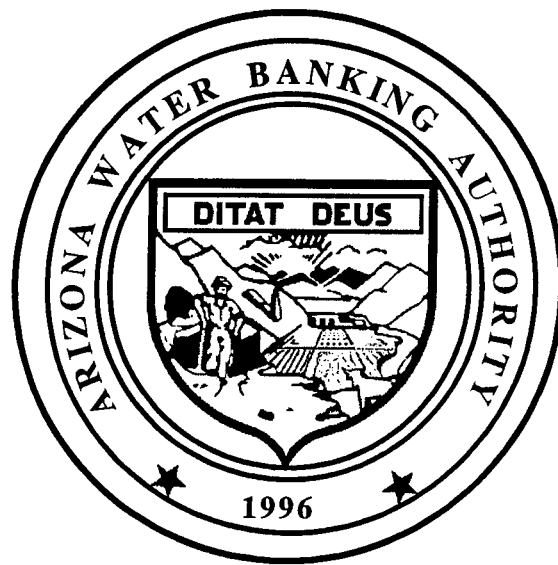


Arizona Water Banking Authority

Annual Report

1997



Submitted
July 1, 1998

Arizona Water Banking Authority

500 North Third Street, Phoenix, Arizona 85004

Telephone 602-417-2418

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June 30, 1998

The Honorable Jane Dee Hull
Governor of Arizona
1700 West Washington Street
Phoenix, Arizona 85007

AUTHORITY MEMBERS
Rita P. Pearson, Chairman
Tom Griffin, Vice-Chair
Bill Chase, Secretary
Grady Gammage, Jr.
Richard S. Walden

EX OFFICIO MEMBERS
Senator Pat Conner
Representative Gail Griffin

Dear Governor Hull:

Enclosed is the second Annual Report (Report) describing the operation of the Arizona Water Banking Authority (Authority) for calendar year 1997 which has been prepared in compliance with Arizona Revised Statutes § 45-2426 (Supp. 1997). The Report includes the amount of water stored by the Authority, an accounting of all monies expended from the banking fund and remaining funds available to the Authority. The Report also provides background information on the Authority and an overview of the significant achievements of the past year.

During 1997, the Authority members and staff also participated in the Authority's Study Commission meetings which will make recommendations about future activities of the Authority, including assisting with Indian water rights settlements and inter/intrastate water banking and marketing. One of the most significant developments for the Authority in 1997 was the United States Bureau of Reclamation's publication of a proposed federal rule (modeled after Arizona's Water Bank) governing interstate water banking in the Lower Basin, which is the first step toward enabling the Authority to recharge water in Arizona for Nevada and possibly California.

The Authority recharged approximately 330,000 acre feet of water in 1997 through indirect recharge with eight irrigation districts as partners and through direct recharge at three underground storage facilities in Maricopa and Pima Counties. The Authority expects to add new irrigation district partners and to store water at additional underground storage facilities in 1998.

1997 was a highly successful year for the Authority. I am extremely proud of its accomplishments in its first full year of operation and am confident that the Authority will continue to serve as a critical tool to achieve Arizona's water policy goals.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rita P. Pearson'.

Rita P. Pearson
Chairman

Arizona Water Banking Authority

Annual Report 1997

Honorable Jane Dee Hull
Governor of Arizona

Members

Rita P. Pearson
Chairman

Tom Griffin
Vice-chairman

Bill Chase
Secretary

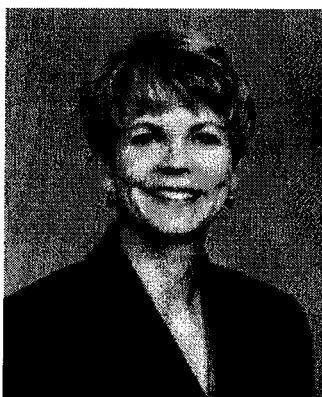
Grady Gammage, Jr.
Member

Richard S. Walden
Member

Ex officio
Senator Pat Connor
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Message from the Chairman of the Arizona Water Banking Authority

I am pleased to be provided with the opportunity to comment on the progress and the future of the Arizona Water Banking Authority.

1997 has been a tremendous year for the Water Bank. The Bank has continued to recharge water that would have otherwise gone unused by Arizona and at the same time replenishing aquifers and providing surface water alternatives to groundwater pumping. The Bank acquired new indirect recharge partners in 1997 and began storing water at direct recharge facilities in the Phoenix and Tucson Active Management areas. All in all, the Bank recharged approximately 330,000 acre feet of water in 1997.

Arizona is unique in that no other state has a Water Bank such as ours. Its main goal is to “firm” water supplies for municipal and industrial users in central and southern Arizona against future water shortages, but the Water Bank has several other important goals.

First, the Water Bank assists Arizona in meeting the objectives of the 1980 Groundwater Management Code by replenishing depleted groundwater aquifers. Recharge by the Water Bank helps prevent the serious effects of groundwater overdraft, including subsidence, earth fissures, migration of contaminants, increased pumping costs, depleted water tables, and impacts to riparian habitats. Second, the Water Bank has the opportunity to assist in the settlement of Indian water rights claims. Credits earned by the Water Bank can provide another pool of water to be used in Indian water rights settlements. Third, the Water Bank facilitates water exchanges to assist Colorado River communities in firming their water supplies by exchanging credits for surface water in times of drought. Finally, the Water Bank can contract in the future with similar authorities in the other Lower Basin states, California and Nevada, to allow these states to annually acquire a portion of Arizona’s temporary surplus of Colorado River water.

The Bank has made great strides toward achieving all of these goals. At the end of 1997, the United States Department of the Interior released its draft interstate water banking rules which will enable Arizona to store its excess Colorado River water for use in Nevada and California. The Bank prepared extensive comments on the rules, and when the federal government finalizes the rule, expects to commence interstate water banking.

The Water Bank reflects Arizona’s commitment to sound water policy. The Water Bank provides Arizonans with added peace of mind that steps have been taken to ensure their high quality of life well into the future.

Arizona Water Banking Authority *Annual Report Requirement*

Arizona Revised Statutes section 45-2426 provides that the Arizona Water Banking Authority (AWBA) must file an Annual Report each year. The report must be submitted to the Governor of Arizona, President of the Arizona Senate, and Speaker of the Arizona House of Representatives on or before July 1 of each year and must contain a full and complete account of its transactions and proceedings for the preceding calendar year. The report must contain all of the following:

- An accounting of all monies expended from the banking fund.
- An accounting of all monies in the banking fund remaining available to the Authority.
- The amount of water stored by the Authority.
- The number of long-term storage credits distributed or extinguished by the Authority.
- The purposes for which long-term storage credits were distributed or extinguished by the Authority.
- Any other matter determined by the Authority to be relevant to the policy and purposes of this chapter.

In 1997, the statute was amended so that the Annual Report would reflect the activity of the previous calendar year (January to December) rather than the fiscal year (July to June).

Arizona Water Banking Authority *Members*

Authority membership was unchanged in 1997 except for two new *ex officio* members. By statute, the President of the Arizona Senate and the Speaker of the Arizona House of Representatives each appoints one legislator as a non-voting member of the Authority. Information on the two new *ex officio* members of the Authority appears below.

THE HONORABLE PAT CONNER - Senator Conner was appointed as an *ex officio* member of the Arizona Water Banking Authority by Senate President Brenda Burns in October 1997. Senator Conner is involved in real estate and investments in the Yuma area and owns Soft Cloth Car Washes. Senator Conner was elected to the Arizona State Senate in January 1997. He served in the House of Representatives from 1993-96. Mr. Conner previously served on the Yuma County Board of Supervisors 1984-92. Mr. Conner is currently serving on the Appropriations Committee, Commerce & Economic Development Committee (as Vice Chairman), Judiciary Committee, and Natural Resources, Agriculture & Environment Committee (Chairman). Senator Conner is a native of Arizona and attended Arizona Western College and University of Arizona, and graduated from ASU with a business major in 1968. He served with the National Guard from 1968 through 1972.

THE HONORABLE GAIL GRIFFIN¹ - Ms. Griffin represents District 8 in the Arizona House of Representatives. Ms. Griffin serves as co-chairman of the State Natural Resources and Agriculture committee and as a member of the Commerce, Environment and Government Operations committees. She also serves on three national committees; Vice Chair of the Environment Committee and as member of the Education Committee of the National Conference of State Legislators (NCSL), and the Environment Committee of the "American Legislative Exchange Council" (ALEC). Ms. Griffin is also a member of the Western States Coalition, Arizona/New Mexico Coalition of Counties, Society for Environmental Truth, People for the West, The Arizona Town Hall, the Sierra Vista Sunrise Rotary Club, and a graduate of Project Central (Rural Leadership program, University of Arizona), Arizona's Housing Commission, Arizona Water Protection Fund, and the Rural Business Incubator Advisory Board. Ms. Griffin has lived in Arizona for almost 30 years and is a licensed real estate broker at Sierra Vista Realty and has been in the real estate profession for 23 years.

"I have found the information made available through the Water Banking Authority invaluable in making decisions about natural resources in the Legislature. Arizona is truly pro active in water issues and in finding solutions."



- Representative Gail Griffin, *Ex officio* Member



"It has been great for me as an ex officio member to see what the Water Banking Authority has accomplished in furthering water storage efforts in the active management areas of the state and in looking for ways to secure and store future water supplies for rural areas. As a participant in the passage of the legislation that created the Water Banking Authority, I can honestly say that the Authority has exceeded original legislative expectations."

- Senator Pat Connor, *Ex officio* Member

¹Representative Bill McGibbon was the *ex officio* member from the Arizona House of Representatives until October 1997. Representative Griffin replaced Representative Bill McGibbon when the new Speaker of the House was named in October 1997.

Arizona Water Banking Authority

Rita P. Pearson
Chairman

Tom Griffin
Vice-Chairman

Bill Chase
Secretary

Grady Gammage, Jr.
Member

Dick Walden
Member

Ex Officio
Senator Pat Conner
Representative Gail Griffin

Tim Henley
Manager

Kim Kunasek
Technical Administrator

Nan Flores
Administrative Assistant

The Arizona Water Banking Authority *History and Overview*

Balancing the tremendous water, power, and recreational demands placed on the Colorado River while providing needed flood control is a growing burden as demand on the system increases. The Colorado River was first allocated by the Colorado River Compact of 1922. The Compact apportioned 7.5 million acre feet (maf) of Colorado River water to both the Upper Basin (Wyoming, Colorado, Utah, and New Mexico) and the Lower Basin (Arizona, Nevada, California). Although the seven basin states signed the Compact, Arizona chose not to ratify it because it did not specifically quantify Arizona rights to the Colorado River.

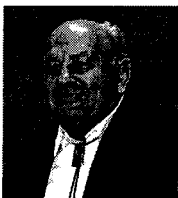
In 1928 the United States Congress enacted the Boulder Canyon Project Act (BCPA), approving the substance of the Colorado River Compact with more specificity. The BCPA allocated the 7.5 maf Lower Basin allocation annually to Arizona, Nevada, and California in the following amounts:

<u>Nevada:</u>	300,000 af plus 4 % of any surplus
<u>Arizona:</u>	2.8 maf plus 46% of any surplus
<u>California:</u>	4.4 maf plus 50% of any surplus

For over 70 years, Arizona leaders have worked to ensure that Arizona's communities have dependable long-term water supplies. From securing the state's fair share of Colorado River water and gaining Congressional authorization of the Central Arizona Project (CAP) to crafting the 1980 Groundwater Management Code, their foresight and planning has provided the water supply that serves our growing communities and maintains our quality of life. During the 1996 legislative session, Governor Symington and the State Legislature continued the tradition by creating the Arizona Water Banking Authority (AWBA).

Until the AWBA was created, Arizona did not use its full 2.8 million acre foot (maf) share of Colorado River water. Without the AWBA, Arizona would not have used its full allocation until the year 2030. During that interim period, the accumulated amount of water left in the Colorado River would have amounted to approximately 14 million acre feet. Most of that water would have gone to southern California.

Leaving a portion of Arizona's water in the Colorado River was a lost opportunity. The AWBA seizes this opportunity and gives Arizona the capability to further secure the dependable water supplies necessary to ensure the state's long-term prosperity.



"The staff and Board of the Arizona Water Bank must be commended for exceeding the original goals set forth by the Arizona Legislature. They have and will continue to have a profound effect on Arizona's water future."

- Tom Griffin, Vice-Chairman

The AWBA was created to store unused Arizona Colorado River water to meet future needs for:

- (1) Assuring adequate supply to municipal and industrial users in times of shortages or disruptions of the CAP system;
- (2) Meeting the management plan objectives of the Arizona Groundwater Code;
- (3) Assisting in the settlement of Indian water rights claims; and
- (4) Exchanging water to assist Colorado River communities.

The AWBA is an institution that will guide Arizona water planning into the next century. By storing substantial amounts of water in central Arizona, the AWBA safeguards against future shortages on the CAP system, assists in meeting the goals of the Groundwater Code, and aids neighboring states without harming Arizona. The AWBA is Arizona's "water savings account" that ensures that the water supplies future generations inherit from us are just as secure as those we inherited.

How the Water Bank Works

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

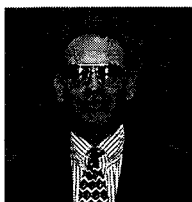
Key Benefits of Water Banking

Drought Protection

The AWBA protects communities dependent on the CAP by providing a stored reserve of water that can be tapped in future times of drought on the Colorado River.

Enhanced Water Management

The AWBA provides the ability to replenish depleted groundwater aquifers with CAP water, thereby helping Arizona meet its groundwater management goals and objectives.



"Water banking in Arizona marks the beginning of a new era in the water history of the West. With the initiation of the AWBA, Arizona is taking its total allocation of Colorado River water, which will benefit future generations of Arizonans sooner than later."

-Dick Walden, Member

Indian Water Rights Settlements

Indian tribes in Arizona have significant claims to water rights. Often the affected parties negotiate settlements to resolve these claims. The AWBA provides another pool of water to be used in settlements. For instance, credits for stored groundwater can be transferred to a tribe as a component of a settlement.

Statewide Benefit

Arizona communities along the Colorado River can also benefit. For example, cities in Mohave County may acquire credits through the AWBA for water stored in central Arizona and redeem those credits by diverting water directly from the Colorado River.

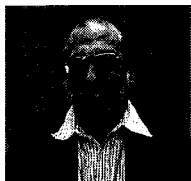
Interstate Water Transfers

The AWBA could contract with similar authorities in California and Nevada to allow these states to annually acquire a portion of Arizona's temporary surplus of Colorado River water. The contracting state would pay to store water in Arizona, helping to replenish Arizona's aquifers, and in the future would be able to draw a similar quantity directly from the Colorado River. The program does not involve the sale of any future rights to water, only a specific quantity of unused water. Recently promulgated Department of the Interior rules set forth the federal requirements for interstate water banking.

Water Bank Funding

Much of the money comes from existing revenue sources and from fees that are charged to those benefiting directly from the stored water. Sources of money include:

- Fees for groundwater pumping currently collected within the Phoenix, Pinal, and Tucson Active Management Areas (AMAs). In the Phoenix AMA, Tucson AMA, and most areas of the Pinal AMA, pumping fees for water banking purposes are \$2.50 per acre foot. For groundwater pumping in areas of the Pinal AMA not served by the CAP, the \$2.50 fee phases in over seven years. *Money from this source must be used for the benefit of the Active Management Area in which it was collected.*
- The CAP is authorized to levy a four cent *ad valorem* property tax in the CAP service area to pay for water storage. To help finance the AWBA's efforts, the tax will be extended through 2016 and revenues will be deposited in the Fund. The CAP retains the option to use this money for capital repayment of the CAP if necessary. The CAP determined that it did



"I am very pleased with the amount of water banked to date. I would like to see more emphasis on the development of the Agua Fria recharge project and increased direct recharge in Maricopa County."

- Bill Chase, Secretary

- not require these funds for its purposes in 1997, so approximately \$8 million were deposited into the Water Banking Fund for the purchase of water for storage. *Money from this source must be used to benefit the county in which it was collected.*
- A general fund appropriation based on the level of water storage the amount the Arizona Legislature and Governor believe to be appropriate. The 1997 appropriation amounted to \$2 million. *Water stored with these funds may be used to assist communities along the Colorado River, to help the State meet its water management objectives, or as a component of an Indian water rights settlement.*
- Fees collected from the sale of stored water credits used for drought protection. Fees are charged only if the credits were originally paid for with general fund money.
- Money collected from out-of-state interests for water stored on their behalf.

Future Opportunities for the Water Bank

When it created the AWBA, the Arizona Legislature created a Study Commission to investigate opportunities for additional water banking uses, identify mechanisms to encourage participation in the program by Indian communities with rights to Colorado River water, and review the first year of the AWBA's operation. The Study Commission consists of the AWBA members and two *ex officio* members plus nine people appointed by the Director of the ADWR. The ADWR is responsible for staffing of the Study Commission with the AWBA's assistance.

The Study Commission has completed a comprehensive Interim Report containing research findings, conclusions, and recommendations regarding the issues it considered. The final report is due in November 1998.

Update on the Water Bank

The AWBA has been working diligently to carry out its mission to take the formerly unused portion of Arizona's Colorado River allotment and recharge the water in Arizona to develop long-term storage credits for future use. This recharge by the AWBA is not meant as a substitute for existing uses or storage of Colorado River water by entities in Arizona but as a means of utilizing Colorado River water that would otherwise go unused by Arizona.

The AWBA holds monthly meetings at the ADWR to keep the public apprised of its progress and has held additional meetings with entities interested in potential direct or in-lieu recharge.



"We at the CAWCD deeply appreciate the Bank as a new customer and as a partner in using Arizona's Colorado River entitlement. We look forward to continuing our relationship."

- Grady Gammage, Jr., Member

Representatives from California and Nevada have attended several of these AWBA meetings, and interstate water banking continues to be a topic of discussion.

The AWBA members and staff meet annually with all current and potential recharge entities in developing the Annual Plan of Operation. These entities include the Salt River Project (SRP), the CAP, and all permitted irrigation districts in Maricopa, Pinal, and Pima counties. All potential recharge opportunities are then matched with delivery capacities of the CAP aqueduct. The AWBA systematically adjusts each entity's amount to match CAP delivery constraints. An analysis is then made of the amount of potential recharge in each AMA/county, and the amount of funds generated in each AMA/county by month to keep monies in the AMA/county of generation.

The AWBA recharged approximately 330,000 acre feet of CAP water in 1997. Total consumptive use by Arizona for 1997 was approximately 2.7 million acre feet (maf), including: 1.38 maf project Colorado River uses along the river; CAP subcontractor deliveries of an estimated 975,000 acre feet (af), including M&I, Indian, Agricultural Pools 1, 2, and 3, and incentive recharge water; and approximately 330,000 af for recharge by the AWBA.

Conclusion

By storing substantial amounts of water in central Arizona, the AWBA safeguards against future shortages on the CAP system, assists in meeting the goals of the Arizona Groundwater Code, and aids neighboring states without harming Arizona. The AWBA is Arizona's "water savings account" and ensures that the water supplies future generations inherit from us are just as secure as those we inherited.

For more information about the Water Banking Authority, please consult our web page at:

www.awba.state.az.us

or contact Tim Henley (tjhenley@adwr.state.az.us) or Kim Kunasek (kskunasek@adwr.state.az.us).

Arizona Water Banking Authority
Activities and Projects
1997

1997 has been an eventful year for the Water Bank. Below is a summary of significant events in the Arizona Water Banking Authority in 1997.

Monthly Meetings Around State: Continuing a tradition begun in its first year in operation, the Water Bank held monthly meetings around the state in 1997 in an attempt to hear regional concerns and involve communities that cannot regularly attend the Phoenix meetings. In addition to the Water Banking Authority meetings in Tucson (September 1996), Lake Havasu (October 1996), and Yuma (December 1996), the Authority traveled to Oro Valley for a September 1997 meeting where it heard from representatives from the Tucson AMA, Tucson Water, and members of the public.

New Direct Recharge Facility: The Water Bank was proud to participate in the dedication ceremony for a new direct recharge facility. In September 1997 the Central Avra Valley Storage and Recovery Project (CAVSARP) went on line. This direct recharge facility is located in the Tucson Active Management Area (AMA). Authority Chairman Rita Pearson addressed a large audience at the CAVSARP dedication ceremony. The Bank stored approximately 984 acre feet of water at CAVSARP in the last months of 1997.

Irrigation District Partners: In 1997, the Bank negotiated agreements with the various irrigation districts in the Phoenix and Pinal AMAs for the delivery of in-lieu water. The Bank acquired one new irrigation district partner (Tonopah), and that district will begin purchasing Bank water in 1998. For further information, please see **Appendix 1** at **page 19**.

Web Page: The Water Bank launched its web page in December 1997 (www.awba.state.az.us). The web page contains information about the Water Bank, the Bank's recharge partners, monthly updates in graph form on water deliveries around the state, announcements from the Water Bank, a schedule of upcoming meetings (Study Commission and general Authority meetings), numerous publications that may be downloaded, and a great deal of additional information. Bank staff has received consistently positive feedback about the web site.

Media Coverage: The Bank received a great deal of favorable press coverage over the past year. The following articles about the Bank were published in 1997:

- "Water Banking Authority to begin CAP recharge in Pima," *The Arizona Daily Star*, Page B3, January 9, 1997.
- "Babbitt issues water warning to south state," *Chicago Tribune*, Page A1, January 12, 1997.
- "Babbitt Demands Water-Hogging S. California Cut Use," *Albuquerque Journal*, January 12, 1997.

- “Water war brewing in thirsty southwest,” *Chicago Tribune*, January 12, 1997.
- “Arizona to store Colorado water,” *Scottsdale Tribune*, January 25, 1997.
- “Pacts allow state to store unused Colorado River water,” *Tribune Newspapers*, Page B5, January 25, 1997.
- “Arizona signs pacts to bank water,” *Arizona Republic*, Page A1, January 25, 1997.
- “Arizona to bank its river water,” *Casa Grande Dispatch*, Page 1, January 25, 1997.
- “Arizona banks on water for future,” *Las Vegas Sun*, January 27, 1997.
- “Nevada’s free water drying up,” *Las Vegas Review-Journal*, January 29, 1997.
- “Arizona did well securing its water,” *Arizona Republic*, editorial, February 16, 1997.
- “Arizona takes its full share of river,” *USA Today*, October 17-19, 1997.
- “Water banking allows AZ to take full share of Colo. River,” *U.S. Water News*, December, 1997.
- “Arizona’s Water Bank: Help for Nevada?” *Arizona Republic*, B4, December 28, 1997.

On-Reservation Water Banking: Water Bank staff held preliminary meetings with Gila River Indian Community representatives and other Indian nations regarding on-reservation water banking. These meetings provided an opportunity to determine the level of interest by the Indian Communities and to better understand the Community’s concerns.

Interstate Water Banking. In December 1997, the U.S. Bureau of Reclamation issued its proposed federal rules governing interstate water banking for public comment. The federal rules will enable Arizona to enter into Interstate Storage Agreements to store a portion of its unused Colorado River entitlement for other states to help those states in times of future water shortage. Water Bank staff prepared extensive comments to the proposed rule and engaged in numerous discussions with Nevada and California over interstate water issues in anticipation of the release of the federal rule.

Credits Pledged to Mohave County and other Colorado River Communities: The Authority’s enabling legislation requires the Authority to reserve a reasonable number of long-term storage credits accrued with the general fund appropriations for the benefit of municipal and industrial users of Colorado River water in Arizona that are outside of the Central Arizona Project service area. In 1997, the Authority began to develop long-term storage credits with general fund appropriations. In accordance with the Bank’s statutory mandate, the Water Banking Authority pledged approximately 103,000 af of credits for communities in Mohave, La Paz, and Yuma counties, with the majority (99,400 af) pledged to Mohave County.

The Water Banking Authority Study Commission: The Water Banking Authority Study Commission completed its mandatory “Interim Report” in November 1997. The Study Commission was broken down into four subcommittees to focus in more detail on additional water management opportunities available to the Water Bank. The Water Bank staff assists this Department of Water Resources Study Commission by participating in subcommittee meetings and by assisting in the drafting of the subcommittee reports to the full Study Commission. The Study Commission will submit its final report to the Arizona Legislature in November 1998. An outline of the topics covered by the Interim Report appears below:

ARIZONA WATER BANKING AUTHORITY
STUDY COMMISSION
SUBCOMMITTEE REPORT SUMMARY

Subcommittee on Planning and Modeling Assumptions

Description of Modeling Process

1. Colorado River Operations
2. CAP and Priority 4 Shortage Impact Analysis

Issue 1: *What assumptions should the AWBA make with respect to planning and modeling the Colorado River operations?*

1. Upper Colorado River Basin Water Demand Build-up
2. Reservoir Protect Levels or Shortage Strategy
3. Surplus Strategy
4. Water Demand Reduction-Shortage Strategy
5. Yuma Desalter
6. Other Model Variables

Issue 2: *How much water should be stored by the AWBA to protect against projected shortages?*
Summary of Results and Recommendations

Technical Appendix

Description of Modeling Data

1. Hydrology and Water Demand

Description of Modeling Assumptions for Hydrology and Water Demand Data

1. Hydrologic Data Assumptions
2. Demand Data Assumptions

Description of System Operating Criteria Assumptions

1. Shortage Strategies Assumptions

2. Reservoir Protection Levels Assumptions
3. Shortage Deliveries Assumptions
4. Minimum Mead Elevation Assumptions
5. Yuma Desalter Assumptions
6. Surplus Strategy Assumptions
7. Shortage Protection Strategies

Results of Modeling Studies

1. Base Case Alternative
2. Alternative Test Cases
3. Upper Basin Demand Schedule Test
4. Shortage Strategy and Reservoir Protect Level Tests
5. Shortage Delivery Amount Tests
6. Discussion of Results -- Shortage Delivery Amount
7. Surplus Strategy Tests
8. Other Assumptions
9. Minimum Lake Mead Elevation (Modified Base Case) Tests
10. M&I Protection Level Tests

Recommended Modeling Assumptions

Subcommittee on Interstate and Intrastate Banking and Marketing Issues

Issue 1: Arizona and the Bureau of Reclamation should develop a policy and process for transferring entitlements between parties in Arizona (including transfers with Indian nations) and for leasing Colorado River water supply for more than one year. The policy should consider temporary and permanent agricultural land fallowing and marketing of water that is made available through Indian water rights and contracts.

Issue 2: Should the benefits and services provided by the AWBA be expanded, and if so, which services are most useful and appropriate?

- A. Short-term or interim supply services
 1. Drought and storage protection
 2. Non-permanent uses
 3. Interim supplies

- B. Long-term or 100-year assured water supply services
 - 1. Long-term storage credit averaging
 - 2. Water supply supplementation
 - 3. Water transfers and CAP allocations

Issue 3: *Should the AWBA be authorized to meet future needs for water supply by using techniques other than the long-term storage credit system?*

- A. Storage of supplies other than excess Colorado River water
- B. Surface water storage
- C. Land-fallowing of senior agricultural rights
- D. Return Flow Credit Development

Subcommittee on Water Banking Benefits Outside the CAP Service Area

Issue 1: *Determine the frequency and magnitude of potential shortages to M&I water users of Colorado River water who are not CAP subcontract holders.*

Numerous graphs and tables showing various levels of shortages, etc.

Issue 2: *Should the AWBA be empowered to obtain and make available water supplies to new Colorado River M&I water providers or to supplement the supplies and allocations of existing Colorado River M&I water providers in areas located outside of the CAP service area?*

Issue 3: *Should the AWBA be empowered to store water at recharge sites that do not have direct access to excess water delivered through the CAP?*

Issue 4: *Identify the needs and opportunities for the AWBA to provide assistance for water supply enhancement or drought protection for M&I water users who are neither located within the CAP service area nor located along the Colorado River.*

Issue 5: *Should the AWBA be empowered to provide water supply enhancement assistance for non-M&I uses within Arizona, such as environmental enhancement projects?*

Issue 6: *Study and determine the mechanisms for forbearance and exchange which may be used to deliver Water Bank-developed supplies to water users outside of the CAP service area.*

Issue 7: *Should M&I water users located outside of the CAWCD service area who receive credits from the Water Banking Authority to offset a water shortage be required to pay to have those credits replaced? Should the reimbursement rate be equal to what the bank originally paid for the credits or should it be at the rate in effect at the time the purchase of replacement water is needed?*

Subcommittee on Indian Issues

Overview of the AWBA

Issue 1: What are the respective water rights and supplies of the Arizona Indian tribes and how will they interact with the Arizona Water Banking Authority?

- A. Tribes with CAP Allocation and an Implemented Settlement
- B. Tribes with CAP Allocation and Full or Partially but not yet Implemented Settlements
- C. Tribes with CAP Allocation but no Indian Water Rights Settlement
- D. Tribes with Adjudicated Water Rights but no CAP Allocation
- E. Tribes with Adjudicated Water Rights, Settlements, or CAP Allocations

Issue 2: How can the AWBA assist in achieving implementation of Indian water rights settlements?

- A. Provide partial water supply
 - 1. Shortage protection
 - 2. Storage accounts
 - 3. Supplementing other supplies
 - 4. Alternate sources of water for use on reservation
- B. Mitigate impacts of off-reservation groundwater overdraft
- C. On-Reservation storage techniques

Issue 3: How the AWBA provide additional water supply or marketing services to Indian communities?

- A. Store unused Indian water for the tribe's benefit at off-reservation locations
- B. Purchase water from Indian tribes as a supply source for recharge
- C. Serve as intermediary or facilitator in marketing Indian water to non-Indian water users
- D. Arrange land-fallowing agreements

Issue 4: What are some of the challenges facing Indian community participation in the water bank?

- A. Lack of delivery infrastructure or exchange capability
- B. Difficult for Bank to participate in settlement discussions
- C. Funding limitations
- D. Legal questions about marketing
- E. Low demand for short-term water supplies
- F. Wheeling agreements through the CAP
- G. Sovereignty, trust, and regulatory issues
- H. Federal Participation

###

Arizona Water Banking Authority
Monies Expended from the Banking Fund
Calendar Year 1997

Arizona Revised Statutes section 45-2425 established a water banking fund. The Arizona Water Banking Authority administers the fund. Section 45-2425 provides a breakdown of the sources of monies in the banking fund.

The Bank currently obtains its funding from the following sources:

1) Fees for groundwater pumping currently collected within the Phoenix, Pinal, and Tucson Active Management Areas (AMAs). In the Phoenix AMA, Tucson AMA, and most areas of the Pinal AMA, pumping fees for water banking purposes are \$2.50 per acre foot. Fees are based on annual groundwater pumping in the AMAs. The AMAs file their reports of groundwater pumping in March of each year. The Bank consequently collects fees for the previous year groundwater pumping in May following submittal of the AMA's groundwater pumping report.

No groundwater pumping fees were collected in 1997; the Bank will begin to receive funds from groundwater pumping in 1998. *Money from this source must be used for the benefit of the Active Management Area in which it was collected.*

2) The CAP is authorized to levy a four cent *ad valorem* property tax in the CAP service area to pay for water storage. Please note that the Bank receives monies collected from the 4¢ tax in two installments: one payment is due in November of each year, and the Bank receives these revenues in December; the second is due in April, and the Bank receives these revenues in May. To help finance the AWBA's efforts, the tax will be extended through 2016 and revenues will be deposited in the Fund. *Money from this source must be used to benefit the county in which it was collected.*

3) A general fund appropriation in the amount the Arizona Legislature and Governor believe to be appropriate. The 1997 appropriation amounted to \$2 million. General fund monies are available to the Bank on a quarterly basis and can be spent throughout the year, but other monies are only available to the Bank at specific times of the year. *Water stored with these funds may be used to assist communities along the Colorado River, to help the State meet its water management objectives, or as a component of an Indian water rights settlement.*

In 1997, the Water Bank statute governing annual reports was amended to require accounting on a calendar year (January to December) rather than fiscal year (July to June) basis. Fiscal Year 1997 covers July 1, 1996 through June 30, 1997, but fiscal activity from those six months were not included in the 1996 Annual Report. The last six months of the 1996 calendar year are included in this 1997 Annual Report because funds from that period would otherwise go unreported in any published document.

Table 1 shows the source of location of fees collected by the Water Bank and details funds expended and remaining in the Water Banking Fund.

Table 1

Monies Collected, Expended, and Available in Banking Fund

<i>Source & Location</i>	<i>Collected</i>	<i>Expended¹</i>	<i>Available²</i>
General Fund			
Maricopa County	<i>n/a</i>	\$388,000	<i>n/a</i>
Pinal County	<i>n/a</i>	\$2,098,000	<i>n/a</i>
Pima County	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Sub-Total	\$2,695,000	\$2,486,000	\$209,000
4¢ Ad Valorem Tax			
Maricopa County	\$8,197,000	\$3,433,000	\$4,764,000
Pinal County	\$337,000	\$295,000	\$42,000
Pima County	\$1,654,000	\$173,000	\$1,481,000
Sub-Total	\$10,188,000	\$3,901,000	\$6,287,000³
Groundwater Pumping Fee³			
Phoenix AMA	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Pinal AMA	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Tucson AMA	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Sub-Total	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Grand Total	\$12,883,000	\$6,387,000	\$6,496,000

¹ These numbers represent the actual cost of long-term storage credits developed in calendar year 1997.

² Includes funds remaining in the Water Banking Fund plus a credit with the CAWCD. The credit results from the fact that the AWBA's payment to the CAWCD is based upon an estimated annual use and is not adjusted throughout the year. The CAWCD applies any credit to the following year's estimate.

³ No groundwater pumping fees were collected in 1997.

Arizona Water Banking Authority
Long-term Storage Credits

Under A.R.S. § 45-852.01, the ADWR credits 95% of the recoverable amount of stored water that meets the statutory requirements to the storer's long-term storage account. See A.R.S. § 45-852.01(C). Certain statutory exceptions to the 95% rule are provided. For example, for each 100 acre feet the Water Bank stores (either through direct or indirect recharge), the ADWR credits the Bank's long-term storage account with 95 acre feet of credits. The 5% that is not credited to the Bank is known as the "cut to the aquifer" and provides additional groundwater replenishment benefits.

Table 2 shows the amount of long-term storage credits earned in each AMA and county in 1997.

Table 2
Long-Term Storage Credits Accrued
(amounts shown in acre feet)

<i>Source & Location</i>	<i>Credits Accrued</i>
General Fund	
Maricopa County	18,477 af
Pinal County	125,635 af
Pima County	<i>none</i>
<i>Sub-Total</i>	144,112 af
4¢ Ad Valorem Tax	
Maricopa County	119,530 af
Pinal County	17,665 af
Pima County	2,932 af
<i>Sub-Total</i>	140,127 af
Groundwater Pumping Fee: <i>no credits were developed with groundwater pumping fees in 1997</i>	
<i>Grand Total</i>	284,239 af

Appendix 1

Arizona Water Banking Authority

Water Stored in Calendar Year 1997

One acre foot = 325,851 gallons

Long-Term Storage Credits earned by the Water Bank are computed by subtracting 5% for losses and 5% for a “cut to the aquifer” from the *total annual deliveries*

Phoenix Active Management Area (AMA)

Approximately 133,000 af of credits were developed with the four cent property tax collected in Maricopa County for future use by communities in Maricopa County. Approximately 16,000 af of credits were developed using General Fund monies. Credits developed from general fund monies may be used by communities along the Colorado River during droughts, to help achieve water management objectives, or as a component of an Indian water rights settlement.

<i>Partner</i>	<i>Water Delivered</i>
Chandler Heights Citrus and Irrigation District (CHCID).....	0
Maricopa Water District.....	5,103
Queen Creek Irrigation District (QCID).....	19,610
Granite Reef Underground Storage Project (GRUSP).....	40,922
New Magma Irrigation and Drainage District (NMIDD).....	47,200
Roosevelt Water Conservation District.....	49,158

Pinal Active Management Area (AMA)

Approximately 14,000 af of credits were developed by the four cent property tax collected in Pinal County for use by communities in Pinal County. Approximately 134,000 af of credits were developed using General Fund monies.

<i>Partner</i>	<i>Water Delivered</i>
Central Arizona Irrigation and Drainage District (CAIDD).....	45,000
Hohokam Irrigation and Drainage District (HIDD).....	51,121
Maricopa-Stanfield Irrigation and Drainage District (MSIDD).....	64,980

Tucson Active Management Area (AMA)

Approximately 3,000 af of credits were developed with the four cent property tax levied in Pima County for use by communities in Pima County. No credits were developed using General Fund monies.

<i>Partner</i>	<i>Water Delivered</i>
Avra Valley (AVRP).....	2,157
Central Avra Valley Storage and Recovery Project CAVSARP).....	984
Pima Mine Road.....	0
Lower Santa Cruz.....	0
Total Water Banking Authority Deliveries.....	326,235

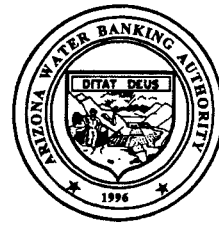
Appendix 2

Arizona Water Banking Authority

Number of Long-Term Storage Credits Distributed or Extinguished by the Authority

- No long-term storage credits were distributed or extinguished by the Authority in 1997.

MEMORANDUM



To: Authority Members and Interested Parties
From: Tim Henley, Manager
Subject: Correction to 1997 Annual Report
Date: July 21, 1998

Attached is a revised copy of Table 1 from the 1997 Annual Report that was mailed to you earlier this month. I have revised the table to more accurately reflect the funds expended to acquire the credits developed in 1997. The previous table reported the funds transferred to the Central Arizona Conservation District (CAWCD) in 1997 as expended. The Bank's 1997 payments to CAWCD were based on an estimate of 360,000 acre feet of delivery, the Bank actually delivered only 325,000 acre feet. The Bank received a credit for funds transferred but not utilized by CAWCD. This credit was applied against the Bank's 1998 deliveries. So while the previous table accurately reported the funds transferred from the various accounts it did not reflect the actual cost incurred by the Bank in 1997. Those costs are reflected in the revised table.

In addition to the revisions made to the **Expended Column**, the **Remaining Column** has been changed to represent not only the funds remaining in the various accounts but also the credits available to the Bank from the CAWCD.

I thank you for your continued interest in the Bank's operation and would ask that you substitute the attached table for the one currently in your report.

Table 1

Monies Collected, Expended, and Available in Banking Fund

<i>Source & Location</i>	<i>Collected</i>	<i>Expended¹</i>	<i>Available²</i>
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Tucson AMA	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Sub-Total	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Grand Total	\$12,883,000	\$6,387,000	\$6,496,000

¹ These numbers represent the actual cost of long-term storage credits developed in calendar year 1997.

² Includes funds remaining in the Water Banking Fund plus a credit with the CAWCD. The credit results from the fact that the AWBA's payment to the CAWCD is based upon an estimated annual use and is not adjusted throughout the year. The CAWCD applies any credit to the following year's estimate.

³ No groundwater pumping fees were collected in 1997.