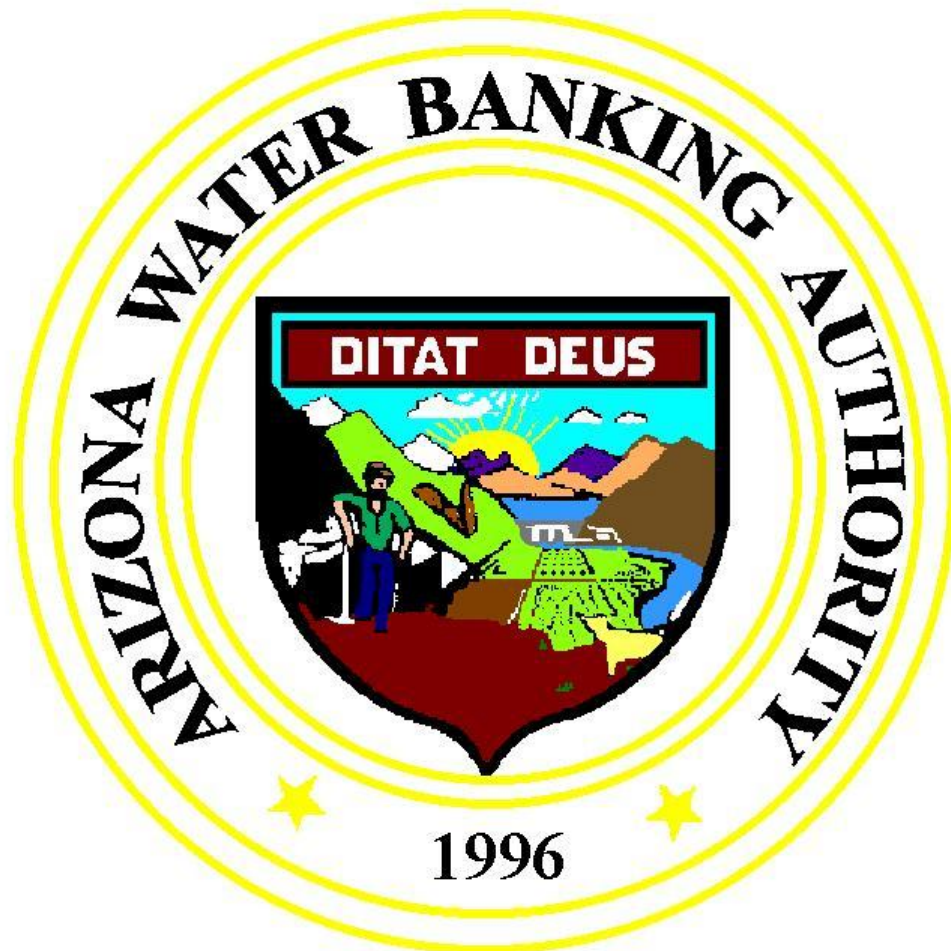


ARIZONA WATER BANKING AUTHORITY

ANNUAL REPORT
2004



Submitted

July 1, 2005

Arizona Water Banking Authority

Annual Report 2004

**Honorable Janet Napolitano
Governor of Arizona**

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Arizona Water Banking Authority Annual Report Requirement

Arizona Revised Statutes § 45-2426 mandates that the Arizona Water Banking Authority (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 Central Arizona Project (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

Calendar year 2004 can best be described as a year of limits as the AWBA faced significant constraints with respect to availability of funds and water. The limits were somewhat lessened with respect to water as additional water became available for storage throughout the course of the year and the AWBA was able to fully utilize it. There was not, however, any increase in the amount of funds available to the AWBA. In fact, Senate Bill 1402 that was signed by the governor on May 28, 2004 transferred an additional \$2 million from the AWBA Fund for fiscal year (FY) 2004-2005. Additionally, the Central Arizona Water Conservation District (CAWCD) Board resolved for the second year in a row to retain the 4¢ *ad valorem* tax revenues for FY 2004-2005. Consequently, it remained a year of limits with respect to available funds and it appears that these fund limitations will continue for many years.

With respect to membership, there were no changes to the AWBA Commission in 2004 as shown in Figure 1.

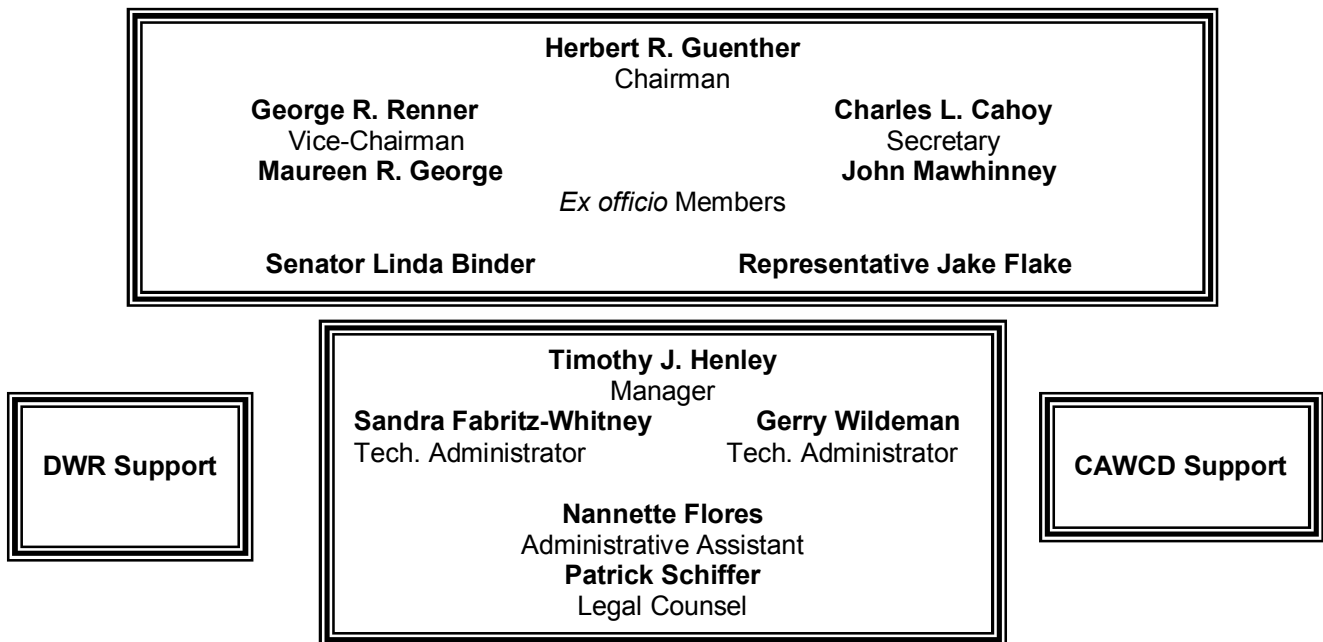


Figure 1. Arizona Water Banking Authority Organizational Chart for 2004

In 2004, the AWBA continued its quarterly meeting schedule with special meetings, workshops and study sessions scheduled as needed. A meeting of the Indian Firming Technical Committee was held on February 23, 2004. This meeting was the final meeting of the Indian Firming Technical Committee as the process was put on hold until such time as the status of the federal legislation became more clear and the state's obligations more defined. The Arizona Water Settlements Act, sponsored by Arizona Senator John Kyl, was ultimately signed into law on December 10, 2004. Further AWBA activity related to Indian firming pursuant to the Arizona Water Settlements Act will be discussed in next year's annual report. On February 24, 2004, the AWBA held a work study session to discuss the AWBA's accounting, income and budget process in addition to the Active Management Areas (AMA) water management objectives and priorities. Additional discussion regarding the AMA's objectives and priorities can be found in the Activities and Projects section of this report.

Recovery, including development of intentionally created unused apportionment (ICUA), continued to be an issue of import in 2004 even though no actual recovery was completed. In recognition of this, Senator Guenther sent a letter dated July 29, 2004 to Sid Wilson, General Manager of the CAP requesting that the CAP initiate a process for development of a general recovery plan. By letter dated August 17, 2004, Mr. Wilson informed Senator Guenther that he had designated Larry Dozier, Deputy General Manager of CAP, to work with Tim Henley, Manager of the AWBA, to organize a team to develop the recovery plan. Due to higher priority issues throughout the year, there was not extensive action taken on the recovery plan. However, the AWBA and CAP will continue to pursue development of the recovery plan in 2005.

The amendment to the Agreement for Interstate Water Banking among the AWBA, the Southern Nevada Water Authority (SNWA) and the Colorado River Commission of Nevada (CRCN) was a significant event in 2004. Due to the importance of this agreement to the state of Arizona, a special meeting of the AWBA was called on November 15, 2004 to discuss the potential impacts of the proposed amendments. More detailed information regarding this topic can be found in the Activities and Projects section of this report. The value of maintaining a positive relationship between Arizona and Nevada should not be underestimated. As a result of the current situation between the two states, the CRCN and the SNWA sent a joint letter to the general manager of the CAP reiterating their support of Arizona's position regarding the CAP's subordinate position in the Lower Basin. The letter stated that Nevada would support either more equitable shortage sharing or amendment of the portion of the Colorado River Basin Project Act that establishes the CAP's junior priority.

The AWBA annually coordinates with current and potential recharge entities in the process of development of the Annual Plan of Operation (Plan) for the following year. As previously discussed, the 2004 Plan was limited by the availability of water and there was uncertainty late in the planning process exactly how much water would be available. The original 2004 Plan was developed using essentially every acre-foot of CAP water that was available. The Plan was later amended by the AWBA on September 15, 2004 as a result of two events. First, the lack of precipitation led to inadequate water supplies for one of the agricultural districts that partners with the AWBA at the same time that two underground storage facilities were experiencing significant decreases in capacity available to the AWBA. Second, the SNWA requested that the AWBA store 10,000 acre-feet of their unused Colorado River entitlement within Arizona. Consequently, the Plan was amended to transfer 9,000 acre-feet of water proposed for storage at the Hieroglyphics Mountain Recharge Project (HMRP) and the Agua Fria Recharge Project (AFRP) to the New Magma Irrigation and Drainage District (NMIDD) and the Granite Reef Underground Storage Project (GRUSP) and 10,000 acre-feet of additional storage was included on behalf of the SNWA at the Central Arizona Irrigation and Drainage District (CAIDD) and the Maricopa-Stanfield Irrigation and Drainage District (MSIDD).

Additional interstate water storage was done in December of 2004 to insure full utilization of CAP supplies. This storage was completed at underground storage facilities in the Tucson AMA.

The theme of limitations carried over into development of the 2005 Plan as there continued to be increased demand for excess CAP water and little water available for the AWBA. The original 2005 Plan approved in December of 2004 projected less than 129,000 acre-feet of AWBA storage. However, record precipitation levels early in 2005 led to significant changes in the water demands of many CAP customers resulting in a number of requests for remarketing of scheduled water. As a result of the remarketing requests, CAP informed the AWBA that more than 300,000 acre-feet of additional water was available for delivery. In recognition of the financial constraints associated with intrastate storage in the Tucson and Pinal AMA, the 2005 Plan was amended to include interstate water banking in an effort to assist CAP fulfill the remarketing requests. As an added incentive to encourage groundwater savings facilities (GSF) to increase their use of CAP water, the AWBA reduced the cost share portion of interstate water taken in 2005 to \$26 an acre-foot. This was done in recognition of the extreme importance of full utilization of Arizona's Colorado River entitlement. For the 2005 Plan, the entities scheduled for delivery are SRP's GRUSP and GSF facilities, the CAWCD's HMRP, AFRP, Avra Valley Recharge Project, Pima Mine Road, Lower Santa Cruz Recharge Project and Tonopah Desert Recharge Project, Chandler Heights Citrus Irrigation District, NMIDD, Queen Creek Irrigation District, CAIDD, Hohokam Irrigation and Drainage District, MSIDD, Tucson's Central Avra Valley Storage and Recovery Project and Herb Kai's Red Rock Facility.

In 2004, the AWBA delivered for recharge a total of 285,542 acre-feet of water; 270,284 acre-feet for intrastate purposes and 15,258 acre-feet of water on behalf of the SNWA. This included the first storage at the Tonopah Irrigation District (TID), even though the TID had been included in previous Plans of Operation. Additionally, it also included the first storage of interstate water in the Tucson AMA and the first interstate storage in underground storage facilities (USF). The quantity of water received by each facility is described in Appendix A and totaled 158,885 acre-feet of water in the Phoenix AMA, 73,169 acre-feet in the Tucson AMA and 53,488 acre-feet of water in the Pinal AMA. For the second year since inception, the AWBA stored more water at USFs than GSFs.

Total consumptive use of Colorado River water by Arizona for 2004 was approximately 2.80 million acre-feet. Distribution of that quantity was approximately 1.13 million acre-feet for direct uses along the Colorado River and CAP diversions of approximately 1.67 million acre-feet. AWBA storage, excluding 10,000 acre-feet of Nevada's entitlement that was diverted and stored in Pinal County, accounted for approximately 16% of the CAP water delivered.

For more information about the Arizona Water Banking Authority, consult the AWBA web page at www.awba.state.az.us or contact Tim Henley (tjhenley@azwater.gov), Sandy Fabritz-Whitney (safabritz@azwater.gov) or Gerry Wildeman (glwildeman@azwater.gov) or by phone at 602-417-2418.

Activities and Projects - 2004

Interstate Issues

Amended Agreement for Interstate Water Banking

On July 3, 2001, the Agreement for Interstate Water Banking (2001 Agreement) among the AWBA, the SNWA and the CRCN was executed¹. In the 2001 Agreement, the AWBA agreed to use its “best efforts” to store water in Arizona in an amount sufficient to develop an aggregate total of 1.2 million acre-feet of long-term storage credits. Those credits would then be recovered to develop ICUA for Nevada as a temporary supply of water to allow Nevada time to develop other longer term water supplies. The 2001 Agreement contained specific provisions to insure that any water stored for Nevada was water that could not be utilized by water users in Arizona. Nevada would pay the full cost of water delivery and storage in addition to all costs associated with recovery of the long-term storage credits. The 2001 Agreement was negotiated recognizing the surplus provisions of the Interim Surplus Guidelines (ISG).

The ISG published on January 25, 2001 by the United States Department of the Interior, control the operation of the Lower Colorado River system through 2016. The ISG provide more liberal surpluses to allow a transition period for California to reduce its reliance on Colorado River water and to implement measures to limit its total uses of Colorado River water in the state to 4.4 million acre-feet. Consequently, at the time the 2001 Agreement was negotiated, Nevada anticipated that its water needs would be met through 2016 by surplus water made available through the ISG. After 2016, Nevada intended to utilize credits stored on its behalf in the Arizona water bank. However, in 2004, surpluses under the ISG were not available because the projected storage content of Lake Mead was below the critical threshold content established in the ISG. Consequently, Nevada began exploring alternative ways to meet their water supply needs and approached Arizona with a proposal to amend the existing agreement in such a manner that Nevada’s water supply could be made more secure in the shorter term. Nevada began negotiations regarding the amendments with AWBA and CAP staff.

A spreadsheet illustrating the potential amendments being negotiated was presented at the AWBA meeting on September 15, 2004. In summary, the amendments were as follows: (1) guaranteed Nevada a total of 1.25 million acre-feet of credits; (2) recognized that water other than Colorado River water may be the source of credits; (3) Nevada would pay the full cost of delivery, storage and recovery in addition to an additional sum of money to mitigate the risk of the guarantee; (4) identified a set schedule for recovery of long-term storage credits; (5) a sufficient supply would be recovered to allow Nevada to use 340,000 acre-feet during a declared shortage on the Colorado River.

These proposed components were discussed at the November meeting of the CAWCD board and a special meeting of the AWBA held on November 15, 2004. There was extensive discussion at the November 15th meeting and the general consensus was that additional information was needed by the public. To that end, a discussion paper was prepared by AWBA staff and distributed on November 29, 2004. The discussion portion included pertinent background information, a review of the current agreement and the proposed changes, a description of the benefits to Arizona, and a timeline for negotiation of the amendments. Additionally, within the discussion paper, AWBA staff answered the most frequently asked questions regarding the amendments. To insure that the public

¹ For purposes of this discussion, the SNWA and the CRCN will be collectively referred to as “Nevada”.

was adequately informed, the discussion paper was widely disseminated and AWBA staff attended various meetings throughout the Phoenix and Tucson metropolitan areas to discuss the amendments and answer questions. The amended Agreement for Interstate Water Banking (Amended Agreement) was approved by the AWBA Commission on December 9, 2004 and executed on February 3, 2005. Copies of the Amended Agreement can be obtained from the AWBA web page.

The two most significant provisions of the Amended Agreement are that Arizona has now guaranteed Nevada that a sum total of 1.25 million acre of credits will be developed on their behalf. In exchange for this guarantee, Nevada will pay Arizona \$100 million above the actual cost of water delivery and storage. The disposition of the \$100 million was a concern in 2004 and has continued to be an issue of import in 2005.

Requests for Creation of Intentionally Created Unused Apportionment

No ICUA was developed in 2004 even though requests had been made by both California and Nevada in 2003. Those requests resulted in CAWCD applying for and obtaining two recovery well permits to facilitate development of ICUA. In the end, the success of conservation programs in Nevada and decreased diversions in California negated the need for ICUA in 2004. The two state's Colorado River use in 2004 was 283,400 acre-feet and 4.3 million acre-feet, respectively. Therefore, even with the storage of 10,000 acre-feet of Nevada's entitlement in Arizona, neither state fully utilized their Colorado River entitlements.

Notwithstanding the events in 2004, California anticipated a need for development of ICUA in 2005. By letter dated September 2, 2004, the Metropolitan Water District (MWD) of Southern California requested development of 40,000 acre-feet of ICUA based on credits stored pursuant to the 1992 agreement between MWD and CAWCD. Because the AWBA is the only entity that can cause ICUA to be developed and the AWBA and MWD have not yet executed the agreements needed for either interstate water banking or development of ICUA, the two entities began negotiating an agreement to authorize development of ICUA. The agreement was not finalized as MWD again realized that the ICUA would not be needed to meet water demands. Late in the year, MWD and CAP staff began discussing alternatives with respect to the 89,000 acre-feet of long-term storage credits held by CAWCD on behalf of MWD. One proposal was that CAWCD would repay MWD the money invested in developing the credits, plus interest. In the event that this proposal was accepted, the 89,000 acre-feet of credits could potentially be available for purchase by the AWBA. Discussions regarding this proposal continue in 2005.

Interstate Water Banking

The AWBA sub-account for Nevada had a balance of 111,098 acre-feet of long-term storage credits at the beginning of 2004. That balance was comprised of 50,000 acre-feet of credits transferred from CAWCD for storage done in the early 1990's under the demonstration project. Additionally, Nevada earned 61,098 acre-feet of credits for storage completed in 2002.

The original 2004 Annual Plan of Operation did not include an interstate water banking component as water supplies available to the AWBA were limited. However, by letter dated September 7, 2004, Nevada requested that the AWBA store within Arizona 10,000 acre-feet of Nevada's unused Colorado River entitlement. Due to the response to drought restrictions imposed within Nevada, the state anticipated that it would not fully utilize its basic Colorado River apportionment. The AWBA approved an amended Plan of Operation to include the 10,000 acre-feet of storage on September 15, 2004. On October 8, 2004, the Bureau of Reclamation released the 10,000 acre-feet for use within

Arizona. From October through December, the 10,000 acre-feet of Nevada's unused apportionment was stored at three groundwater savings facilities in Pinal County.

In late November, the CAP informed AWBA staff that additional water would be available for storage in December of 2004 as the project increased diversions in an attempt to fully utilize Arizona's 2.8 million acre-foot allocation. Due to funding and storage facility capacity issues, the determination was made to store the additional water on behalf of Nevada in storage facilities located in Pima County. Consequently, an additional 5,258 acre-feet of water were stored at underground storage facilities in Pima County for interstate purposes. The 15,258 acre-feet of storage yielded 14,162 acre-feet of long-term storage credits bringing the total 2004 ending balance of the Nevada sub-accounts to 125,260 acre-feet.

Agreement to Firm Future Supplies

Pursuant to statute, the AWBA is required to reserve a reasonable number of long-term storage credits developed with general fund appropriations for the benefit of on-river M&I water users during times of shortage. On January 1, 1998, the AWBA adopted a motion that identified 420,000 acre-feet as the reasonable number of long-term storage credits for on-river M&I firming. On March 20, 2002, the AWBA adopted a resolution that provided priorities of use for the general fund credits and identified on-river M&I firming as the first priority.

The manner in which the general fund credits would be reserved, and then recovered and distributed during a shortage, has long been an issue of concern to the on-river users. The issue once again came to the forefront in light of the significant commitment made to Nevada by the AWBA under the Amended Agreement for Interstate Water Banking. In recognition of the concerns, the AWBA and the Mohave County Water Authority (MCWA) entered into the Agreement to Firm Future Supplies (Agreement to Firm). The Agreement to Firm recognizes that the MCWA can enter into subcontracts with on-river M&I water users having the same priority as the CAP. These are the water users for whom the AWBA must firm M&I supplies. Upon execution of the subcontracts and payment of the appropriate fees, the AWBA would reserve the appropriate quantity of long-term storage credits as described in the Agreement to Firm.

A draft of the Agreement to Firm was presented for discussion and comment at the September 15, 2004 meeting of the AWBA. The Agreement to Firm was approved by the AWBA on December 9, 2004 and ultimately executed by the parties on February 4, 2005. The deadline for MCWA to include on-river M&I water users under the coverage of the Agreement to Firm is July 15, 2005.

February 2004 Work Study Session

AMA Priorities

Due to the nature of the AWBA's operations and policies, the AWBA often serves as a mechanism for the CAP to maximize their flexibility. One example of this occurred in 2004 when the CAP notified the AWBA in November that additional water would be available within Arizona's 2.8 million acre-foot entitlement. That water was ultimately stored in December in Pima County on behalf of Nevada. At other times, the AWBA water deliveries are decreased as the CAP meets the water demands of other higher priority users.

When these types of increased and decreased water quantity events occur, AWBA staff must make decisions regarding location and volume of water. Due to the nature of the events, oftentimes the decisions must be made in a very short time frame and the significance of the decisions is increasingly important as funds and water supplies are constrained. In recognition of this, the AWBA Commission directed staff to consult with the Phoenix, Pinal and Tucson AMA directors to identify priorities for storage. The respective AMA's provided information regarding priorities and the AWBA incorporated the recommendations into the 2005 Annual Plan of Operation.

Authorized Use of Groundwater Withdrawal Fees

Concurrent with the discussion regarding priorities, AWBA and ADWR legal staff and the Phoenix, Pinal and Tucson AMA directors addressed the issue of authorized uses of groundwater withdrawal fee revenues. This became an issue of import as the ten-year plan for the time period 2005-2014 illustrated that both Pima and Pinal Counties would not meet their M&I firming goal through expenditure of only 4¢ *ad valorem* tax revenues. In order to meet the M&I firming goal, Pinal and Pima Counties might be required to expend revenues in excess of the 4¢ *ad valorem* revenues projected to be collected through 2016.

Specifically, the issue is a result of the statutory limitations regarding uses for which specific funds can be expended. Therefore, the question posed was whether or not M&I firming could be considered a groundwater management objective. The legal opinion received from ADWR stated that M&I firming of CAP water within an AMA qualifies as an important water management objective. Consequently, the AWBA could utilize long-term storage credits developed with groundwater withdrawal fees for M&I firming in the future if the need arises. To date, no credits have been identified for specific purposes other than the general purposes described in statute.

Accounting, Income and Budget Discussion

Staff provided the AWBA with information regarding the development of the AWBA budgets and other aspects relating to income flow and accounting associated with the AWBA Fund. This discussion was identified as necessary at the December 2003 meeting of the AWBA wherein the water delivery budget was discussed. The accounting associated with the water delivery budget has become significantly more complicated in light of the CAWCD decision to retain the 4¢ *ad valorem* tax revenues. In essence, revenues for water delivery and storage now have the potential to be expended by two parties, the AWBA and the CAWCD. Additionally, it has always been difficult to prepare a water delivery budget based on the fiscal year for water deliveries that actually are completed on a calendar year basis. To that end, AWBA staff requested a legal opinion regarding approval of an administrative budget on a fiscal year basis and approval of a water delivery budget on a calendar year basis in conjunction with the following year's Annual Plan of Operation. Legal review determined that this could be done. Therefore, the AWBA adopted the administrative budget for FY 2005 (July 1, 2004- June 30, 2005) on June 17, 2004. The water delivery budget for calendar year 2005 was approved at the December 9, 2004 meeting of the AWBA.

Legislative Issues

On June 1, 2004, Governor Napolitano signed House Bill 2590 that amended the statute regarding recovery of long-term storage credits. Under the revised statute, when the water stored is Colorado River water and the recovering entity is not the entity that stored the water, there is no requirement to

obtain consent nor is there a requirement for the director of ADWR to determine that the recovery is consistent with the AMA management plan and goals if the recovery is within the area of hydrologic impact of storage. This provides additional insurance to the AWBA and its constituents that long-term storage credits will be available for recovery when needed in the future.

Impacts to the Water Banking Fund Accounts and Revenues

There are three primary revenue sources available to the AWBA and each was impacted to some extent in 2004, largely as a result of the continuing state budget crisis. In some cases, the impacts were to current revenues and in some cases the impacts were to existing monies in the Water Banking Fund (Fund). The three revenue sources are a general fund appropriation, groundwater withdrawal fees and an *ad valorem* property tax. It should be borne in mind that there is overlap between the fiscal year (FY), upon which the state budget operates, and the calendar year (CY), upon which the AWBA operates and this report is prepared. Consequently, CY 2004 included activity that occurred in the last half of FY 2004 and the first half of FY 2005.

Existing Fund Account Balance Impacts

On June 17, 2003, Governor Napolitano signed HB 2531, the General Appropriations Act for FY 2004 that included a fund transfer from the AWBA to the general fund in the amount of \$9 million. Due to the nature of the AWBA Fund accounts, it was the AWBA's belief that the transfer could only come from the groundwater withdrawal fee accounts. Consequently, the transfer was completed on June 25, 2004 with the full \$9 million coming from the Phoenix AMA account. With 2004 expenditures and the legislative transfer, essentially all funds in the AWBA withdrawal fee accounts were utilized. On May 28, 2004, the governor signed SB 1402 that transferred an additional \$2 million from the AWBA Fund for FY 2005. This transfer specifically identified that the \$2 million could not come from 4¢ *ad valorem* tax revenues, therefore, the withdrawal fee accounts will again be impacted in 2005.

Revenue Impacts

Historically, the AWBA has received an annual \$2 million general fund appropriation from the state legislature but budget problems have impacted the appropriation over the last few years. In CY 2004, the AWBA did not receive any general fund appropriation money.

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 AWBA Fund. For the second time since the AWBA's inception, the CAWCD Board resolved that all taxes to be levied would be retained by CAWCD. CAWCD has determined that it will use these funds to support their OM&R activities thus reducing the cost of water to the AWBA.

2005 Annual Plan of Operation

Pursuant to the amended 2005 Plan, the AWBA projects recharge in excess of 280,000 acre-feet. Of this quantity, more than 120,000 acre-feet are projected to be recharged at underground storage facilities (USF) and more than 160,000 acre-feet are projected to be recharged at groundwater

savings facilities (GSF). The amended 2005 Annual Plan of Operation is available on the AWBA web page.

Media Coverage

The AWBA received very limited press coverage during 2004 with the majority of articles being published in association with the amended Agreement for Interstate Water Banking.

“AZ, Nevada are Partners in Major Water Banking Deal”, Arizona Water Resource 13(3), November-December 2004

“AZ OKs Nevada deal to bank water”, Arizona Daily Star, December 10, 2004

“Nevada to get some Arizona water”, Arizona Republic, December 10, 2004

“Water deal OK'd in Arizona”, Las Vegas Review Journal, December 10, 2004

Agreement and Facility Permit Activity

There was no new agreement or facility permit activity in 2004.

Web Page

The AWBA has maintained a web page at www.awba.state.az.us since 1997 to provide timely and accurate information regarding the AWBA's activities to the water community. The web page contains information about the AWBA, AWBA members and staff, the AWBA's recharge partners, monthly water deliveries, AWBA announcements and scheduled meetings and meeting minutes. It also contains publications and documents that may be downloaded and provides links to other water related web sites. The AWBA staff continue to review and update the web page to insure that it contains accurate information that can be accessed in an efficient manner.

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 2004, 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. The fees for groundwater pumping are statutorily available to the AWBA through 2016. 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 August of 2003, the CAWCD board 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 2004. Money from this source must be used to benefit the county in which it was collected.

Table 1 shows the money the AWBA received and expended in 2004 by source of funds. Table 2 shows the total money received, expended and remaining in the Fund through December 2004 by source of funds. The money listed as "Available" is money that is remaining in the Fund. Any money that remains in the Fund is available to be expended in subsequent years; any interest that accrues on this money is credited to the Fund and is available for use.

Table 1. Monies Collected and Expended in 2004 by Source of Funds

Source of Funds	Money Collected	Money Expended
General Fund	\$0	\$0
Interstate Water Banking - Nevada	\$2,899,647	\$2,899,647 ¹
4¢ Ad valorem Tax		
Maricopa County	\$11,185,771	\$9,243,901
Pinal County	\$452,797	\$452,800 ²
Pima County	\$2,211,073	\$4,706,618
Subtotal for Ad valorem	\$13,849,641	\$14,403,319
Groundwater Withdrawal Fee		
Phoenix AMA	\$2,334,577	\$1,321,349
Pinal AMA	\$1,216,584	\$1,373,696
Tucson AMA	\$557,633	\$757,633
Subtotal for Withdrawal Fees	\$4,108,794	\$3,452,678
TOTAL	\$20,858,082	\$20,755,644

¹This amount is the total reconciled amount for interstate deliveries and storage

² Expenditure from CAP accounts

Table 2. Monies Collected and Expended through December 2004 and Monies Remaining Available to the Authority

Source of Funds	Money Collected	Money Expended	Money Available
General Fund	\$10,695,000	\$10,695,000	\$0
Interstate Water Banking - Nevada	\$11,646,592	\$11,646,592	\$0
4¢ Ad valorem Tax			
Maricopa County	\$65,043,808	\$39,675,291	\$25,368,517
Pinal County	\$2,503,878	\$2,503,878	\$0
Pima County	\$13,399,261	\$12,969,492	\$429,769
Subtotal for Ad valorem	\$80,946,947	\$55,148,661	\$25,798,286
Groundwater Withdrawal Fee			
Phoenix AMA	\$8,573,652 ¹	\$7,573,652	\$1,000,000
Pinal AMA	\$7,735,632	\$7,781,525	-\$45,893
Tucson AMA	\$4,723,361	\$4,723,361	\$0
Subtotal for Withdrawal Fees	\$21,032,645	\$20,078,538	\$954,107
TOTAL	\$124,321,184	\$97,568,791	\$26,752,393

¹ Total money collected was decreased to reflect the \$9 million legislative transfer. Carryover retained for \$2 million legislative transfer for FY 2005.

Long-term Storage Credits

The AWBA has established Long-term Storage Accounts with ADWR. The Phoenix AMA account number is 70-441150, the Tucson AMA account number is 70-411150 and the Pinal AMA account number is 70-431135. 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 long-term storage credits 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 long-term storage credits for 2004 are listed in Table 3. The cumulative totals of long-term storage credits accrued by the AWBA through December 2004 are listed in Table 4.

Table 3. Number and Location of Long-term Storage Credits Accrued in 2004

Location and Funding Source	Long-term Storage Credits Accrued (AF)
Phoenix AMA	
4¢ Ad valorem Tax	128,674
Groundwater Withdrawal Fee	18,393
General Fund	0
AMA Total	147,067
Pinal AMA	
4¢ Ad valorem Tax	9,984
Groundwater Withdrawal Fee	30,289
General Fund	0
Interstate - Nevada	9,191
AMA Total	49,464
Tucson AMA	
4¢ Ad valorem Tax	55,220
Groundwater Withdrawal Fee	8,896
General Fund	0
Interstate - Nevada	4,971
AMA Total	69,087
Totals by Funding Source	
4¢ Ad valorem Tax	193,878
Groundwater Withdrawal Fee	57,578
General Fund	0
Interstate - Nevada	14,162
TOTAL	265,618

Table 4. Cumulative Total and Location of Long-term Storage Credits Accrued through December 2004

Location and Funding Source		Long-term Storage Credits Accrued (AF)
Phoenix AMA		
	4¢ <i>Ad valorem</i> Tax	871,408
	Groundwater Withdrawal Fee	131,574
	General Fund	59,937
	AMA Total	1,062,919
Pinal AMA		
	4¢ <i>Ad valorem</i> Tax	90,645
	Groundwater Withdrawal Fee	248,956
	General Fund	296,814
	Interstate Water Banking - Nevada	120,289
	AMA Total	756,704
Tucson AMA		
	4¢ <i>Ad valorem</i> Tax	185,271
	Groundwater Withdrawal Fee	66,238
	General Fund	39,748
	Interstate Water Banking - Nevada	4,971
	AMA Total	296,228
Totals by Source of Funds		
	4¢ <i>Ad valorem</i> Tax	1,147,324
	Groundwater Withdrawal Fee	446,768
	General Fund	396,499
	Interstate Water Banking - Nevada	125,260
	TOTAL	2,115,851

Since inception, the AWBA has focused its efforts on developing long-term storage credits for firming purposes and the AWBA has identified 2,700,000 acre-feet as reasonable to firm the CAP M&I subcontracts over the next 100 years. This would be divided 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 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. As those credits are used and replaced, they can be utilized by the AWBA for other authorized purposes. Table 5 illustrates the progress made by the AWBA towards meeting its established goals.

Table 5. Identified Uses of Long-term Storage Credits Accrued through December 2004 and Percentage of AWBA Goals Achieved

Location and Objective	Goal (AF of Credits)	LTS Credits Accrued (AF)	Percent of Goal Achieved
Phoenix M&I Firming ¹	1,566,000	871,408	56%
Phoenix Groundwater Mgmt ²		131,574	N/A
Pinal M&I Firming ¹	243,000	90,645	37%
Pinal Groundwater Mgmt ²		248,956	N/A
Tucson M&I Firming ¹	864,000	185,271	21%
Tucson Groundwater Mgmt ²		66,238	
General Fund ³			
On-River M&I Firming ⁴	420,000	396,499	94% ⁵
Interstate Water Banking - NV	1,250,000 ⁶	125,260	10%

¹ All three Active Management Areas have stated that withdrawal fees could be utilized in addition to 4¢ *ad valorem* tax revenues for M&I firming if needed to reach firming goals.

² Specific water management objectives have not yet been identified or quantified. However, by letter dated October 26, 2004, the Tucson AMA GUAC recommended that the AWBA utilize credits developed using withdrawal fees for M&I firming.

³ Specific uses of general fund credits have not been determined by the AWBA.

⁴ 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.

⁵ This percentage reflects full utilization of general fund credits accrued to date and would change as other objectives are identified by the AWBA.

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 sub-account.

The average annual cost for the AWBA to obtain one acre-foot of long-term storage credit is presented in Table 6. Table 6 illustrates that the unit cost per long-term storage credit has increased each year the AWBA has been in operation with the exception of 2001. 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 increased percentage of total water stored in USFs. In 2004, the AWBA stored more water in USFs than in GSFs. Although earlier plans projected more storage in USFs than GSFs, this was the first time since inception that the storage actually took place. It is anticipated that the increasing trend in cost of developing credits will continue in the future as more USFs become operational and water delivery and facility costs increase. However, the CAP policy regarding recharge rate facilities that became effective in 2004 should help stabilize costs to some extent.

Table 6. Average Annual Cost for the AWBA to Obtain a Long-term Storage Credit¹

Year	Credits	Funds Expended	Average Cost	% 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	272,122	\$11,163,000	\$41.02	60% : 40%
2001	269,687	\$10,893,590	\$40.39	62% : 38%
2002	255,000	\$13,700,300	\$53.73 ²	64% : 36%
2003	200,327	\$11,077,666	\$55.30	47% : 53%
2004	251,456	\$17,855,997	\$71.01 ²	41% : 59%

¹ The information in this table was obtained from previous Annual Reports. Any differences between the number of credits displayed here and the total cumulative number in Table 4 are due to the on-going nature of the accounting process.

² Average cost is for intrastate credits only.

Long-term Storage Credits Distributed or Extinguished by the Authority

The long-term storage credits developed by the AWBA to date have been identified as reserved for four purposes: firming the post-1968 Colorado River municipal and industrial (M&I) entitlements; firming the post-1968 M&I entitlements for entities outside the CAP service area; 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 2004. Credits may be distributed or exchanged for water management purposes upon request of the director of ADWR. There were no requests made for distribution or extinguishment of credits for water management purposes in 2004.

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 2004, no credits were developed or distributed under such agreements. Additionally, there was no recovery of long-term storage credits for interstate purposes in 2004².

² The SNWA and MWD did request development of ICUA for 2004, however, changing circumstances led to withdrawal of the requests. For more information see discussion under "Interstate Issues" in the Activities and Projects section.

Ten Year Plan for Calendar Year 2004

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 for the year 2004 analyzes activity for the period 2006-2015 (Table 7) and was derived using the information found in Appendices B through G. AWBA accounting for previous years can be found in the 2004 Annual Report. 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 2006-2015.
3. The plan will be 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 has 13 water storage permits for GSFs with a total storage capacity of 743,359 acre-feet per annum. 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.

All of the facility permits associated with GSFs expire within this ten year plan. In most instances, the AWBA's water storage permits expire simultaneously with the partners' facility permits. Consequently, any difficulty on the part of the partners or the AWBA to obtain new permits could affect the ability of the AWBA to maintain adequate storage capacity to fulfill water banking activities. Discussions with ADWR recharge staff have indicated that there have been some changes in the process for obtaining a GSF facility permit. First, due to the rapid rate of urbanization in the AMA's, ADWR recently began issuing GSF permits with a 5 year

Table 7. Ten Year Plan

ARIZONA WATER BANKING AUTHORITY – 10 YEAR PLAN 2006 – 2015 (Acre-feet)															
YEAR	CAP Water Avail for AWBA	(b)		(c)		(d)		(e)		(f)		(g)	(h)		(i)
		CAP M&I Firming (4¢ tax)		Water Management (Withdrawal Fees)		General Fund		Indian Settlement		Loaned Credits		Storage for Others	Interstate Banking		
		Delivered	Credits	Delivered	Credits	Delivered	Credits	Delivered	Credits	Delivered	Credits		Water Avail.	AWBA Capacity Avail.	Credits
Pre-Plan ^(j)	n/a	1,220,200		509,429		396,499									270,156
2006	633,159	227,134	209,906	92,575	84,432	0	0	0	0	0	0		313,450	213,139	200,000
2007	621,749	278,173	254,050	78,355	71,589	0	0	0	0	0	0		265,220	214,699	200,000
2008	634,365	269,648	245,235	93,146	85,127	0	0	0	0	0	0		271,571	214,834	200,000
2009	613,364	258,340	235,380	102,821	93,998	0	0	0	0	0	0		252,202	215,844	200,000
2010	544,735	282,539	257,145	100,135	91,476	0	0	0	0	0	0		162,061	202,423	152,337
2011	513,688	169,605	155,447	95,342	87,088	0	0	0	0	0	0		248,740	326,855	27,507
2012	509,982	325,886	296,048	91,195	83,286	0	0	0	0	0	0		92,901	178,065	0
2013	471,855	225,718	205,845	87,514	79,921	0	0	0	0	0	0		158,623	267,374	0
2014	443,673	251,611	229,099	83,125	75,475	0	0	0	0	0	0		108,937	249,529	0
2015	422,292	200,792	183,314	77,460	71,222	0	0	0	0	0	0		144,040	304,421	0
TOTAL		3,491,669		1,333,043		396,499									1,250,000

FOOTNOTES:
 (a) See Appendix B
 (b) See Appendix D
 (c) See Appendix E
 (d) See Appendix F
 (e) No Indian settlement requirements included in this ten year plan
 (f) Currently no requests for loaned credits
 (g) Currently the AWBA is not providing banking services for others
 (h) Available CAP Supplies minus AWBA intrastate delivery requirements
 (i) See Appendix G
 (j) Cumulative totals for 1997-2005; 2004 actual credits and 2005 credits estimated based on projected deliveries

Table 8. AWBA Percentage of Goals Achieved through 2015

Location and Objective	Goal (AF of Credits)	LTS Credits Accrued (AF)¹	Percent of Goal Achieved
Phoenix M&I Firming	1,566,000	2,638,660 ²	168%
Phoenix Groundwater Mgmt ³		591,160	N/A
Pinal M&I Firming	243,000	196,832	81%
Pinal Groundwater Mgmt ³		600,838	N/A
Tucson M&I Firming	864,000	656,270	76%
Tucson Groundwater Mgmt ³		141,049	N/A
General Fund ⁴			
On-River M&I Firming ⁵	420,000	396,499	94% ⁶
Interstate Water Banking - NV	1,250,000 ⁷	1,250,000 ⁸	100%

¹Cumulative totals for 1997-2005; actual credits through 2004 and 2005 credits estimated based on projected deliveries.

²The M&I firming goal will be met in 2009.

³ Specific water management objectives have not yet been identified or quantified, however, all three AMAs have stated that withdrawal fees could be utilized in addition to 4¢ *ad valorem* tax revenues for M&I firming if needed to reach firming goals. If withdrawal fees are utilized for M&I firming, the Pinal firming goal will be met. With full utilization of withdrawal fees in the Tucson AMA, the percent of goal achieved through 2015 is 93%.

⁴ Specific uses of general fund credits have not been determined by the AWBA.

⁵By 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.

⁶ This percentage reflects full utilization of general fund credits and could change as other objectives are identified by the AWBA.

⁷ Pursuant to the Amended Agreement for Interstate Water Banking the AWBA has committed to store this quantity of water on behalf of the Southern Nevada Water Authority.

⁸ The goal will be met in 2011.

term instead of the usual ten year term unless the applicant can prove that development is not an issue. Additionally, because of development, the acreage available for irrigation has been reduced which can reduce the volume of water included in the GSF. There are also other operational issues currently associated with renewal of a GSF facility permit that can make the process more difficult. Furthermore, all of the agreements for water storage expire within this ten year planning period. Impacts of this nature cannot be predicted and, consequently, although they are recognized they were not included in development of this ten year plan.

The AWBA currently has nine water storage permits for USFs with a total storage capacity of 611,000 acre-feet per annum. Additionally, the AWBA recently submitted an application for water storage permit at the new CAWCD facility, the Tonopah Desert Recharge Project (TDRP). The TDRP is a constructed facility located in the Hassayampa sub-basin within the Phoenix AMA, northwest of Tonopah, Arizona. Upon receipt of this water storage permit, the USF capacity permitted to the AWBA will be 761,000 acre-feet for the time period 2005-2008 and 698,500 acre-feet for the remainder of the planning period. The USF permit issued for the Pima Mine Road facility limits total storage for the term of the permit to 500,000 acre-feet with the ability to request an amendment to 600,000 acre-feet. Based on historic volumes of

storage at the PMR facility, it is not anticipated that this storage quantity limitation will be a factor within this ten year plan. The GRUSP permit is the only facility permit that expires within this planning period.

As previously described in the GSF discussion, any difficulty in obtaining new permits could impact the capacity available to the AWBA. As the process of obtaining a new USF permit can be more complex and extensive than obtaining a new GSF permit, the possibility of impact is greater. However, impacts of this nature cannot be predicted and are not included in the analysis of this ten year plan.

2. Recovery

This ten year plan includes a recovery component for interstate purposes pursuant to the Amended Agreement for Interstate Water Banking (Amended Agreement). The Amended Agreement authorized Nevada to request development of intentionally created unused apportionment (ICUA), if needed, as follows: in 2007 and 2008, an amount not exceeding 20,000 acre-feet; in 2009 and 2010, an amount not exceeding 30,000 acre-feet; and in subsequent years, an amount not exceeding 40,000 acre-feet. This ten year plan does not include development of ICUA for California. Recovery of credits stored by the Metropolitan Water District (MWD) of Southern California is not included in light of current discussions between MWD and CAP staff. It is anticipated that the two parties will reach an agreement wherein the long-term storage credits accrued by MWD under the Demonstration Project in the early 1990's will be returned to the CAWCD for monetary reimbursement.

This ten year plan does not include a recovery component for M&I firming or Indian settlements because shortages on the Colorado River are not anticipated within the scope of this ten year plan. As a result of the on-going drought and public concern regarding reservoir levels, the CAP ran dry year scenario models of the Colorado River system. Those model runs identified a potential for shortage in 2011. However, in light of the precipitation received since last winter, that date has likely moved to 2012 or 2013. Nonetheless, based on projected CAP M&I demand levels, there will be no shortages to CAP M&I users within the scope of this ten year plan, even with the dry year hydrology used by CAP in modeling. Recovery for Indian firming purposes is also not anticipated in the scope of this ten year plan due to demand levels. It should be noted, however, that if a shortage is declared during the ten year period it may impact on-river M&I users. They may be required to recover long-term storage credits to insure firm supplies. Those credits would be credits that had previously been developed by the AWBA through general fund expenditures and which would be transferred to the on-river M&I users pursuant to statute. Although recovery is not anticipated within the scope of this ten year plan, the AWBA will participate with CAP and ADWR in development of a general recovery plan as discussed in the Update section of the 2004 Annual Report.

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 and Arizona met this goal from 2002 until 2004. Another primary objective of the AWBA was meeting the M&I firming goals and the AWBA has stored almost 1 MAF of credits for that purpose. As discussed in the Activities and Projects section of the 2004 Annual Report, the issues of water management priorities, expenditure of withdrawal fees and other water management activities have recently been addressed by the AWBA. It is anticipated that the evaluation of water management activities will become even more

significant and complex as the available excess CAP water and storage facility capacity becomes limited, new storage facilities are sited and AWBA's funding sources are impacted by economic factors.

Central Arizona Groundwater Replenishment District (CAGRD) Replenishment Reserve

Pursuant to statute, the CAGRD must develop a 20% replenishment reserve. The CAGRD replenishment reserve shares co-equal priority for excess water with AWBA M&I firming. However, the reserve has a higher priority for excess CAP water than the AWBA's deliveries for other non-firming purposes (i.e. water management). Therefore, a component for the proposed replenishment reserve as well as the advance replenishment was included in the model for this ten year plan.

The CAP Water Forecast Group

The group is composed of CAP, CAGRD, ADWR and AWBA staff and was formed to facilitate consistency and understanding between the entities with regard to assumptions used for short- and long-term Colorado River water supply and demand forecasts. Portions of this ten year plan were developed using projections obtained from the forecast group.

AWBA General Fund Appropriation

Since inception, the AWBA has received an annual general fund appropriation of \$2 million. To date, the AWBA has primarily utilized the money to augment the revenues generated in Pinal County to develop credits to be used to firm on-river uses. It is recognized that the economic factors resulting in the loss of the AWBA's general fund appropriation will exist for some time. Therefore, the ten year plan was developed with no general fund appropriation.

4. 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 a 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. This use will be the highest priority use for excess water. It is recognized that this is a factor that could impact the AWBA's ability to participate in recharge at groundwater savings facilities, however, it is difficult to predict an effect. Therefore, only the 400,000 acre-foot pool concept was utilized in this ten year plan.

The CAWCD Board has also discussed the marketing of excess water for other users including the CAGRD replenishment and replenishment reserve, incentive recharge programs, other M&I uses and the AWBA. These discussions have centered on the recognition that policies were developed to insure full utilization of CAP and Arizona's Colorado River allocation and included subsidized water rates to encourage CAP use. However, in light of Arizona's full use of its 2.8 million acre-foot entitlement from 2002-2004, such subsidies may no longer be necessary. In April 2005, CAP presented potential alternatives with respect to the incentive recharge pool. One alternative was discontinuation of the pool except for the AWBA, one alternative was elimination of the pool at a later date, and one was maintaining the current pool policy. The CAP has not yet established policy with respect to the various excess water pools, however, in light of the current discussions this ten year plan included a component for decreased availability of the incentive recharge pool.

5. 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 Arizona Water Settlements Act that was executed on December 10, 2004. In order to meet the obligation, it is anticipated that the state may rely on the AWBA in some manner. Additionally, pursuant to House Bill 2728 executed on April 18, 2005, the AWBA has statutorily mandated responsibilities for the Southside Replenishment obligation. The Arizona legislature created the Arizona water firming program study commission to evaluate the potential alternatives for meeting these obligations. The commission held its first meeting in May of 2005 and must present their final recommendations to the legislature by January 6, 2006. While it is recognized that the AWBA will play a significant role in Indian settlement obligations, due to the on-going nature of the commission process, there was no Indian settlement component included in this ten year plan.

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

The AWBA is currently in the process of completing a revised inventory of existing storage facilities in the state as required by A.R.S. § 45-2452. The revised inventory will be utilized in developing future ten year plans.

The CAP has been active in the evaluation of locations for additional storage facilities. In January 2002, the CAP initiated a regional feasibility study for sites in the East Salt River Valley. Construction has initiated on the Tonopah Desert USF and it is anticipated to be operational by late 2005. The AWBA has recognized additional capacity available in Maricopa County in this ten year period for storage at the Tonopah Desert USF.

The SRP has applied to ADWR for a recharge facility permit for a project located in the west valley near the confluence of the Agua Fria River and New River. The project has a planned initial capacity of 30,000 acre-feet increasing to a maximum of 100,000 acre-feet. Storage at this facility was not included in this ten year plan because of uncertainty regarding development of an agreement between AWBA and SRP, cost of storage and availability of capacity to the AWBA.

7. Interstate banking

The ten year plan includes an interstate water banking component for Nevada but does not include California.

Conclusion

The ten year plan is intended to serve as a guide to assist the AWBA in the development of the Annual Plan of Operation (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.

Appendices

Appendix A.
**Colorado River Water Deliveries for Water Banking Purposes for Calendar Year 2004 by
Partner and Active Management Area**

Phoenix Active Management Area

Partner	Quantity of Water (AF)
Agua Fria Recharge Project	16,300
Chandler Heights Citrus Irrigation District	576
Granite Reef Underground Storage Project	56,500
Hieroglyphic Mountains Recharge Project	21,398
New Magma Irrigation and Drainage District	46,117
Queen Creek Irrigation District	7,499
Salt River Project GSF	8,000
Tonopah Irrigation District	2,495

Pinal Active Management Area

Partner	Quantity of Water (AF)
Central Arizona Irrigation and Drainage District	13,821 ¹
Hohokam Irrigation and Drainage District	16,700 ¹
Maricopa-Stanfield Irrigation and Drainage District	22,967 ¹

Tucson Active Management Area

Partner	Quantity of Water (AF)
Avra Valley Recharge Project	6,084 ¹
Central Avra Valley Storage and Recovery Project	6,000
Kai-Red Rock	1,100
Lower Santa Cruz Recharge Project	41,720 ¹
Pima Mine Road Recharge Project	18,265 ¹

¹Includes both intrastate and interstate deliveries

APPENDIX B
CAP DELIVERY SCHEDULE
(Acre-feet)

Year	CAP Demands				Average Year Supply ⁵	Available for AWBA ⁶
	M&I ¹	Indian ²	Ag ³	Total ⁴		
2006	374,541	102,300	400,000	891,841	1,525,000	633,159
2007	385,951	102,300	400,000	903,251	1,525,000	621,749
2008	368,835	106,800	400,000	890,635	1,525,000	634,365
2009	374,836	121,800	400,000	911,636	1,525,000	613,364
2010	422,937	142,328	400,000	980,265	1,525,000	544,735
2011	434,384	161,928	400,000	1,011,312	1,525,000	513,688
2012	420,625	179,393	400,000	1,015,018	1,525,000	509,982
2013	433,652	204,493	400,000	1,053,145	1,525,000	471,855
2014	461,834	204,493	400,000	1,081,327	1,525,000	443,673
2015	483,215	204,493	400,000	1,102,708	1,525,000	422,292

- (1) Includes M&I, CAGRD, CAGRD replenishment reserve, Indian M&I lease and M&I incentive water
- (2) From settlement discussions
- (3) Based on current agricultural pool policy, includes 32,537 for Harquahala
- (4) Includes secondary excess uses of 15,000 AF per annum 2006 through 2014.
- (5) Based on average year delivery of 1,600,000 AF per year minus losses
- (6) Average year supply minus CAP demands; AWBA last priority for intrastate use

APPENDIX C
STORAGE FACILITIES AVAILABLE TO THE AWBA¹
(as used in the 10 year plan)

AMA and Facility Type	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					
New Magma IDD	12/2007	54,000	45,000	2004	46,117
Queen Creek ID	12/2004	28,000	3,000	2004	7,499
Salt River Project	12/2005	200,000	20,000	2004	8,000
PHOENIX – USF					
GRUSP	12/2010	200,000	50,000	2004	56,500
Agua Fria Recharge Project	05/2019	100,000	40,000	2004	16,300
Hieroglyphic Mtns.	12/2021	35,000	26,000	2004	21,398
Tonopah Desert RP				4	
PINAL – GSF					
Central Arizona IDD	12/2007	110,000	15,000	2004	13,821
Hohokam IDD	12/2007	55,000	50,000	2004	16,700
Maricopa-Stanfield IDD	12/2004	120,000	50,000	2004	22,967
TUCSON – GSF³					
Kai – Red Rock	12/2006	11,231	3,000	2004	1,100
TUCSON – USF					
Avra Valley	03/2018	11,000	7,000	2004	6,084
CAVSARP	07/2021	60,000	40,000 ⁵	2004	6,000
Lower Santa Cruz	09/2019	50,000	40,000	2004	41,720
Pima Mine Road	09/2020	30,000	28,000	2004	18,265
Other Facilities Currently or Anticipated to be Available to the AWBA					
Vidler – USF	09/2020	100,000	80,000	4	0
West Maricopa Combine - USF	05/31/2021	25,000		4	0
Superstition Mountain ⁶		80,000	40,000		n/a
SRP New River – USF ⁶					n/a

Footnotes:

- (1) As additional facilities are developed, they will be included in future plans. However, it should be recognized that availability of water and funding will likely be the limiting factors 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.
- (3) The AWBA holds water storage permits at Chandler Heights Citrus ID (3KAF), Maricopa Water District (18KAF), Roosevelt Water Conservation District, BKW Farms (16KAF), Kai-Avra (12KAD) and the Tonopah (15KAF) GSFs. These were not considered significant uses in this 10 year outlook.
- (4) No deliveries to date.
- (5) 20,000 acre-feet of additional capacity included beginning in 2003.
- (6) Not yet permitted.

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

PHOENIX AMA ²	Year	Groundwater Savings			Underground Storage		
		Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³				516,308		
2006	29,991	29,991	26,992	195,666	100,874	90,787	
2007	30,960	30,960	27,864	244,349	180,261	162,235	
2008	30,960	30,960	27,864	243,533	189,018	170,116	
2009	30,714	30,714	27,643	239,578	171,300	154,170	
2010	30,269	30,269	27,242	239,194	196,103	176,493	
2011	29,754	29,754	26,779	231,113	85,045	76,540	
2012	29,713	29,713	26,742	243,121	242,608	218,347	
2013	29,105	29,105	26,194	242,403	144,257	129,831	
2014	31,174	26,498	23,848	237,885	173,904	156,514	
2015	32,539	23,853	21,468	239,037	126,835	114,152	
Total			778,944				1,859,716

PINAL AMA ²	Year	Groundwater Savings			Underground Storage		
		Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³				98,284		
2006	85,359	7,268	6,687	-	-	-	
2007	89,646	8,081	7,435	-	-	-	
2008	81,978	10,728	9,869	-	-	-	
2009	76,825	12,641	11,629	-	-	-	
2010	77,175	12,767	11,746	-	-	-	
2011	79,680	12,153	11,181	-	-	-	
2012	81,966	11,589	10,662	-	-	-	
2013	83,493	11,067	10,182	-	-	-	
2014	84,908	10,584	9,738	-	-	-	
2015	86,224	10,136	9,325	-	-	-	
Total			196,738				

TUCSON AMA ²	Year	Groundwater Savings			Underground Storage		
		Capacity Available ⁴	Capacity Used	Credits Earned	Capacity Available ⁴	Capacity Used	Credits Earned
	Pre-plan ³				4,349		
2006	0	0	0	89,256	89,000	85,440	
2007	0	0	0	87,916	58,870	56,516	
2008	0	0	0	88,011	38,943	37,385	
2009	0	0	0	87,068	43,685	41,938	
2010	0	0	0	98,324	43,400	41,664	
2011	0	0	0	107,913	42,652	40,946	
2012	0	0	0	109,151	41,977	40,297	
2013	0	0	0	98,092	41,290	39,638	
2014	0	0	0	107,173	40,625	39,000	
2015	0	0	0	107,413	39,968	38,369	
Total			4,349				651,921

Footnotes:

- (1) Development of M&I firming credits followed utilization of groundwater withdrawal fees.
- (2) M&I firming targets are Phoenix AMA-1.566 MAF, Tucson AMA-864 KAF, and Pinal AMA 243 KAF.
- (3) Cumulative totals for 1997-2005; 2005 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			114,679			40,331
	2006	69,746	39,755	35,780	210,155	14,489	13,040
	2007	72,000	41,040	36,936	246,933	2,584	2,326
	2008	72,000	41,040	36,936	252,024	8,491	7,642
	2009	71,429	40,714	36,643	251,912	12,335	11,101
	2010	70,393	40,124	36,112	251,415	12,221	10,999
	2011	69,196	39,442	35,498	250,132	11,019	9,917
	2012	69,100	39,387	35,448	252,717	9,596	8,637
	2013	67,686	38,581	34,723	251,024	8,621	7,759
	2014	66,300	35,126	31,613	247,345	9,460	8,068
	2015	64,158	31,620	28,458	248,002	8,964	8,514
	Total			462,826			128,334
	PINAL AMA	Pre-plan ²			303,912		
2006		115,000	29,641	27,270	-	-	-
2007		115,000	25,354	23,325	-	-	-
2008		115,000	33,022	30,380	-	-	-
2009		115,000	38,175	35,121	-	-	-
2010		115,000	37,825	34,799	-	-	-
2011		115,000	35,320	32,494	-	-	-
2012		115,000	33,034	30,391	-	-	-
2013		115,000	31,507	28,987	-	-	-
2014		115,000	30,092	27,685	-	-	-
2015		115,000	28,776	26,474	-	-	-
Total				600,838			0
TUCSON AMA		Pre-plan ²			8,296		
	2006	5,000	5,000	4,800	92,946	3,690	3,542
	2007	5,000	5,000	4,800	92,294	4,378	4,203
	2008	5,000	5,000	4,800	93,604	5,593	5,369
	2009	5,000	5,000	4,800	93,665	6,597	6,333
	2010	5,000	5,000	4,800	103,289	4,965	4,767
	2011	5,000	5,000	4,800	112,474	4,561	4,379
	2012	5,000	5,000	4,800	113,329	4,178	4,011
	2013	5,000	5,000	4,800	101,897	3,805	3,653
	2014	5,000	5,000	4,800	110,620	3,447	3,309
	2015	5,000	5,000	4,800	110,513	3,100	2,976
	Total			56,296			84,753

(1) Expenditure of withdrawal fees was given the highest priority.
(2) Cumulative totals for 1997-2005; 2005 credits estimated based on projected deliveries, as amended.
(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)

	Year	Groundwater Savings			Underground Storage		
		Capacity Available	Capacity Used	Credits Earned	Capacity Available	Capacity Used	Credits Earned
PHOENIX AMA	Pre-plan ³			37,964			21,973
	2006	0	0	0	94,792	0	0
	2007	0	0	0	64,088	0	0
	2008	0	0	0	54,515	0	0
	2009	0	0	0	68,277	0	0
	2010	0	0	0	43,091	0	0
	2011	0	0	0	154,068	0	0
	2012	0	0	0	513	0	0
	2013	0	0	0	98,146	0	0
	2014	4,676	0	0	63,981	0	0
	2015	8,685	0	0	112,202	0	0
	Total			37,964			21,973
	PINAL AMA	Pre-plan ³			296,814		
2006		78,091	0	0	-	-	-
2007		81,565	0	0	-	-	-
2008		71,251	0	0	-	-	-
2009		64,184	0	0	-	-	-
2010		64,408	0	0	-	-	-
2011		67,527	0	0	-	-	-
2012		70,378	0	0	-	-	-
2013		72,425	0	0	-	-	-
2014		74,324	0	0	-	-	-
2015		76,088	0	0	-	-	-
Total				296,814			
TUCSON AMA		Pre-plan ³			2,306		
	2006	0	0	0	256	0	0
	2007	0	0	0	29,046	0	0
	2008	0	0	0	49,069	0	0
	2009	0	0	0	43,383	0	0
	2010	0	0	0	54,924	0	0
	2011	0	0	0	65,260	0	0
	2012	0	0	0	67,174	0	0
	2013	0	0	0	56,802	0	0
	2014	0	0	0	66,548	0	0
	2015	0	0	0	67,445	0	0
	Total			2,306			37,442

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 KAF.
- (3) Cumulative totals for 1997-2005; 2005 credits estimated based on projected deliveries.

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

Year	Available CAP Supplies ²	Available AWBA Capacity ³	Remaining Supply ⁴	Interstate Credits ⁵
Pre-plan ⁶				270,156
2006	313,450	213,139	50,522	200,000
2007	265,220	214,699	56,736	200,000
2008	271,571	214,834	36,358	200,000
2009	252,202	215,844	0	200,000
2010	162,061	202,423	0	152,337
2011	248,740	326,855	219,477	27,507
2012	92,901	178,065		0
2013	158,623	267,374		0
2014	108,937	249,529		0
2015	156,169	304,421		0
Total				1,250,000

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 individual subcontractors, contractors, and the AWBA for intrastate water banking from the Total Available Supply (see Appendix B).
- (3) Reflects the unused capacity available to the AWBA at USFs and GSFs in the Phoenix, Pinal, and Tucson AMAs as well as capacity available from other storage facilities permitted by the AWBA outside of the 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 individual subcontractors, contractors, and 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, resulting stored water multiplied by an average 6% cut and loss factor.
- (6) Cumulative totals for 1997-2005; 2005 credits estimated based on projected deliveries