agreements in place that utilize funds from one AMA to store water in another AMA that has storage capacity available, but no funding. This ten-year plan does not include expenditure of funds from different AMAs because there are currently no such arrangements. In contrast, it is also possible that additional water could become available for interstate banking due to unanticipated precipitation or decreased water orders by other CAP customers. These events cannot be foreseen however, and are therefore not included in this plan.

Given that little to no water is available for interstate banking, the AWBA Commission has directed staff to pursue opportunities with CAWCD to increase CAP supplies through the acquisition of additional Colorado River water for the purpose of meeting its contract obligation to Nevada. Any additional supplies that become available would be addressed as part of the AWBA's Annual Plan of Operation and succeeding ten-year plans.

Conclusion

The ten-year plan is intended to serve as a guide to assist the AWBA in the development of the Annual Plan. The AWBA is required to develop a Plan for activities to be undertaken the following calendar year. As part of the Annual Report, the ten-year plan is reviewed and updated annually. Therefore, it is possible that the ten-year plan may change significantly depending on the goals set by the AWBA. Several conclusions that could be reached given this ten-year plan are:

- 1) There might not be sufficient excess CAP water to meet the state's obligation to Nevada.
- 2) Available funding becomes a limiting factor in both Pinal and Pima County.
- 3) The amount of carryover funds in Maricopa County could become an issue in future years.
- 4) Absent future appropriations, withdrawal fees will become the principle source of funding for Indian firming.

Appendices

APPENDIX A
Colorado River Water Deliveries for Water Banking Purposes
for Calendar Year 2008 by Partner and Active Management Area

AMA	Partner	Quantity of Water (Acre-Feet)	
		Intrastate	Interstate
PHOENIX AMA	Agua Fria Recharge Project	2,313	0
	Hieroglyphic Mountains Recharge Project	1,264	0
	Tonopah Desert Recharge Project	38,465	0
	Queen Creek Irrigation District	6,397	0
	Gila River Indian Irrigation & Drainage District	31,326	0
	<i>Intrastate/Interstate AMA Subtotal</i>	79,765	0
	<i>Phoenix AMA Subtotal</i>	79,765	
PINAL AMA	Central Arizona Irrigation and Drainage District	37,852	0
	Hohokam Irrigation and Drainage District	18,525	0
	Maricopa-Stanfield Irrigation and Drainage District	41,864	0
	Gila River Indian Irrigation & Drainage District	5,000	0
	<i>Intrastate/Interstate AMA Subtotal</i>	103,241	0
	<i>Pinal AMA Subtotal</i>	103,241	
TUCSON AMA	Avra Valley Recharge Project	5,443	0
	Central Avra Valley Storage and Recovery Project	7,675	0
	Lower Santa Cruz Recharge Project	20,866	0
	Pima Mine Road Recharge Project	0	0
	<i>Intrastate/Interstate AMA Subtotal</i>	33,984	0
	<i>Tucson AMA Subtotal</i>	33,984	
TOTAL INTRASTATE & INTERSTATE DELIVERIES		216,990	0
TOTAL DELIVERIES		216,990	

APPENDIX B
CAP DELIVERY SCHEDULE
(Acre-feet)

Year	CAP Demands				Average Year Supply ⁴	Available for AWBA ⁵
	M&I ¹	Indian ²	Ag ³	Total		
2010	863,595	104,424	409,026	1,377,045	1,525,000	147,955
2011	844,350	127,308	409,026	1,380,684	1,525,000	144,316
2012	836,333	137,016	409,026	1,382,375	1,525,000	142,625
2013	829,829	146,724	409,026	1,385,579	1,525,000	139,421
2014	823,892	156,432	409,026	1,389,350	1,525,000	135,650
2015	818,133	166,002	409,026	1,393,161	1,525,000	131,839
2016	812,335	175,572	409,026	1,396,933	1,525,000	128,067
2017	904,143	185,143	309,026	1,398,312	1,525,000	126,688
2018	894,127	195,375	309,026	1,398,528	1,525,000	126,472
2019	888,053	205,143	309,026	1,402,222	1,525,000	122,778

- (1) Includes M&I, CAGR, CAGR replenishment reserve, and Indian M&I lease.
- (2) From CAWCD demand forecast.
- (3) Based on current agricultural pool policy, includes 32,537 AF for Harquahala Valley ID. Also includes subcontract water of 9,026 AF/YR.
- (4) Based on average year delivery of 1,600,000 AF/YR per year minus losses.
- (5) Assumes AWBA Pool of 175KAF less CAGR projected replenishment reserve uses.

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

AMA and Facility Type ¹	Facility Permit Expiration	Facility Permitted Capacity (AF)	Capacity Available to AWBA ² (AF)	Year Water Last Stored	Volume of Water Last Stored (AF)
PHOENIX – GSF³					
Queen Creek ID	12/2010	28,000	10,000	2008	6,397
PHOENIX – USF					
Agua Fria Recharge Project	05/2019	100,000	10,000	2008	2,313
Hieroglyphic Mtns.	12/2021	35,000	18,000	2008	1,264
Tonopah Desert RP	09/2025	100,000 ⁴	35,000	2008	38,465
West Maricopa Combine - USF	05/2021	25,000	5,000	⁵	0
PINAL – GSF					
Central Arizona IDD	12/2017	110,000	60,000	2008	37,852
Hohokam IDD	10/2012	55,000	40,000	2008	18,525
Maricopa-Stanfield IDD	12/2009	120,000	60,000	2008	41,864
TUCSON – USF					
Avra Valley	03/2018	11,000	5,000	2008	5,443
CAVSARP	10/2025	100,000	22,000	2008	7,675
Lower Santa Cruz	09/2019	50,000	25,000	2008	20,866
Pima Mine Road	09/2020	30,000	10,000	2007	6
SAVSARP	01/2028	60,000	10,000	⁵	n/a
Other Facilities Currently or Anticipated to be Available to the AWBA					
Superstition Mtn.-USF	01/2028	56,500	18,000	⁶	n/a

Footnotes:

- (1) As additional facilities are developed, they will be included in future plans.
- (2) This does not reflect the actual "permitted" volume for these facilities; instead for the purposes of this plan, staff relied on average historical storage volumes and potential for future storage. For 2009-2013 capacity is not expected to be available to the AWBA at the Hohokam ID GSF due to storage by other partners.
- (3) The AWBA holds water storage permits at Chandler Heights Citrus ID (3 KAF), Salt River Project (100 KAF), Roosevelt Water Conservation District (100 KAF), New Magma ID (54 KAF), Tonopah ID (15 KAF), Harquahala ID (50KAF), and BKW Farms (16 KAF) GSFs. These were not considered significant uses in this ten-year outlook.
- (4) Facility is permitted for 150 KAF for the first 4 years (2010) and 87.5 KAF for the next 16 years; the 100 KAF listed is a weighted average.
- (5) No deliveries to date.
- (6) Water Storage Permit application to be submitted to ADWR upon construction of the facility.

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

	Year	Groundwater Savings			Underground Storage		
		Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
PHOENIX AMA²	Pre-plan ³			528,894			618,323
	2010	5,442	1,687	1,569	51,957	35,533	33,046
	2011	6,156	1,561	1,451	62,323	41,428	38,528
	2012	4,300	844	785	59,682	34,143	31,753
	2013	3,788	939	873	78,788	53,689	49,931
	2014	2,630	1,301	1,209	80,095	68,631	63,827
	2015	2,318	1,003	932	79,068	64,893	60,350
	2016	2,847	995	925	79,217	60,398	56,170
	2017	1,315	1,315	1,223	80,739	80,739	75,087
	2018	1,223	1,223	1,137	80,532	80,532	74,895
	2019	1,137	1,137	1,137	80,348	80,348	74,895
	Total			540,135			1,176,805
	PINAL AMA²	Pre-plan ³			159,595		
2010		113,112	12,646	11,761	-	-	-
2011		113,734	12,341	11,477	-	-	-
2012		105,454	13,335	12,402	-	-	-
2013		105,833	12,993	12,083	-	-	-
2014		150,181	13,168	12,246	-	-	-
2015		150,346	13,477	12,533	-	-	-
2016		150,508	13,795	12,830	-	-	-
2017		150,667	0	0	-	-	-
2018		150,749	0	0	-	-	-
2019		150,904	0	0	-	-	-
Total				244,927			
TUCSON AMA²		Pre-plan ³			3877		
	2010	0	0	0	60,885	60,885	56,623
	2011	0	0	0	61,010	61,010	56,740
	2012	0	0	0	50,914	46,486	43,232
	2013	0	0	0	50,654	26,128	24,299
	2014	0	0	0	61,230	26,487	24,633
	2015	0	0	0	61,282	27,282	25,372
	2016	0	0	0	61,734	28,101	26,134
	2017	0	0	0	61,385	0	0
	2018	0	0	0	61,435	0	0
	2019	0	0	0	61,484	0	0
	Total			3,877			518,058

Footnotes:

- (1) Development of M&I firming credits followed utilization of other funds in the Arizona Water Banking Fund.
- (2) M&I firming targets are Phoenix AMA - 1.566 MAF, Pinal AMA - 243 KAF, and Tucson AMA - 864 KAF.
- (3) Cumulative totals for 1997-2009; 2009 credits estimated based on projected deliveries.
- (4) The capacity available is based on the capacity remaining at the USFs and GSFs after all higher priority demands have been met.

APPENDIX E
Credits Developed for Meeting AMA Water Management Goals
Utilizing Withdrawal Fees ¹
(Acre-feet)

	Year	Groundwater Savings			Underground Storage		
		Capacity Available ³	Capacity Used	Credits Earned	Capacity Available ³	Capacity Used	Credits Earned
PHOENIX AMA	Pre-plan ²			143,276			118,087
	2010	15,000	9,558	8,889	65,600	13,643	12,688
	2011	15,000	8,844	8,225	68,200	5,877	5,466
	2012	10,000	5,562	5,173	68,200	8,518	7,922
	2013	10,000	6,078	5,652	86,200	7,412	6,893
	2014	10,000	7,370	6,854	86,200	6,105	5,678
	2015	8,000	5,682	5,284	86,200	7,132	6,632
	2016	8,485	5,638	5,243	86,200	6,983	6,494
	2017	8,768	7,453	6,931	86,200	5,461	5,079
	2018	8,154	6,931	6,446	86,200	5,668	5,271
	2019	7,583	6,446	5,995	86,200	5,852	5,271
	Total			207,968			185,481
	PINAL AMA	Pre-plan ²			357,931		
2010		124,000	9,888	9,196	-	-	-
2011		124,000	9,266	8,617	-	-	-
2012		114,316	2,862	2,661	-	-	-
2013		114,134	2,301	2,140	-	-	-
2014		160,000	9,819	9,132	-	-	-
2015		160,000	9,654	8,978	-	-	-
2016		160,000	9,492	8,827	-	-	-
2017		160,000	9,333	8,680	-	-	-
2018		160,000	9,251	8,603	-	-	-
2019		160,000	9,096	8,459	-	-	-
Total				433,224			0
TUCSON AMA		Pre-plan ²			4,483		
	2010	0	0	0	64,000	3,115	2,897
	2011	0	0	0	64,000	2,990	2,780
	2012	0	0	0	53,956	3,042	2,829
	2013	0	0	0	53,523	2,869	2,669
	2014	0	0	0	64,000	2,770	2,576
	2015	0	0	0	64,000	2,718	2,527
	2016	0	0	0	64,400	2,666	2,479
	2017	0	0	0	64,000	2,615	2,432
	2018	0	0	0	64,000	2,565	2,385
	2019	0	0	0	64,000	2,516	2,340
	Total			4,483			112,258

- (1) Expenditure of withdrawal fees was given the highest priority.
(2) Cumulative totals for 1997-2009; 2009 credits estimated based on projected deliveries.
(3) The capacity available is based on the capacity remaining at the USFs and GSFs after all higher priority demands have been met.

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

PHOENIX AMA	Year	Groundwater Savings			Underground Storage		
		Capacity Available	Capacity Used	Credits Earned	Capacity Available	Capacity Used	Credits Earned
	Pre-plan ³			16,275			26,041
2010	5,442	0	0	51,957	0	0	
2011	6,156	0	0	62,323	0	0	
2012	4,438	0	0	59,682	0	0	
2013	3,922	0	0	78,788	0	0	
2014	2,630	0	0	80,095	0	0	
2015	2,318	0	0	79,068	0	0	
2016	2,847	0	0	79,217	0	0	
2017	1,315	0	0	80,739	0	0	
2018	1,223	0	0	80,532	0	0	
2019	1,137	0	0	80,348	0	0	
Total			16,275			26,041	

PINAL AMA	Year	Groundwater Savings			Underground Storage		
		Capacity Available	Capacity Used	Credits Earned	Capacity Available	Capacity Used	Credits Earned
	Pre-plan ³			306,968			
2010	124,000	0	0	-	-	-	
2011	124,000	0	0	-	-	-	
2012	124,000	0	0	-	-	-	
2013	124,000	0	0	-	-	-	
2014	160,000	0	0	-	-	-	
2015	160,000	0	0	-	-	-	
2016	160,000	0	0	-	-	-	
2017	160,000	0	0	-	-	-	
2018	160,000	0	0	-	-	-	
2019	160,000	0	0	-	-	-	
Total			306,968				

TUCSON AMA	Year	Groundwater Savings			Underground Storage		
		Capacity Available	Capacity Used	Credits Earned	Capacity Available	Capacity Used	Credits Earned
	Pre-plan ³			2,846			51,700
2010	0	0	0	64,000	0	0	
2011	0	0	0	64,000	0	0	
2012	0	0	0	64,000	0	0	
2013	0	0	0	64,000	0	0	
2014	0	0	0	64,000	0	0	
2015	0	0	0	64,000	0	0	
2016	0	0	0	64,400	0	0	
2017	0	0	0	64,000	0	0	
2018	0	0	0	64,000	0	0	
2019	0	0	0	64,000	0	0	
Total			2,846			51,700	

Footnotes:

- (1) The ten-year plan does not include a component for General Fund appropriations.
- (2) The on-river M&I firming target is 420,000 AF.
- (3) Cumulative totals for 1997-2009.

APPENDIX G
Credits Developed Utilizing Funds Dedicated for Shortage Reparations ¹
(Acre-feet)

	Year	Groundwater Savings			Underground Storage		
		Capacity Available ²	Capacity Used	Credits Earned	Capacity Available	Capacity Used	Credits Earned
PHOENIX AMA	Pre-plan			4,590			16,051
	2010	5,442	0	0	51,957	0	0
	2011	6,156	0	0	62,323	0	0
	2012	4,438	137	128	59,682	1,967	1,829
	2013	3,922	134	125	78,788	535	498
	2014	2,630	0	0	80,095	0	0
	2015	2,318	0	0	79,068	0	0
	2016	2,847	0	0	79,217	0	0
	2017	1,315	0	0	80,739	0	0
	2018	1,223	0	0	80,532	0	0
	2019	1,137	0	0	80,348	0	0
	Total			4,843			18,378
	PINAL AMA	Pre-plan			55,751		
2010		124,000	0	0	-	-	-
2011		124,000	0	0	-	-	-
2012		124,000	9,684	9,007	-	-	-
2013		124,000	9,866	9,175	-	-	-
2014		160,000	0	0	-	-	-
2015		160,000	0	0	-	-	-
2016		160,000	0	0	-	-	-
2017		160,000	0	0	-	-	-
2018		160,000	0	0	-	-	-
2019		160,000	0	0	-	-	-
Total				73,933			
TUCSON AMA		Pre-plan			0		
	2010	0	0	0	64,000	0	0
	2011	0	0	0	64,000	0	0
	2012	0	0	0	64,000	10,044	9,341
	2013	0	0	0	64,000	10,477	9,743
	2014	0	0	0	64,000	0	0
	2015	0	0	0	64,000	0	0
	2016	0	0	0	64,400	0	0
	2017	0	0	0	64,000	0	0
	2018	0	0	0	64,000	0	0
	2019	0	0	0	64,000	0	0
	Total			0			19,084

Footnotes:

- (1) \$8 million received from Nevada pursuant to the Arizona-Nevada Shortage-Sharing Agreement to assist Arizona in offsetting the impacts of shortages during the Interim Period.
- (2) The capacity available is based on the capacity remaining at the USFs and GSFs after all higher priority demands have been met.

APPENDIX H
Credits Developed Utilizing Indian Settlement Appropriations ¹
(Acre-feet)

	Year	Groundwater Savings			Underground Storage			
		Capacity Available	Capacity Used	Credits Earned	Capacity Available	Capacity Used	Credits Earned	
PHOENIX AMA	Pre-plan			0			0	
	2010	5,442	0	0	51,957	0	0	
	2011	6,156	0	0	62,323	0	0	
	2012	4,438	0	0	59,682	0	0	
	2013	3,922	0	0	78,788	0	0	
	2014	2,630	0	0	80,095	0	0	
	2015	2,318	0	0	79,068	0	0	
	2016	2,847	0	0	79,217	0	0	
	2017	1,315	0	0	80,739	0	0	
	2018	1,223	0	0	80,532	0	0	
	2019	1,137	0	0	80,348	0	0	
	Total				0			0
	PINAL AMA	Pre-plan			0			
2010		124,000	0	0	-	-	-	
2011		124,000	0	0	-	-	-	
2012		124,000	0	0	-	-	-	
2013		124,000	0	0	-	-	-	
2014		160,000	0	0	-	-	-	
2015		160,000	0	0	-	-	-	
2016		160,000	0	0	-	-	-	
2017		160,000	0	0	-	-	-	
2018		160,000	0	0	-	-	-	
2019		160,000	0	0	-	-	-	
Total				0				
TUCSON AMA		Pre-plan			0			28,246
	2010	0	0	0	64,000	0	0	
	2011	0	0	0	64,000	0	0	
	2012	0	0	0	64,000	0	0	
	2013	0	0	0	64,000	0	0	
	2014	0	0	0	64,000	0	0	
	2015	0	0	0	64,000	0	0	
	2016	0	0	0	64,400	0	0	
	2017	0	0	0	64,000	0	0	
	2018	0	0	0	64,000	0	0	
	2019	0	0	0	64,000	0	0	
	Total			0				28,246

Footnotes:

- (1) The State Indian firming target is estimated at 550,000 AF.
- (2) Credits accrued through the expenditure of \$3 million for assisting Federal government in meeting its firming obligation under Section 306 of the Arizona Water Settlements Act.

APPENDIX I
Potential Credits Developed for Interstate Water Banking¹
(Acre-feet)

Year	Available CAP Supplies²	Available AWBA Capacity³	Remaining Supply⁴	Interstate Credits⁵
Pre-plan ⁶				550,770
2010	0	120,645	0	0
2011	0	126,884	0	0
2012	0	125,542	0	0
2013	0	145,314	0	0
2014	0	184,550	0	0
2015	0	186,361	0	0
2016	0	191,018	0	0
2017	19,772	212,052	0	18,586
2018	20,302	212,184	0	19,084
2019	17,383	212,388	0	16,340
Total				604,785

Footnotes:

- (1) The AWBA has an obligation to have 1,250,000 acre-feet of credits for the SNWA.
- (2) Water available for Interstate Banking is calculated by subtracting the water delivered and stored by the AWBA for intrastate water banking from the total water supply available for the AWBA (see Appendix B).
- (3) Reflects the unused capacity available to the AWBA at USFs and GSFs in the Phoenix, Pinal, and Tucson AMAs. Additional capacity may be available at individual facilities based on the utilization by individual water storage permit holders.
- (4) Remaining supplies after subtracting the water delivered and stored by the AWBA for intrastate water banking and water delivered for interstate water banking.
- (5) Based on the Available Supplies or the Available AWBA Capacity, whichever is less, available funding and an annual limitation of 200,000 AF/YR.
- (6) Cumulative totals for 2002-2009; 2009 credits estimated based on projected deliveries.

APPENDIX J

CAWCD PROCEDURE TO DISTRIBUTE EXCESS WATER IN 2010 THROUGH 2014 Adopted June 4, 2009

Staff have worked with stakeholders to develop procedures that balance competing interests for the limited supply of Excess CAP water. The outcome of this "Access to Excess" process is a Staff Proposal that relies, where possible, on consensus among the stakeholders.

From the total available Excess supply, the Agricultural Settlement Pool is filled first, and is not subject to "Access to Excess" provisions. The Staff Proposal then creates four separate pools, in effect for a five year period (2010 through 2014). The pools are: AWBA & CAGRDR Replenishment Reserve; CAGRDR Annual Replenishment; Municipal; Industrial & Other.

The AWBA and CAGRDR Replenishment Reserve share a pool of a fixed volume of 175,000 acre-feet (AWBA/RR pool). Allocation within this pool is set as part of the existing annual AWBA-CAWCD coordination and public meetings. AWBA may use the water for any authorized purpose.

The pool established for the CAGRDR's annual replenishment is capped at 35,000 acre-feet. The remaining volume is split evenly between a Municipal pool and an Industrial & Other pool. Water not used by the AWBA or CAGRDR in either of their pools is split between the Municipal pool and the Industrial & Other pool.

The Municipal Pool is for public & private water providers. Access within the pool incorporates two different approaches: historic use, and equal shares. Historic use is based on each provider's maximum use (Incentive plus Full Cost Excess) between 2005 and 2009. In the first year (2010), historic use is the primary allocation mechanism (90%), with a small volume (10%) apportioned equally. By the fifth year (2014), the two approaches have equal weighting.

The Industrial & Other pool is open to all other users, but is broken into two tiers—Industrial Tier (direct use or users storing water for a specific project) and Remarketer Tier (users storing water for future credit resale). All of the orders for the Industrial Tier users will be filled before allocating and filling orders for the Remarketer Tier. Access within the pool is based on a three year rolling average of actual water deliveries for each entity. Small users (orders less than 1,000 acre feet/year) will receive their full order as long as that order is not greater than in the previous three years.