

ARIZONA WATER BANKING AUTHORITY

TUESDAY, SEPTEMBER 10, 1996  
TUCSON, ARIZONA

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25	NAME: Bob McLean REPRESENTING AMWUA	BUSINESS ADDRESS 4041 N Central #900 PHX, AZ 85012	TEL: 248 8482 FAX 248 8423
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ARIZONA WATER BANKING AUTHORITY

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TUCSON, ARIZONA

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54	NAME: <i>Steve Rossi</i> REPRESENTING <i>ADWR</i>	BUSINESS ADDRESS	TEL: FAX

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TUCSON, ARIZONA

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56	NAME: <i>Jeff Johnson</i> REPRESENTING <i>SWWA</i>	BUSINESS ADDRESS <i>1001 S. Valley View Blvd. LU, NV 89158</i>	TEL: <i>702-258-3948</i> FAX <i>3951</i>
57	NAME: <i>Eric Holler</i> REPRESENTING <i>Bureau of Reclamation</i>	BUSINESS ADDRESS <i>4257 W. Ina Rd, Suite 101 Tucson 85742</i>	TEL: <i>520-744-5182</i> FAX <i>-0192</i>
58	NAME: <i>Linda Hittell</i> REPRESENTING <i>Colorado River Comm. - NV.</i>	BUSINESS ADDRESS <i>555 E. Washington Ste 3100 Las Vegas, NV 89101</i>	TEL: <i>702-486-2679</i> FAX
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60	NAME: <i>Mike Caporaso</i> REPRESENTING <i>ADWR - TAMIA</i>	BUSINESS ADDRESS <i>400 W. Congress St Suite 518 Tucson AZ 85701</i>	TEL: <i>520-770-3806</i> FAX <i>628-6758</i>
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62	NAME: <i>JAY I. MOYES</i> REPRESENTING <i>McKone County Water Authority</i>	BUSINESS ADDRESS: <i>3003 N. Central Suite 1200 Phoenix AZ 85012-2915</i>	TEL: <i>602-604-2106</i> FAX <i>602-263-5333</i>

ARIZONA WATER BANKING AUTHORITY  
SEPTEMBER 10, 1996  
Tucson, Arizona

Please print:

Name

Affiliation

Address

City

Zip

JOE FALSO

MANUAL WATER

(602) 546-8266

## FINAL AGENDA

### ARIZONA WATER BANKING AUTHORITY

Tuesday, September 10, 1996

9:30 - 12:30

City of Tucson  
Mayor and Council Chambers  
Tucson, Arizona

- |       |  |              |
|-------|--|--------------|
| I.    | Welcome / Opening Remarks  | Rita Pearson |
| II.   | Adoption of Minutes of August 20 Meeting   | Rita Pearson |
| III.  | Overview of Water Pricing / CAWCD Board Meeting<br>- process for future water costs  | Tim Henley   |
| IV.   | Presentation of FY 97 Annual Operating Budget (Oct-June)<br>ACTION: - adoption by Authority  | Tim Henley   |
| V.    | Presentation and discussion on Storage Facilities Inventory and<br>Storage Site Criteria<br>- priority ranking of sites  | Tim Henley   |
| VI.   | Presentation on Issues Raised by Mohave County Proposal  | Tim Henley   |
| VII.  | Presentation by DWR on types of recharge and programs /<br>groundwater storage   | Steve Rossi  |
| VIII. | Presentation by CAWCD on recharge and replenishment activities   | John Newman  |
| IX.   | Presentation by Tucson AMA Regional Recharge Committee<br>on recharge program in the Tucson area   | Kathy Jacobs |
| X.    | NEXT MEETING<br>-Wednesday, October 16, 1996, 1:00 - 4:00 p.m.<br>Lake Havasu City Police Facility - 2360 McCulloch Blvd<br>- Proposed agenda items<br><br>Lower Colorado River Tour - October 17 - 18 | Jimmy Jayne  |
| XI.   | Call to the Public   | Rita Pearson |
| XII.  | Adjournment  |              |

**If, because of a disability, you need a reasonable accommodation to participate equally in this program, activity, or service, please contact the Arizona Banking Authority at (602) 417-2450 or (602) 417-2401 [TDD] with your needs. Many accommodations, such as auxiliary aids and services, alternate format material, or changing facilities, require in excess of 72 hours to arrange. In order for this department to provide timely accommodation, please notify us as far in advance as possible.**



**REVISED**

9-5-96

**Suggested Motion:**

Move that the Board adopt a water price for the AWBA for 1997 and 1998 at a rate consisting of the "postage stamp" energy component plus a \$5/af payment for fixed O&M; and further, that the Board request the AWBA to nominate two (2) members of the Authority to work with the CAWCD Water Policy and Planning Committee to consider the issue of equity in pricing between the general fund appropriations and the money raised from taxes levied within the CAP service area.



# BOARD AGENDA BRIEF

## Action Item

ITEM NUMBER: 11.b.

DATE: August 27, 1996

TO: Board of Directors

FROM: Larry Dozier, Deputy General Manager

SUBJECT: Water Pricing for Arizona Water Banking Authority

### Issue Summary/Description:

Staff presented a Discussion Paper (Paper) covering CAP Water Pricing for Arizona Water Banking Authority (AWBA) at the August 1 Board meeting. A draft of the Paper had limited circulation and we have had no specific requests for the Paper as a result of the Board meeting discussion. However, several comments were received concerning the price subsidy for water purchased with state general fund appropriations for the benefit of those outside the CAP three county service area. There has also been some concern expressed that a three (3) year pricing commitment may be too long considering the unknown factors associated with starting up a new entity. Staff considers that the new entity may experience less "start-up" problems with certainty provided in pricing. There is a general discussion of these issues in the attached paper. However, after the many comments received at the Water Policy and Planning Committee meeting, staff has revised its recommendation.

### Budget Implications:

Are budget funds required? yes  no

Amount: Cost for pumping energy and O&M will be included in the 1997 budget year.

Are funds available in the current budget? Revenue estimates for 1997 will offset incremental pumping energy costs and provide a return to O&M.

### Staff Recommendation:

The AWBA pricing should be treated essentially the same as our M&I Incentive Recharge Program. The price should be established at pumping energy plus a \$5/AF fixed O&M component. The pricing policy should be established for a two (2) year period to allow for planning certainty and to fully test the effectiveness and performance of the AWBA Programs. During this time the AWBA, the Study Commission and CAP should also give full consideration to the price subsidy issue. The price should be the same for all sources of funding available to the AWBA. While a precise price will not be available until a final determination is made on the status of Hoover energy available for CAP in 1997, the price is expected to be about \$35/AF in 1997. The Water Policy and Planning Committee at its August 22 meeting recommended the suggested action.

### **Suggested Motion:**

Move that the Board adopt a water price for the AWBA for 1997 and 1998 at a rate consisting of the "postage stamp" energy component plus a \$5/af payment for fixed O&M; and further, the AWBA Study Commission be requested to consider the issue of equity in pricing between the general fund appropriations and the money raised from taxes levied within the CAP service area.

### **Attachment**

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## DISCUSSION PAPER

### CAP WATER PRICING FOR ARIZONA WATER BANKING AUTHORITY

Background: Perhaps the single most significant information necessary for the Arizona Water Banking Authority (AWBA) to develop an annual plan is the price that CAWCD will charge for delivery of the excess CAP water. The water pricing information, along with information regarding the funds available from the various funding sources, will set one of the limits on how much water can be banked. This information needs to be available by early September each year so that an operating plan can be developed for the next calendar year.

The AWBA has three primary sources of fundings; each with certain restrictions regarding the storage and use of the water purchased with those funds. The largest funding source will be the \$.04 ad valorem tax collected in Maricopa, Pinal, and Pima Counties, the same counties that are the CAWCD base service area. In 1997, these taxes will provide an estimated \$7.5 million; \$6.0 million in Maricopa County, \$1.25 million in Pima County, and \$250,000 in Pinal County. These funds can only be used to purchase and store water for the benefit of the county where collected.

The second fund source is an appropriation from the state legislature. The FY 1997 appropriation was \$2.0 million; however, during long-term planning exercises, it has been assumed that as much as \$8.0 million might be appropriated. These funds can be used to purchase and store water that can be used to benefit any Colorado River water user in Arizona, e.g., Bullhead City, Lake Havasu City, or any CAP M&I subcontractor. When a future need arises, the user must buy the water from the AWBA. The AWBA can use those funds to restore the bank water supplies when excess water is available.

The third source of funds will be a tax on pumped groundwater in the Phoenix, Pinal and Tucson Active Management Areas (AMAs). The tax will first be collected in 1998. It will be \$2.50/af in the Phoenix and Tucson AMAs and will start at \$.75/af in the Pinal AMA but will grow to \$2.50/af in increments of \$.25 per year. The estimated total for 1998 is \$3.6 million. This money can be used to purchase and store water for the benefit of the AMA where it was collected. The AMA boundaries do not coincide with county or other political subdivision boundaries. However, the CAP service area includes essentially all of the three AMAs.

Much of the water stored will be stored through in lieu storage projects (groundwater savings facilities) with participating irrigation districts (IDs). It is anticipated that the ID will pay some price for the water. This income to the AWBA will reduce the need for spending the other basic funds.

It is anticipated that at some future date, the AWBA will be banking (storing) some water for California or Nevada. In those cases, the participating state will pay all related costs of storage and recovery.

In establishing the price for CAP water to be paid by the AWBA, CAWCD must consider: 1) the cost components included in CAP water prices, i.e., (a) fixed O&M, (b) pumping

AUTHORITY SUMMARY

ARIZONA WATER BANKING AUTHORITY

Rita P. Pearson, Chairman  
Contact: Tim Henley, Manager (417-2450)

**Authority Mission:**

To use the Central Arizona Project to store otherwise unused Arizona entitlement to Colorado River water within the State to meet future water needs within the State including protecting Arizona's municipal and industrial users against future Colorado River water shortages, meeting the water management goals of the State, and help facilitate the settlement of water rights claims by Indian Communities against the State; and to provide opportunities for agencies within California and Nevada to store unused Colorado River water in Arizona to assist those States to meet their future water needs.

**Authority Description:**

The Arizona Water Banking Authority was established in 1996. It is a five member commission with two non-voting ex officio members appointed by the President of the Senate and the Speaker of the House of Representatives. The Director of the Department of Water Resources (DWR) is a member of the Authority and serves as its chairman. DWR and the Central Arizona Project provide technical support to the Authority. DWR also provide legal and administrative support. The Authority annually submits a report to the Governor, the President of the Senate and the Speaker of the House containing a full and complete accounting of its transactions for the preceding year. The Authority submitted its first annual report August 1996.

Program Summary:	FY 1997	(Thousand) FY 1998	FY 1999
	<u>\$ Actual</u>	<u>\$ Estimated</u>	<u>\$ Estimated</u>
Administration	\$ 311	\$ 288	\$ 297
Water Purchase	<u>\$ 4,510</u>	<u>\$ 10,390</u>	<u>\$ 12,220</u>
Total	\$ 4,821	\$ 10,678	\$ 12,517

**Funding Summary:**

General Fund	\$ 2,000	\$ 2,000	\$ 2,000
Non-Appropriated Funds	<u>\$ 3,959</u>	<u>\$ 7,569</u>	<u>\$ 11,199</u>
Total	\$ 5,959	\$ 9,569	\$ 13,199

# THE ARIZONA WATER BANKING AUTHORITY

## EXECUTIVE SUMMARY

September 1996

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.

Currently, Arizona does not use its full 2.8 million acre foot (maf) share of Colorado River water. The Arizona Department of Water Resources projects that the state will not fully use the resource until 2030. Between now and then, the accumulated amount of water left in the River could be as high as 14 million acre feet.

Leaving a portion of Arizona's water in the River, most of which is consumed by southern California, is a lost opportunity. The Arizona Water Banking Authority (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 Arizona Water Banking Authority was created with the intention of storing 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 state's groundwater code; 3) assisting in the settlement of Indian water rights claims; and 4) exchanging water to assist Colorado River communities.

### Arizona Water Banking Authority

#### **Key benefits of the AWBA include:**

**Drought Protection.** The AWBA will help protect communities dependent on the CAP by providing a stored reserve of water that can be tapped during 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 the State to meet its groundwater management goals and objectives.

**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

could provide another pool of water to be used in settlements. For instance, credits for stored groundwater could be transferred to a tribe as a component of a settlement.

**Statewide benefit.** Arizona communities along the Colorado River could benefit as well. For example, cities in Mohave County could acquire credits through the AWBA for water stored in central Arizona and cash-in 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 River. The program does not involve the sale of any future rights to water, only a specific quantity of unused water.

### **Arizona Water Banking Authority (Authority)**

A five person Authority will direct the activities of the AWBA. The Director of the Department of Water Resources chairs the Authority and members include the President of the Central Arizona Water Conservation District and three persons appointed by the Governor (of these appointments one person will represent CAP municipal and industrial water users, and one person will represent Colorado River water users along the River, and one person must be knowledgeable in water resource management issues). Additionally, the Senate and House of Representatives will each appoint one non-voting ex officio member to the Authority.

DWR is responsible for providing administrative, technical and legal support to the Authority to the extent requested by the Authority, in cooperation with CAWCD.

### **Funding**

Funds are deposited in the Water Bank Fund. Much of the money comes from existing revenue sources and from fees that will be 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. In the Phoenix AMA, Tucson AMA and most areas of the Pinal AMA pumping fees for water banking purposes would be set at \$2.50 per acre foot beginning in 1997. For groundwater pumping in areas of the Pinal AMA not served by the CAP, the \$2.50 fee would phase-in over seven years. Money from this source will be used to benefit the area in which it was collected.
- The CAWCD is authorized to levy a four cent ad valorem property tax in the CAP service area to pay for water storage beginning in 1997. To help finance the AWBA's efforts, the tax will be initiated in 1996, extended through 2016 and revenues would be deposited in the Fund. The CAWCD retains the option to use this money for capital repayment of the CAP if necessary. CAWCD has determined they do not require these funds for their purposes in 1997. Thus, approximately 8 million will be deposited into the Water Banking Fund for the purchase of water for storage.

- A general fund appropriation based on the level of water storage the legislature and governor believe to be appropriate. This year, the legislature appropriated \$2 million to the effort.
- 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 by the sale of stored water credits to out-of-state interests.

### **AWBA Study Commission**

In addition to the Authority, the legislature created a Study Commission to investigate opportunities for additional water banking uses, identify mechanisms to help Indian communities with rights to Colorado River water participate in the program, and review the first year operation of the AWBA. The Commission will consist of the AWBA members and two ex officio members as well as nine persons appointed by the director of Department of Water Resources. DWR is responsible for staffing of the Study Commission.

### **Conclusion**

The AWBA legislation is the type of flexible statewide policy that can guide Arizona water planning into the next century. By storing substantial amounts of water in central Arizona, the AWBA will help safeguard against future shortages on the CAP system, assist in meeting the goals of the Groundwater Code, and aid neighboring states without harming Arizona. The AWBA will create Arizona's "water savings account," helping to ensure that the water supplies future generations inherit from us are just as secure as those we inherited.

### **For more information**

Please contact Tim Henley, Manager or Jimmy Jayne, Technical Administrator / Arizona Water Banking Authority at 500 North Third Street, Phoenix, Arizona 85004 or call (602) 417-2450 or fax (602) 417-2401.



# ARIZONA WATER BANKING AUTHORITY

## ANNUAL REPORT 1996

Honorable Fife Symington  
Governor

### MEMBERS

Rita P. Pearson  
Chairman

Bill Chase  
Grady Gammage  
Tom Griffin  
Richard S. Walden

Ex officio  
Senator Stan Barnes  
Speaker Mark Killian

August 1, 1996

The Honorable Fife Symington  
Governor of Arizona  
1700 West Washington Street  
Phoenix, Arizona 85007

Dear Governor Symington:

The Arizona Water Banking Authority herewith submits its first Annual Report to the Governor, President of the State Senate and Speaker of the House of Representatives in compliance with A.R.S. §45-2426.

The 1996 Annual Report is submitted in abbreviated form largely because of the newness of the Authority staff and members and not having stored any water in FY 1996. Authority staff was hired in June and members were appointed on July 9th, with the first meeting occurring on July 18th. However, the Authority is now making great strides and will have a comprehensive report for submittal on August 1, 1997 detailing our accomplishments.

HB 2494 was introduced during the 42nd Legislature and signed by the Governor establishing the Arizona Water Banking Authority (Authority). The Authority will enable Arizona to provide additional security to municipal and industrial water users in Central and Western Arizona in times of future water shortages, by making use of currently unused CAP water.

Since the Central Arizona Project began delivering water to Central Arizona in 1985, Arizona has not made full utilization of its 2.8 million acre feet (maf) entitlement of Colorado River water. As Arizona may not make full utilization of its 2.8 maf until the year 2030, the Arizona Water Banking Authority will work to store as much excess Colorado River water as possible. The legislation established a target for the Authority to store 100,000 acre feet of Colorado River water by July 1, 1997 - a target that the Authority members and staff are going to do all that is both physically and financially possible to meet or exceed.

Just as the Colorado River is the "lifeline of the Southwest", the Central Arizona Project serves as a lifeline to Arizona, bringing needed water to Central Arizona. Making full utilization of our Colorado River entitlement today, will help secure dependable water supplies for all future generations of Arizonans.

On behalf of the Authority I am pleased to submit our first Annual Report and wish to assure you that every effort will be made to make the Authority a success for the future of all Arizonans. We would like to thank you for your continuing support of the Arizona Water Banking Authority and its mission.

Sincerely,

Rita P. Pearson, Chairman  
Arizona Water Banking Authority

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# ARIZONA WATER BANKING AUTHORITY

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HB 2494 / Laws 1996 / Chapter 308

A.R.S. 45-2421

## ARTICLE 2. ARIZONA WATER BANKING AUTHORITY

### 45-2421. Arizona water banking authority

A. The Arizona water banking authority is established. The purposes, powers and duties of the authority shall be executed by a commission to be known as the Arizona water banking authority commission.

B. The commission consists of the following members who are residents of this state:

1. The director of water resources who serves as chairperson of the commission.
2. The president of CAWCD or a representative designated by that president.
3. One person who is appointed by the governor pursuant to section 38-211 and who is knowledgeable in water resource management.
4. One person appointed by the governor pursuant to section 38-211 who represents an entity that holds a central Arizona project municipal and industrial subcontract.
5. One person appointed by the governor pursuant to section 38-211 who represents an entity located in a county adjacent to the mainstream of the Colorado river that holds a valid contract with the secretary of the interior executed before June 1, 1996, for diversion and beneficial consumptive use of Colorado river water in that county.

C. The commission members appointed by the governor shall serve a six year term of office. A member may serve more than one term and may continue to serve beyond the expiration of the term until a successor is appointed and assumes office. The term of office for the commission members appointed by the governor begins and ends on the third Monday in January. The commission members appointed pursuant to subsection B, paragraphs 3, 4 and 5 may be removed by the governor for cause.

D. The commission members appointed by the governor serve without compensation but are eligible for reimbursement for expenses from the banking fund pursuant to title 38, chapter 4, article 2.

E. In order to qualify for office members of the commission shall take and subscribe to an official oath to perform the duties of their office. The oath shall be filed with the director. The official oaths shall be in the form prescribed by law for official oaths of state officers.

F. The president of the senate, or a senator designated by the president, and the speaker of the house of representatives, or a representative designated by the speaker, shall each serve as nonvoting ex officio members of the commission.

G. Members of the commission are public officers and are subject to all provisions of law applicable to these officers.

H. Members of the commission are immune from liability for any action necessary to carry out the purposes of this chapter.

## **AUTHORITY MEMBERS**

### **Rita P. Pearson, Chairman**

Director of the Department of Water Resources who serves as chairperson of the Authority

### **Bill Chase**

Person appointed by the Governor pursuant to section 38-211 who represents an entity that holds a Central Arizona Project municipal and industrial subcontract

### **Grady Gammage**

President of the Central Arizona Water Conservation District (CAWCD)

### **Tom Griffin**

Person appointed by the Governor pursuant to section 38-211 who represents an entity located in a county adjacent to the mainstream of the Colorado River that holds a valid contract with the Secretary of the Interior executed before June 1, 1996 for diversion and beneficial consumptive use of Colorado River water in that county.

### **Richard S. Walden**

Person appointed by the Governor pursuant to section 38-211 who is knowledgeable in water resource management

## **Ex Officio Members**

### **The Honorable Stan Barnes**

Senator designated by the President, serving as a non-voting ex officio member of the Authority

### **The Honorable Mark Killian**

The Speaker of the House of Representatives (or his designee), serving as a non-voting ex officio member of the Authority

# ARIZONA WATER BANKING AUTHORITY

## BIOGRAPHICAL SKETCHES

**THE HONORABLE STAN BARNES** - Senator Barnes was appointed as an ex officio member of the Arizona Water Banking Authority by Senate President John Greene.

Senator Barnes serves as Vice President of Public Affairs for First Interstate Bank and is completing his second year of a two-year term as the Arizona State Senator representing District 21 in Mesa. Senator Barnes' committee involvement in the Senate includes: Chairman of the Government Reform Committee, Vice-Chairman of the Natural Resources, Agriculture and Environment Committee, and a member of the Transportation, Appropriations, and Joint Legislative Audit Committees. Formerly, he served two terms in the Arizona House of Representatives from January 1989 - January 1993.

Senator Barnes is a native Arizonan from Queen Creek and graduated from Chandler High School. He received a Bachelor of Science in Broadcasting from Arizona State University.

**WILLIAM L. CHASE, JR.** - Mr. Chase, Water Advisor for the City of Phoenix, was appointed to the Authority by Governor Symington on June 9, 1996, representing an entity that holds a Central Arizona Project Municipal and Industrial contract.

Mr. Chase graduated from California State Polytechnic University, San Luis Obispo with a B.S. in Agricultural Engineering, specializing in Soils and Water and went on to receive a Master of Science in Engineering from the University of California, Los Angeles. He worked for the L.A. District Office of the U.S. Army Corps of Engineers on flood control, water quality and water control programs. Since December 1980, Mr. Chase has served as the Water Advisor for the City of Phoenix. In that capacity, he helps develop policy on a range of water matters including: long-range water supplies and demands; water conservation; water rights; Indian water rights settlements; Plan Six dams; wastewater reuse and water related legislation. Mr. Chase serves on the Board of Directors of both the Western Urban Water Coalition and the Western Coalition of Arid States and has been actively involved in professional water resource management for over 20 years.

**GRADY GAMMAGE, JR.** - Mr. Gammage serves as a member of the Authority in his capacity as President of the Central Arizona Water Conservation District (CAWCD).

Mr. Gammage is an Arizona native who has practiced law in Phoenix since his graduation Magna Cum Laude from Occidental College and received his J.D. from Stanford Law School in 1976. He along with two partners founded the law firm of Gammage & Burnham in 1983, specializing in the areas of land use and real estate development. Mr. Gammage authored and co-authored a number of articles and books on land use and development issues, including: "The Bureaucrat as Developer: Arizona's Urban Lands Act", Historic Preservation in California, "Phoenix Does it Citywide", "Design Review Comes to Phoenix", "Design Review, a Perspective from the West", "Squareacre, Broaddesert: Visions of Phoenix" in Frank Lloyd Wright: The Phoenix Papers.

Mr. Gammage is currently an adjunct professor at the Arizona State University Colleges of Architecture and Law, where he teaches classes on preservation planning and on land use regulation. Along with serving as President of CAWCD, Mr. Gammage is one of two Arizona advisors to the National Trust for Historic Preservation. He is past chair of the Phoenix Design Review Standards Committee; a former member of the Phoenix Historic Preservation Commission; and past president of the Phoenix chapter of Lambda Alpha, a national real estate economics honorary.

**TOM GRIFFIN** - Mr. Griffin was appointed to the Authority by Governor Symington on July 9, 1996 as a representative of the communities along the Colorado River. In 1985 he founded and has operated the Water Planning Group, a planning and development consulting firm in Arizona, California and Nevada.

Mr. Griffin is past Chairman of the Bullhead City Water Advisory Committee and currently serves on the Board of the Mohave County Water Conservation District. He was instrumental in the creation of the Mohave County Water Authority and currently serves as chairman. Mr. Griffin is actively involved in the Colorado River Contract for Bullhead City and water issues along the Colorado River.

**THE HONORABLE MARK W. KILLIAN** - Speaker Killian serves as an ex officio member of the Authority representing the House of Representatives.

Speaker Killian was first elected to the House of Representatives in 1982 representing the 30th Legislative District in the Southeast Valley, including Gilbert, Queen Creek, and Southeast Mesa. Mr. Killian has held several chairmanships and leadership roles during his tenure in the House, including serving as Majority Leader from 1991-1992 and serving as Speaker of the House since January 1993. He has received several honors and awards while serving in the Legislature, including being awarded the National Republican Legislator of the Year award in 1993.

Mr. Killian is a native-born, third generation Arizonan and a graduate of Arizona State University in Business Administration, specializing in real estate and urban planning. He owns a commercial sales and property management company and is a partner in family farming and ranching operations.

**RITA P. PEARSON** - Ms. Pearson serves as Chairman of the Authority in her capacity as Director of the Arizona Department of Water Resources.

In March of 1993, Governor Symington appointed Rita Pearson as Director of the Arizona Department of Water Resources. Prior to this appointment, Ms. Pearson served as the Governor's Deputy Chief of Staff and Executive Assistant for Environment and Natural Resources. In this position she oversaw ten state agencies including the Department of Water Resources and the Department of Environmental Quality. She also acted as the Governor's liaison to a wide variety of boards, panels and national associations. During her two years on Governor Symington's staff, Ms. Pearson was involved in a number of high profile environmental issues including the ENSCO buy out and the Navajo Generating Station negotiations.

Prior to joining the Symington administration, Ms. Pearson had both public and private sector work experiences. While at the Arizona State Senate, she gained an extensive legislative background. From 1981 through 1985, she was the Research Analyst for the Senate Commerce and Labor Committee. Her most recent work in the private sector was as an attorney with Snell & Wilmer, where she practiced natural resources and administrative law for three years.

Ms. Pearson has earned three degrees from Arizona State University: a Bachelor of Science in 1977; a Masters of Business Administration in 1979 and a law degree in 1988.

**RICHARD S. WALDEN** - Mr. Walden was appointed to the Authority on July 09 by Governor Symington as a person knowledgeable in water resource management. He currently serves as President and Chief Operating Officer of Farmers Investment Company in Sahuarita; as a Director for First Interstate Bank as well as Vice-Chairman of the National Pecan Shellers Association. Mr. Walden is serving his second six-year term on the Board of the Arizona Power Authority and served on the Governor's Central Arizona Project Financing Study Group. He was a founding member of the Southern Arizona Water Resources Association and remains on the Board. Mr. Walden is involved in a number of organizations including the Arizona Academy, Greater Tucson Economic Council, Green Valley Community Health Center, Tucson Airport Authority, The UofA Agriculture "100" Council, UofA Roundation President's Club, UofA Business School Board of Advisors. Mr. Walden has a



Bachelor of Arts degree in Economics from Pomona College.

**STAFF:**

**HERB DISHLIP** - Since August 1985, Herb Dishlip has served as an Assistant Director for the Divisions of Surface Water and Groundwater Management for the Arizona Department of Water Resources. As Assistant Director, he is responsible for overseeing the Department's role as administrator of the State's Groundwater and Surface Water Codes. This responsibility included the preparation and implementation of the water conservation programs required by state water management plans. Mr. Dishlip also currently oversees Department staff involved in Colorado River issues, the Gila and Little Colorado River adjudications, dam safety and floodplain management activities. He previously served as Assistant Deputy Director and as Pinal Active Management Area Director.

Prior to coming to the Department of Water Resources in 1981, Mr. Dishlip worked for nine years for the U.S. Bureau of Reclamation in Arizona and Colorado. He is a graduate Civil Engineer from the University of Iowa and is a registered professional engineer.

**TIMOTHY J. HENLEY** - In June of 1996, Tim Henley was appointed Manager of the Arizona Water Banking Authority by Director Rita Pearson. Mr. Henley joined the DWR staff in April 1984 as Arizona's representative on interstate water matters, including developing water policy strategies and water issue problem solving. He served as Department of Water Resources Flood Control Branch Chief, Section Manager of the Colorado River Management Division and most recently as Section Manager of the newly created Surface Water Section. As Section Manager, Mr. Henley represented the Department of Water Resources and Arizona in various interstate and intrastate water-related issues including environmental, economic, management, conservation, allocation of Colorado River supplies and all aspects of water resources. He also was responsible for representing Arizona's interest in the Colorado River including the Central Arizona Project.

Prior to joining the Department of Water Resources staff, Mr. Henley worked for the Bureau of Reclamation in the Lower Colorado River Region at both the regional office and Arizona projects office.

Mr. Henley is a member of the Colorado River Basin Salinity Control Forum and Advisory Council and Chairperson for the Forum's Work Group and member of the Lower Colorado River Basin Technical Committee working group.

He has a Bachelor of Science in Civil Engineering from California State University at Sacramento and is a registered Civil Engineer in California and Arizona.

**JAMES G. JAYNE** - In June of 1996, Mr. Jayne was appointed as Technical Administrator of the Arizona Water Banking Authority by Director Rita Pearson. Prior to his appointment, he served as Special Projects Coordinator and Assistant to House Speaker Mark Killian. In this capacity, Mr. Jayne dealt largely with environmental and natural resource issues, including key pieces of legislation such as the Arizona Water Protection Fund, the Arizona Preserve Initiative and the Arizona Water Banking Authority.

Over the last six years he has been actively involved in policy development and research on a myriad of issues, gaining an extensive knowledge of legislative and governmental processes.

Mr. Jayne earned a bachelor of arts degree in International Affairs from Northern Arizona University and has been accepted into the Master's of Public Administration program at Arizona State University.

## HISTORY

Historically, the Colorado River has played an important role in the development of the West, bringing life and prosperity to the arid lands its water reaches by river, canal or aqueduct. The drainage basin of the Colorado covers 244,000 square miles, providing water to over 17 million people and over one million acres of farmland. The Colorado falls over 10,000 feet in its 1,440 mile course through the seven basin states of Wyoming, Colorado, Utah, New Mexico, Arizona, Nevada and California, dumping out in the Gulf of California. In addition to providing a valuable source of water, the hydropower plants on the Colorado generate approximately 12 billion kilowatt-hours of electricity each year for the desert southwest.

Balancing the tremendous water, power and recreational demands placed on the river, while providing needed flood control is a growing burden as demand on the system increases. The first allocation on the river occurred with 1922 Colorado River Compact being signed by all 7 basin states but only ratified by six of the seven - Arizona holding out until 1944. The Compact apportioned 7.5 maf of Colorado River water to both the Upper Basin (Wyoming, Colorado, Utah and New Mexico) and the Lower Basin (Arizona, Nevada, California). The Colorado River Compact and subsequent Supreme Court rulings makes the Colorado one of the biggest fully apportioned rivers in the United States.

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 to Arizona, Nevada and California in the following manner:

Nevada - 300,000 ac plus 4% of any surplus

Arizona - 2.8 maf plus 46% of any surplus

California - 4.4 maf plus 50% of any surplus

The BCPA allocation was reaffirmed by the U.S. Supreme Court by the 1963 *Arizona vs. California* decision.

Additionally, the BCPA stated that upon ratification of the Colorado River Compact by California and five other states and with passage of California's self-limitation legislation, requiring California to "irrevocably and unconditionally" limit its annual use to 4.4 maf, the Boulder Canyon Project Act was effective. Other provisions of the Act authorized the construction of Hoover Dam and other structures for water storage, flood control and power generation on the Colorado; required contracts with the Secretary of the Interior for all project water; recognized "present perfected rights" in the Colorado River and required all hydropower be governed by contracts with the Secretary.

In 1944 the Colorado River Compact was finally ratified by the Arizona Legislature, largely due to a change in political climate caused by drought conditions and reduced power generation. Ratification of the Compact set the stage for the eventual introduction of legislation for construction of the Central Arizona Project.

After many years of the Arizona Congressional delegation repeatedly battling for a federally financed project to carry Colorado River water to Central Arizona, the Legislature created the Interstate Stream Commission to help unify the state's interests regarding the Colorado River. Then, in 1951, Arizona was finally told by Congress that it needed to legally clarify its Colorado River claim before any federally funded project could be constructed. In 1952 Arizona filed suit against California to finally determine its legal claim to Colorado River, with the U.S., Nevada, Utah and New Mexico eventually joining as parties. In 1963 the U.S. Supreme Court issued its opinion in *Arizona vs. California*, with the decree following in 1964.

After the 1963 Supreme Court ruling in *Arizona vs. California*, the political leaders of the time began a four year battle to secure funding for a reclamation project that would take approximately 1.5 maf of Colorado River Water from Lake Havasu to Central Arizona, ending at the San Xavier Indian Reservation just south of Tucson.

In 1968, the Colorado River Project Act (S. 1004) was passed by the United State Congress and signed by President Johnson under the stewardship of U.S. Senators Paul Fannin and Carl Hayden. Passage of the Colorado River Project Act marked the official beginning of what we now know as the Central Arizona Project (CAP). Construction on the CAP began in 1969 with the first Colorado River water being pumped from Lake Havasu to the Phoenix metro area in 1985, with eventual completion of the project to Tucson.

The CAP came after many years of lengthy debate and compromise with Arizona being forced to compromise greatly in garnering support from the other Lower Basin states and Nevada. In order to secure authorization of the Central Arizona Project by Congress, Arizona was required to accept an agreement that recognized Central Arizona Project water to be the lowest priority water in the Lower Basin and the first to be shorted in a time of shortage on the Colorado River. Arizona has built the potential shortage issue into water planning for the State.

The newly created Arizona Water Banking Authority is one such entity, created to help secure municipal and industrial water supplies during times of shortage. In short, the Authority is charged with taking Colorado River water that is currently going unused in Arizona and recharging it in Arizona for future years when shortages do occur on the river, forcing Arizona to pump additional groundwater to meet demand.

## OVERVIEW

Last Fall the Legislature created the Joint Legislative Committee on Colorado River Issues to examine ways to increase diversions and use of Arizona's Colorado River allocation. One of the key recommendations of the Committee was an endorsement of a program that would provide the necessary resources and the organization to take unused Central Arizona Project water and store it for future use. The Committee recommendation was then sponsored by House Speaker Mark Killian in the form of HB 2494 and was eventually passed by the Legislature and signed by Governor Symington on April 30, creating the Arizona Water Banking Authority (Authority).

The five member Arizona Water Banking Authority was officially appointed on July 9, 1996 by Governor Fife Symington. As defined by the legislation, Rita Pearson serves as Chairman of the Authority in her capacity as Director of the Department of Water Resources and Grady Gammage is a member as President of the Central Arizona Water Conservation District (CAWCD). The Governor appointed three members, each of whom represent particular interests defined in HB 2494 - Bill Chase was selected as a representative of CAP municipal and industrial water users; Tom Griffin was appointed representing Colorado River water users along the River and Richard S. Walden was chosen as a person knowledgeable in water resource management issues. Additionally, the President of the Senate has appointed Senator Stan Barnes to represent the Senate and Speaker Killian represents the House as non-voting ex officio members of the Authority.

The Authority was envisioned to take unused Colorado River water and store that water in Arizona for future use in helping to protect Arizona communities in times of shortages on the Colorado River. The Arizona Water Banking Authority potentially helps provide this protection by:

- helping to assure adequate supply to municipal and industrial users in times of shortages on the river or disruptions of the CAP system;
- assisting in the settlement of Indian water rights claims by providing another pool of water to be used in settlements;
- helping to meet the groundwater management plan objectives of the Groundwater Code by replenishing depleted groundwater aquifers with CAP water;
- benefiting communities along the Colorado River by the possible exchange of credits for stored water and direct diversion along the river;

The Authority may also provide a mechanism by which California and Nevada could potentially store some of Arizona's unused Colorado River in Arizona for diversion in time of future need. The Authority may contract with Nevada and/or California to allow these states to store water in Arizona and allow the recovery of similar amounts of water through forbearance of deliveries in the future. The method of storage would have the added benefit of helping to replenish Arizona aquifers, while providing a future diversion out of the river by the contracting state in time of need.

The Authority will work to store as much unused Colorado River water as physically and financially possible over the next 20 years. HB 2494 establishes a goal of storing 100,000 acre feet by July 01, 1997 and the Authority members and staff expect to meet or possibly exceed this target. The overriding goal for the Authority is to help lessen reliance on groundwater, while providing Colorado River water at an affordable price as a substitute.

The Authority has begun their work with the first meeting on July 18th and will meet monthly at the Department of Water Resources or in communities around the state such as Tucson, Lake Havasu, Casa Grande and Yuma to deliberate on how to best administer the program and discuss the best locations around the state for water storage.

As envisioned, the Authority will facilitate the storing of water in Arizona for the future of all Arizonans.

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## POTENTIAL STORAGE

In looking into the future and the potentials for CAP water storage, the Authority will examine historical consumptive use, projected use and what underground storage and groundwater savings facilities are permitted or potential facilities.

**Figure 1** depicts the data developed by the Bureau of Reclamation which accounts for consumptive uses in Arizona resulting from mainstem Colorado River diversions for the years 1985-1994. The figures indicate that Arizona's use against its 2.8 million acre foot entitlement has been as high as 2.2 million acre feet as late as 1990.

**Figure 2** demonstrates the gradual growth in demand for Colorado River water in Arizona until the full entitlement is realized, about the year 2030. The Department of Water Resources regularly prepares projections of future diversions and use of Colorado River water for planning purposes. Projected diversions are based on the best currently available information and judgement, but is clearly still estimation.

The Arizona Water Banking Authority is charged with storing as much of this unused entitlement as possible each year through the use of underground storage facilities (direct recharge) or groundwater savings facilities (indirect recharge). In the early years of the program, the Authority is limited on the availability of direct recharge sites and will thus largely focus on indirect recharge.

Arizona's statutory system for underground storage and recovery facilitates the increased diversions and deliveries of Colorado River water. Water which is in excess of direct delivery requirements may be purchased and stored underground for later withdrawal. Credits may be earned for such storage and those credits are generally marketable to other water users.

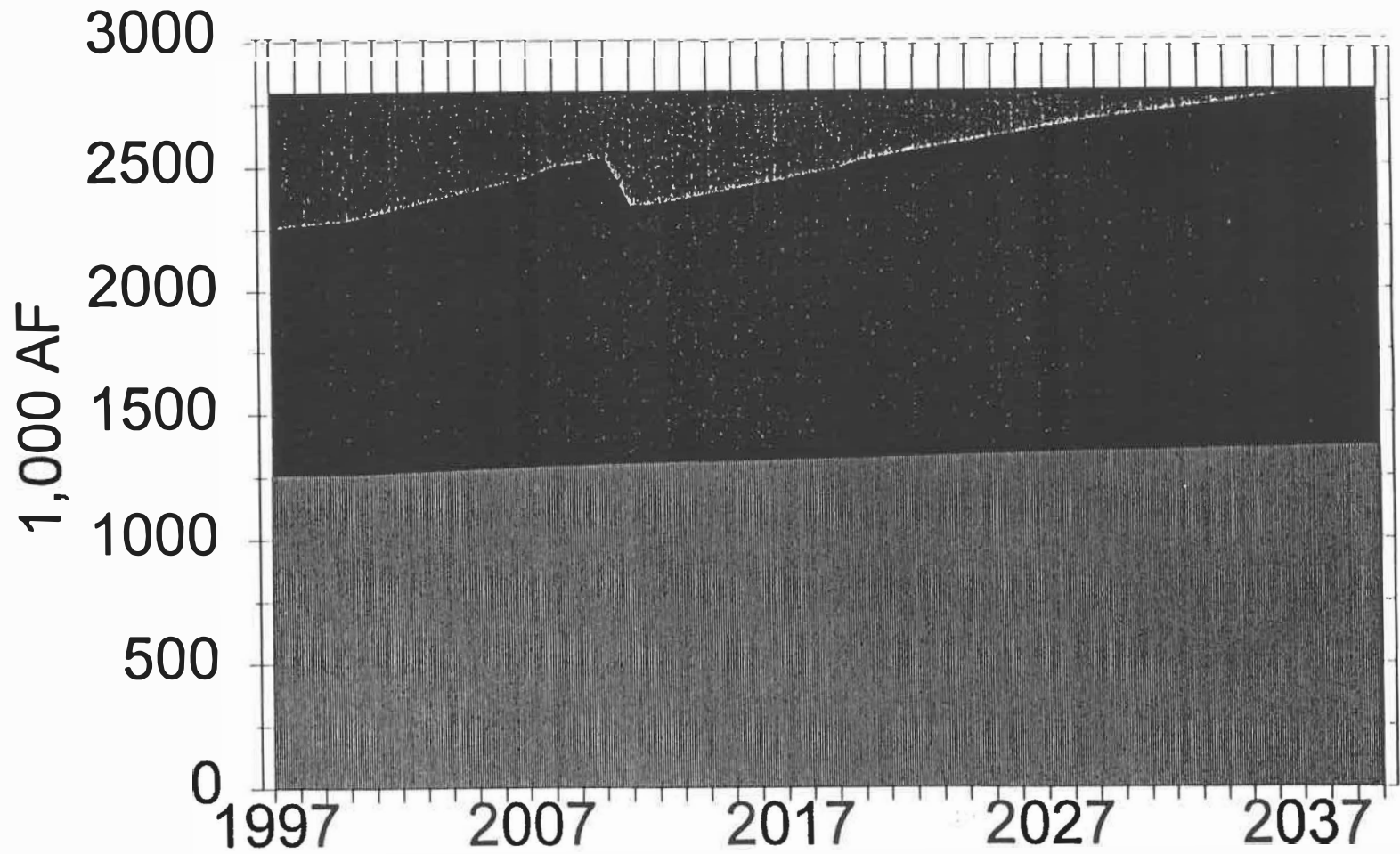
**Table A** represents a partial list of permitted and potential underground storage facilities and their potential annual storage capacities. The availability of adequate recharge facilities is particularly important to the ability of the Authority to store excess water over the near term. One such site is the Granite Reef Underground Storage Project (GRUSP), constructed by the Salt River Project and Phoenix AMA municipalities. Other project facilities of a similar nature and capacity have been proposed in the Phoenix, Pinal and Tucson AMA's, in addition to locations west of Phoenix along the CAP route.

**Table B** lists existing and potential groundwater savings facilities which could be used to bank additional excess Colorado River water. In addition to the traditional underground storage facilities described above, state law authorizes equivalent recharge through indirect or in lieu means by recognizing groundwater savings facilities. A groundwater savings facility is basically an authorized exchange of surplus surface water for an equivalent amount of groundwater which would have been pumped and used had the surface water not been available. The person or entity who provided the exchange or in lieu water source is recognized through DWR's administrative accounting procedures as having earned or banked a water credit which is no different than the credits earned through direct underground storage.

Over the next 34 years, the estimated amount of Arizona Colorado River water that is available but will currently do unused is 14 million acre feet. For the twenty year period of the Arizona Water Banking Authority program, the amount of unused water will be approximately 11 million acre feet under current projections, without the Authority. Based on this preliminary analysis, it appeared reasonable for the creation of an entity to increase Colorado River utilization by up to 400,000 acre feet per year - the Water Banking Authority is the entity.



# Projection of Water Available to Bank



Other CAP Available to Bank

Figure 2

## Table A

### Permitted and Potential Underground Storage Facilities

Facility Description * = permitted facilities	Location	Approximate Capacity
Avondale Pilot*	Phoenix AMA	5,000
Granite Reef*	Phoenix AMA	200,000
Mesa Spook Hill*	Phoenix AMA	2,300
Scottsdale Water Campus Pilot*	Phoenix AMA	5,000
Peoria Skunk Creek	Phoenix AMA	30,000
Hassayampa CAP	Phoenix AMA	100,000
SRP/CAP Filtration	Phoenix AMA	10,000
Citizens Utilities	Phoenix AMA	15,000
Auga Fria near CAP aqueduct	Phoenix AMA	90,000
Southwest Facility	Phoenix AMA	20,800
Scottsdale Water Campus/ CAP	Phoenix AMA	22,800
West Maricopa Combine	Phoenix AMA	14,000
McMicken Dam	Phoenix AMA	7,500
Queen Creek Wash	Phoenix AMA	10,000
Picacho Reservoir	Pinal AMA	5,000
Tucson Injection Pilot*	Tucson AMA	20,000
Pima Mine Road	Tucson AMA	18,000
Avra Valley	Tucson AMA	30,000
Canada Del Oro	Tucson AMA	30,000
Brawley Wash at Three Points	Tucson AMA	40,000
Santa Cruz River In Channel	Tucson AMA	45,000
APS Ranch Project	La Paz County	100,000
Centennial Wash	Harquahala Valley	50,000
<b>Total</b>		<b>869,600</b>

**Table B****Permitted and Potential Groundwater Savings Facilities**

<b>Facility Description</b> * = permitted facilities	<b>Location</b>	<b>Approximate Capacity</b>
Tonopah IDD*	Phoenix AMA	15,000
Queen Creek IDD*	Phoenix AMA	28,000
Maricopa Water Dist.	Phoenix AMA	30,000
New Magma IDD*	Phoenix AMA	70,000
Salt River Project	Phoenix AMA	100,000
San Tan ID*	Phoenix AMA	5,000
Roosevelt WCD*	Phoenix AMA	100,000
Chandler Heights Citrus ID*	Phoenix AMA	3,000
Maricopa Stanfield IDD*	Pinal AMA	120,000
Central Arizona IDD*	Pinal AMA	110,000
Hohokam IDD *	Pinal AMA	40,000
Cortaro Marana IDD*	Tucson AMA	10,000
BKW Farms*	Tucson AMA	8,800
Avra Valley IDD	Tucson AMA	20,000
Farmers Investment Co.	Tucson AMA	20,000
Harquahala Valley IDD	Harquahala INA	5,000
Total		684,800

ARIZONA WATER BANKING AUTHORITY  
Final Minutes



August 20, 1996 Meeting  
Arizona Department of Water Resources

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Arizona Water Banking Authority Members:

Rita P. Pearson, Chairman  
Tom Griffin, Vice-Chairman  
Bill Chase, Secretary  
Grady Gammage, Member  
Richard S. Walden, Member  
Senator Stan Barnes, ex officio  
Speaker Mark Killian, ex officio

AWBA Personnel:

Tim Henley  
Jimmy Jayne

Fifty four members of the general public were signed in attendance.

**I. WELCOME / OPENING REMARKS**

Chairman Rita Pearson opened the August 20 meeting of the Arizona Water Banking Authority (Authority) at 1:15 p.m. Ms. Pearson acknowledged the attendance of the Authority members with the exception of Bill Chase (currently on vacation).

**II. APPROVAL OF JULY 18, 1996 MEETING MINUTES**

It was confirmed that each member of the Authority had received and reviewed the July 18, 1996 *Draft* meeting minutes.

Chairman Pearson noted a few technical changes that she would give to Jimmy Jayne, otherwise, Grady Gammage moved for adoption of the July 18 minutes as corrected, seconded by Richard Walden. Chairman Pearson went on to state that the AWBA had received official approval of the seal adopted at the July 18 meeting (letter of approval was enclosed in the packets distributed).

**III. PRESENTATION ON DRAFT STORAGE SITE CRITERIA FOR WATER STORAGE**

Tim Henley noted that the draft storage site criteria is preliminary and requested permission from the Authority to send the *draft* to the public. It was anticipated that at the next meeting the AWBA staff would be seeking the approval of the criteria from the Authority, taking into consideration any public comments and revisions. He requested that any public comments be mailed or faxed to the AWBA staff before August 30 to allow time to distribute any suggested changes to the Authority members.

Chairman Pearson stated that the draft criteria are based on statutory provisions that currently exist with respect to recharge siting criteria as well as the Second Management Plan.

**IV. DISCUSSION ON STATUS OF WORKING DRAFT OUTLINE OF IGA**

Tim Henley again recognized that the drafting of an IGA was a good idea that would formalize relationships between all three parties and specifically state what is expected or needed from each entity. Mr. Henley noted that the process has been initiated, with AWBA staff working with DWR and CAWCD staffs. A proposed outline of what would be included in an IGA was provided. It is hoped to get the draft IGA approved at the October meeting.

**V. DISCUSSION ON STATUS OF INTERIM STORAGE FACILITIES INVENTORY**

Jimmy Jayne stated that initial facilities inventory data and maps were provided by the Phoenix and Tucson AMA's and the Tucson Regional Recharge Committee. He went on to state that HB2494 requires a formal facilities inventory to be adopted by the Authority by March 1997, and reminded the Authority members about the legislative mandate of 100,000 acre feet recharge by June 30, 1997 and the requirement of an annual operating plan for calendar year 1997 by December 1. Both of these tasks

require knowledge of what facilities currently exist. It will not be until after the March 1997 Inventory is completed that a determination will be made whether the Authority needs to pursue the construction of additional facilities. It was noted that maps for the three AMA's will be provided at the September meeting.

Grady Gammage inquired as to what thought had been given to when and where the water would be recovered in the future and whether it will be easily usable. Mr. Jayne explained that this is one of the biggest issues concerning the storage site criteria and will most likely end up being one of the factors in the siting of sites. Statutorily the AWBA is not necessarily responsible for the recovery of the water, but will still most likely be a top priority for the Bank.

Mr. Jayne stated that AWBA staff is working with AMA's on providing information on existing and potential sites and will provide additional information and maps at the September 10 meeting.

Chairman Pearson suggested that a subcommittee possibly be formed to work on the identification of sites at the development of the criteria (no action was taken). Mr. Griffin recommended that a priority system be developed, including the costs of storage and recovery. Mr. Gammage went on to recommend that charts be developed with two or three columns that represent evaluative criteria, dealing with some of the issues related to a given site, i.e. How easy is recovery? How valuable is recovery? How near is it to potential future developing areas? Is the AWBA recharging water in an area where direct delivery of CAP can be taken?

Chairman Pearson encouraged all members to re-review agenda item III (Draft Storage Site Criteria), which will explain the prime considerations and forward any additional suggestions to the AWBA staff.

#### VI. DISCUSSION ON COST OF WATER (IN-DIRECT / DIRECT)

Tim Henley noted that on Thursday, August 22, 1996 the CAP Water Policy and Planning Committee will be meeting to talk about the issue of setting prices of water for the AWBA. The recommendation will be considered by the full Board on September 5, 1996 at the Glendale City Council Chambers.

Grady Gammage discussed how CAWCD is working on the following policies:

1. Continue to determine the elasticity of marketing
2. Avoid volatility, possibly using some of the District reserves on hand to cushion any rate shock, thus allowing rates to *creep* up over time
3. Avoid rate category proliferation and confusion over water rates
4. Wean all rate payers from subsidy's
5. Be conscious of the precedence and ripple effect that occurs when rates are set
6. Increase the use of renewable Colorado River water
7. Impact of the repayment contract with the federal government
8. Recognize that there is value in things other than the payment amount received

Mr. Gammage introduced Larry Dozier, Deputy General Manager of CAWCD, to talk about the different rates that the district uses and to define the different water prices that CAWCD has been using and what consideration and components go into the prices.

Mr. Dozier stated that there are now several rates, all of which have some level of subsidy. If CAWCD were to go for a full recovery rate, the fiscal M&R is estimated to be \$48.00 and pumping energy at \$29.00 for a price of \$77.00 per acre foot. Add a capital cost of \$30.00 for M&I use and total actual cost would be \$107.00 per acre foot.

The M&I subcontractors, as well as the M&I excess water contractors, are currently paying the \$30.00 per acre foot capital cost, but are paying a delivery rate of \$63.00 per acre foot. Sometime between the year 2001 - 2003, it is estimated that CAP will be recovering the full cost of delivering water and recovering the full share of the capital charge.

Subsidies come primarily from the tax reserves built by the CAWCD. The Arizona Water Banking Authority has three sources of funds, one of which is the \$.04 tax to be used for the recharge, purchasing water and other costs of doing business. Mr. Dozier feels it is appropriate that those funds would return benefits to the CAP users and perhaps treat the Authority like a CAP customer using those funds,

including the \$.04 tax and the pump taxes. It was noted that no pump taxes are available to the Authority in 1996, but are generated from the CAP's rate base area. The general fund appropriation has a different base than the CAP service area, but does include the CAP service area.

CAWCD felt that it would be helpful to put an incentive rate out to the M&I customers for the purpose of encouraging them to do underground storage and protect their own future against droughts and shortages, not just relying upon credits from the CAP and the AWBA. Some M&I customers are already participating in a three year recharge program put together for M&I subcontractors to get credits in their own name. They could partner with an indirect recharge facility or put the water in a direct storage facility. The rate is \$34.00, which is intended to recover the incremental costs of pumping, approximately \$29.00 in 1996 plus a \$5.00 contribution towards fixed O&M. This \$34.00 water would be new water. By the year 1997 this rate would be in the \$36.00 range. If there is another surplus declared, creating a substantial amount of excess energy available, that rate may go down.

Mr. Walden stated that the annual report shows there are projected water supplies available for banking efforts for forty years. He went on to state that some projects require significant capital investments to deliver the water and feels that three years could be an almost impossible time frame and feels a longer time frame is needed.

Chairman Pearson stated that there is also the appropriations process to consider. The Authority must annually make their case to the legislature. She stated that there are a couple of options - the Authority could entertain a motion to make a recommendation to the Policy and Planning Committee to endorse the staff recommendation, the pricing policy, or do another type of recommendation to simply direct the AWBA staff to attend the meeting to make any necessary presentation and answer any questions.

Mr. Griffin made a motion to ask the AWBA staff to attend the Policy meeting on Thursday, August 22, making the wishes of the Authority known and report back to the members. Motion was passed.

## **VII. DISCUSSION ON 1997 ANNUAL PLAN OF OPERATION**

Tim Henley noted that discussions on the Annual Operating Plan with CAWCD have been started and will be covered more intensely in the coming months. This agenda item will remind the Authority of the timing of this activity and that the Authority is required by law to have an annual operating plan in place by December 1, 1996. The AWBA is required to seek public comment through the GUAC process and these meetings have been scheduled for the months of October and November, assuming initial adoption by the Authority at the October meeting.

## **VIII. DISCUSSION AND APPROVAL OF FY 98 GENERAL FUND APPROPRIATION REQUEST**

Chairman Pearson informed the Members and banking staff that it was time to begin developing the appropriation request to the governor and legislature for FY 98. DWR is going before the appropriations sub-committees in the near future and make presentations on DWR's budget. Questions or comments concerning the AWBA budget may very well be part of the discussion. At this time DWR is in discussion with the Joint Legislative Budget Committee (JLBC) and the Office of Strategic Planning and Budgeting (OSPB) to discuss the future needs of the Arizona Water Banking Authority.

Tim Henley reminded those present that the First Water Banking Annual Report was approved during the July 18 meeting and submitted to Governor Symington on July 30. Mr. Henley covered the issues of some of the preliminary water deliveries and costs (figures and charts provided) in the General Fund section of the report.

Mr. Henley noted that the full FY 97 budget should be reviewed and approved at the September meeting. In some initial cuts of that budget, it would appear to be somewhere between \$200,000.00 - \$300,000.00. In conjunction with some of the costs, there is an opportunity for some recovery of costs in the in-lieu program.

Chairman Pearson asked how the series of numbers proposed in the provided materials compare with groundwater pump costs in the various districts.

Mr. Henley felt that the figures were very comparable to the lower cost of groundwater. The Bank is currently working with CAP regarding the possibilities of delivering water in *shoulder months*.

A \$10.00 charge for direct recharge was assumed, opposite of the in-lieu program where a potential exists to recover some of the costs because someone is using the water. The CAP AG districts need to know by about the beginning of October, what opportunities they will have as they start scheduling their power over the next year. It has been determined that there are capacities to get an in-lieu program moving in those early months and the AWBA will start discussing these issues with the AG districts and the users that could be in-lieu users over the next month so that these figures could be firmed up. For the first six months of 1997, it is estimated that the program should recharge about 160,000 acre feet of water at a cost of approximately \$4.6 million, meeting the statutory requirement of storing at least 100,000 acre feet in FY 1997.

After the first six months of 1997, it has been projected that the direct recharge comes more into play due to groundwater pumping dropping off significantly in the fall months. Direct recharge provides an opportunity to recharge water, although it would be at a higher price. Looking at in-lieu and direct, the AWBA presumably has the capability of another 240,000 acre feet of recharge during the last six months. It would mean that through the total year it could be projected that the Bank could achieve 400,000 acre feet. 400,000 acre feet of water in 1997 would be a \$10 million program.

**GENERAL FUND APPROPRIATIONS:** From January - June 1997, the initial time frame for doing some recharge, the \$.04 tax will be available and is about \$3.8 million. There will not be any withdrawal fees. The withdrawal fees were set up for pumping in 1997, but will be available after the annual report is submitted, which will be March 1998. Fees will be collected but they will be used for the purposes they were identified for previously. The \$2.0 million General Fund appropriation was made available in July 1996. Total available for FY 1997 is \$5.8 million.

**WATER PURCHASES:** Approximately \$4.6 million in costs in FY 97, will leave a carryover of \$1.2 million going into FY 98. Currently for FY 98, \$8.5 million will be available to purchase water and the entire program being approximately a \$10.3 million program. This would leave a deficit of about \$1.8 million, assuming the total program of 400,000 acre feet in the ground in FY 98. The recommendation for FY 1998 appropriation is \$2.0 million.

Chairman Pearson posed a question to Mr. Larry Dozier wanting to know what CAP projected deliveries are for 1996-97. Mr. Dozier responded that 1.1 million acre feet was proposed, of which 125,000 acre feet should be recharge. Between 950,000 - 1.0 million acre feet will be direct delivery for their customers. There should be 450,000 -500,000 acre feet of capacity for banking if there are places for it to go, both in-direct and direct recharge.

Mr. Gammage moved to adopt the FY 1998 General Fund appropriation request of \$2.0 million and for it to be submitted by the Authority. Motion carried **unanimously**. Mr. Henley noted that he will be putting together budget documents and the justification for the \$2.0 million which will be submitted to the Governor and the legislature the beginning of September.

Senator Barnes stated that he would like to challenge the Authority to make it known to the legislature now of the proposed funds needed for 1998. Making it known to the legislature now will help build credibility of the need of the \$2.0 million.

**IX. PRESENTATION ON MOHAVE COUNTY WATER AUTHORITY/ROOSEVELT WATER CONSERVATION DISTRICT/CITY OF MESA BANKING PROPOSAL**

The proposal was submitted by Mike Brophy from Ryley, Carlock and Applewhite, representing the Mohave County Water Authority; the City of Mesa; and the Roosevelt Water Conservation District. Several representatives of the involved entities were present: Mike Leonard, General Manager, Roosevelt Water Conservation District; Karl Kohloff and Elizabeth Miller, City of Mesa; Tom Griffin, Chairman of the Mohave County Water Authority as well as an Authority member for the AWBA.

Mr. Brophy noted that the proposal was not submitted for action on this date, but was submitted to request the Authority to begin considering some of the issues raised by the proposal. The proposal was presented as being unique in at least two respects - 1) it calls for the delivery of water in Western

Arizona during times of shortage by means of forbearance, which is necessary in the case of Mohave County. Without a forbearance and the use of CAP water, it's not possible to deliver water to Mohave County during times of shortage and 2) the proposal solves the problem of the recovery of credits, with Mesa assuming that obligation now instead of leaving it to the Water Bank and CAWCD for resolution in the future. According to the proposal, most water banking arrangements will defer one or both of these issues to the future. The proposal is cost-effective in that RWCD will provide funds to offset a portion of the Water Bank's cost in acquiring CAP water and will make its system available to the Water Bank and Mesa for recharge at no cost.

Chairman Pearson invited questions from the Authority members:

Grady Gammage stated that the proposal was good and will force members of the Authority to focus on availability and forbearance. Mr. Gammage wanted to know, in Mr. Brophy's view, whether the Authority has to deal with forbearance at the time water is deposited in the bank. In circumstances of a shortage, would water be made available over on the river in all circumstances? Are forbearance arrangements made at the time deposits are made?

Mr. Brophy feels that forbearance has to be dealt with very early on. Forbearance arrangements need to be made to make water available in Western Arizona. It doesn't necessarily have to be made available within Central Arizona because Central Arizona is on the CAP system. The problem with Mohave County is that it is over on the River and unless some diversion is not being made during the time of shortage, Mohave County is out of water or significantly reduced. Demands, right now, are being met with Colorado River water and will have to be met with groundwater.

Chairman Pearson feels that this proposal raises a couple of other issues that the Authority needs to be aware of, such as: when water banking was first discussed in legislation, it was talked about as being on a year to year basis; done with excess water available; depended on available funds; and whether to store directly or in-direct. This proposal would be a long-term commitment to the participants that are described, which are really different than what was originally envisioned. The second issue is that the proposal is talking about storing water on behalf of specific entities as opposed to within AMA's or our river communities, which is an important distinction. And finally, the proposal raises an issue concerning the value of the City of Mesa's participation. In exchange for forbearing the right to take CAP/M&I water in times of drought, they would be entitled to receive 25,000 acre feet a year, basically an acre-for-acre exchange. She expressed concern that there really isn't a process or criteria set in place to determine the value of the forbearance, and that will have to be dealt with by the Authority.

Mr. Gammage raised the question as to whether there were another way that the entities involved in this proposal could do the deal without the Authority. Is this proposal being brought forth because AWBA has the money in the General Fund appropriation and it is needed to make it work or is there a legal reason that the money is needed?

Mr. Brophy stated that the answer was no. Water can be stored in Mohave without Mesa but the issue of forbearance has not been answered.

Mr. Gammage wants the staff to look at who is getting the money and why?

Senator Barnes stated that this concept was not necessarily thought of in the legislation and questioned whether the proposal was within the scope of law of the Authority.

Mr. Brophy explained that the Bank holds the credits and has the statutory authority to exercise its discretion with respect to credits by means of agreement. Water will not be able to be delivered to

Mohave County western Arizona by means of forbearance unless something is done along the line by taking steps to secure forbearance and take steps to identify how and where water is going to be recharged and recovered.

Mr. Walden asked if Mohave County has a CAP allocation. Mr. Brophy explained that it has entitlement to Colorado River water which reduces much faster than CAP/M&I water.



Tom Griffin stated that when CAP water begins to reduce other entities can begin pulling groundwater, but Mohave County does not have that option on Colorado River contracts. If there is a shortage they do not have the option to drill another well, the water is just not there and there are no backup groundwater supplies.

Mr Gammage wanted to know if Mohave County could store any of the water underground or would it be counted against their allocation? Mr. Griffin explained that if there were a place that would approve storage it could physically done, but along the Colorado River Valley it cannot be done.

Chairman Pearson suggested that the staff prepare a presentation for the Authority for the September 10 meeting and provide further explanation with respect to the unique nature of Mohave County Water Authority's position and some of the issues the proposal raises for the Authority.

Mr. Henley agrees that the proposal does indeed raise some new issues but is not clear where the CAP subcontractors also fall in this issue and would suggest that it also be looked into and see what CAP, as an entity, can do and how they can deliver water to their subcontractors. Mr. Henley was in full agreement to pursue these issues and prepare a presentation for the Authority.

Chairman Pearson will call for public comments at the next meeting and in the interim if there are any questions to please contact Mr. Henley and forward the comments to him.

**X. PRESENTATION ON PROPOSED LOWER COLORADO RIVER TOUR**

Chris Harris, DWR Colorado River Management Division, explained how Colorado River Management has been involved in a multi-species conservation program planning effort and that a group of individuals involved in this effort as well some other Colorado River interests have put together a Lower Colorado River Regional Tour for October 17-18. The tour would be made up of members of the Steering Committee and various state and federal officials from the three lower basin states. Mr. Harris noted that it would be appropriate for members of the Authority to participate in the tour.

**XI/XII. OVERVIEW OF KEY UPCOMING DATES FOR THE AUTHORITY**

Jimmy Jayne noted that the September meeting of the Authority is scheduled for September 10 at the City of Tucson Mayor and Council Chambers, 9:30am - 12:30pm with a proposed list of agenda items included in the packets distributed. Mr. Jayne asked Chairman Pearson and the Authority members to review the proposed agenda items and to please forward any input from Authority members to the staff by August 22.

The Annual Operating Budget for FY 97 is scheduled to be adopted at the September meeting (note: an initial budget for July, August, September was adopted at the July meeting).

Mr. Jayne announced that the first meeting of the Arizona Water Banking Authority Study Commission is scheduled for September 11 at ADWR from 9:30am - 12:30pm.

The October meeting is scheduled for October 16 in Lake Havasu City, along with a possible tour of the Lower Colorado River on October 17 - 18.

The November Authority meeting is tentatively scheduled for November 20 in Yuma.

The December meeting is tentatively scheduled for December 18 at the Department of Water Resources.

**CLOSING:**

Chairman Pearson wanted to notify the members of the Authority that the Department of Water Resources is authorized, by statute, to represent the State of Arizona in Colorado River negotiations. There have been on-going negotiations with Nevada and California regarding lower Colorado River management, along with discussions with the upper basin states.

Nevada had expressed an interest in wanting to participate in the Bank, and there were representatives from Southern Nevada at this meeting. Mr. Jayne added that Nevada has been added to the October agenda.

Chairman Pearson requested from Tim Henley, to periodically update the Authority on any conversations that occur with Nevada and/or California. It may be appropriate to have a presentation from either Nevada or California as to their perspective in respect to their participation in the AWBA.

**XIII. CALL TO PUBLIC**

There was a request from Chairman Pearson for any public comments. Mr. Jerry Edwards, representing the Nevada Colorado River Commission, conveyed that Nevada does have an interest in working with Arizona to the extent that something beneficial could be worked out. The issue of recovery is something that will have to be looked at if Nevada were to participate.

The Water Banking Authority meeting was adjourned by Chairman Pearson at 2:50 p.m.

ARIZONA WATER BANKING AUTHORITY  
Final Minutes



July 18, 1996 Meeting  
Arizona Department of Water Resources

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Arizona Water Banking Authority Members:

Rita P. Pearson, Chairman  
Tom Griffin, Vice-Chairman  
Bill Chase, Secretary  
Grady Gammage, Member  
Richard S. Walden, Member

AWBA Personnel:

Tim Henley  
Jimmy Jayne

Thirty five members of the general public were signed in attendance.

**I. WELCOME / OPENING REMARKS**

Chairman Rita Pearson opened the inaugural meeting of the Arizona Water Banking Authority (Authority) at 1:00 p.m. Ms. Pearson defined the Authority as a twenty-year program to store currently unused Colorado River water in Arizona and stated four primary responsibilities of the Authority: 1) to enhance the reliability of municipal and industrial supplies derived from the Central Arizona Project; 2) to promote the long-term water management goals of the state, particularly the management goals of the Active Management Areas within the service area of the Central Arizona Project; 3) promote Indian water settlements to the extent that Arizona can store water for the benefit of an Indian water settlement and 4) to initiate a program that could create an interstate water bank; making Colorado river water available to California and Nevada to the extent that it does not jeopardize Arizona's long-term water supply.

Ms. Pearson went on to state that all meetings of the Authority will be public meetings with all documents being made available to the public. In addition, the Authority will hold meetings in communities along the Colorado River and in the three county service area of the CAWCD, allowing the opportunity for local input and review of the activities of the Authority.

**II. INTRODUCTION OF AUTHORITY MEMBERS AND STAFF**

Ms. Pearson stated that the statute defines seven members of the Authority - the Director of the Arizona Department of Water Resources serves as chairman; the President of the Central Arizona Project District serves as a member; three members are appointed by the Governor and serve six year terms; and the President of the Senate or his designee and the Speaker of the House or his designee serve as ex officio members.

Mr. Richard S. Walden serves as a member with water management expertise. Mr. Walden stated that he was honored to promote the goals involving future water supplies for the State of Arizona.

Tom Griffin represents an entity which holds a Colorado River contract in a county adjacent to the main stem of the Colorado River. Mr. Griffin remarked that he sees the Board as being very important to all of Arizona, and the decisions that the Board makes will be long-term. He is involved in business planning and feels the Board will have done its job, if in 50-100 years this water is available for use by Arizonans.

Bill Chase serves as a representative of an entity holding an CAP M&I sub-contract. Mr. Chase stated that he believes his main function is to represent all CAP water users and is very pleased to be a part of the Authority and hopes to be able to achieve the goals set forth in its creation. Mr. Chase stated that he has been working on groundwater recharge since he came to Arizona in the mid-70's and in the early 1980's worked with Maricopa County in attempting to put together a \$.25 property tax to make additional use of unused Colorado River water.

Grady Gammage serves in his capacity as President of the Central Arizona Water Conservation District (CAWCD). On behalf of the CAP, he is excited about the prospect of bringing more water from the

Colorado River for the benefit of all Arizona and about having a new customer to sell water to. Ms. Pearson introduced Mr. Larry Dozier and Mr. John Newman, staff members of CAP, and Mr. Gammage explained that they will be providing some of the technical support to the Authority. Chairman Pearson then went on to introduce the AWBA staff - Mr. Tim Henley, Project Manager and Mr. Jimmy Jayne, Technical Administrator.

### **III. ELECTION OF AUTHORITY OFFICERS**

Mr. Jayne stated that HB 2494 calls for three officers for the Authority - a chairman (by statute, the Director of the Department of Water Resources), a vice-chairman and a secretary. The vice-chairman and secretary both serve two-year terms, beginning and ending the third Monday in January, with the exception of the first two-year cycle beginning at the first meeting and will serve through the third Monday in January of 1998.

Mr. Walden nominated Mr. Tom Griffin for vice-chairman, with the consent of all members of the Authority, Mr. Griffin was elected as Authority vice-chairman.

Mr. Griffin then nominated Mr. Bill Chase as secretary, with the consent of all members of the Authority, Mr. Chase was elected as Authority secretary.

### **IV. OPERATION OF THE AUTHORITY**

Mr. Henley explained that Authority staff will provide notebooks at each meeting to the Authority members containing all documents pertaining to each meeting. Members are asked to leave these notebooks at the end of each meeting in order to be updated with new material for each subsequent meeting.

He went on to say that all meetings will be taped and minutes taken. Rough draft minutes will be mailed to the Authority members within two weeks after the meeting for review prior to adoption at the next meeting of the Authority. After adoption, final minutes will be mailed to the mailing list with the next meeting agenda which is sent two weeks prior to the meeting date going to the "interested party mailing list". Tentative agendas are posted at the Office of the Secretary of State and the lobby of the Arizona Department of Water Resources, with a final agenda posted 24 hours prior to the meeting. There was some discussion concerning establishing a standing meeting date and locations.

#### **Adoption of Resolution 96-1 (Water Banking Seal)**

Mr. Henley stated that the proposed seal was prepared by the Authority staff for consideration by the Authority members and will be used by the Water Banking Authority on all official documents as directed by statute. The seal was adopted unanimously by the Authority members and stated that a letter would be drafted to the Secretary of State, transmitting the Authority's resolution and the seal requesting approval (Secretary of State, Jane Dee Hull approved the adopted seal on July 23, 1996 for use by the Authority).

#### **Adoption of Resolution 96-2 (Travel Policy)**

Mr. Henley explained the state travel policy to Authority members, requesting that any and all travel arrangements be made by Authority staff, due to the need to use the State's contracted travel agency. He briefly reviewed Resolution 96-2, before being moved by Mr. Richard Walden and unanimously passed by the Authority.

#### **Conflict of Interest/Open Meeting Laws**

Mr. Charles Cahoy, ADWR Legal Division, provided a brief overview of the Open Meeting law and the Conflict of Interest statutes, two key areas of Arizona law.

**Open Meeting Laws** - Mr. Cahoy stated that any meeting of the Authority is subject to the Open Meeting Laws of the State, including being noticed 24 hours in advance with a final agenda being provided. Once posted, the Authority is required to only discuss matters on the agenda, unless a true emergency arises. Three or more members of the Authority together at one time constitute a quorum, and should refrain from discussing Authority business. Mr. Cahoy even cautioned against two Authority members discussing Authority business in too much detail.

Mr. Cahoy went on to explain an Executive Session provision of the Open Meeting Law which allows for Authority members to confer in private under very limited circumstances. An Executive Session must be noted on the publicly noticed agenda.

**Conflict of Interest Laws** - Mr. Cahoy explained that Arizona law requires that any public officer that deals with a matter of substantial interest to that officer must disclose conflicts that may exist, and the member of the Authority must recuse themselves from participating in matters directly dealing with the current matter. He went on to define a substantial interest as anything that is not a remote interest, with those remote interests specifically defined.

## V. FUNDING OF AUTHORITY/ACCOUNTING OF MONIES

Mr. Henley explained that the Legislation requires that sufficient accounts be established to follow all monies. The accounts established are 1) General Fund - \$2,000,000.00 - July 1, 1996. (It was noted that not all of the 2 million had yet to be posted in the Water Banking Fund account and the issue was being pursued) and 2) Pump Taxes when dealing with Phoenix AMA, Pinal AMA, Tucson AMA, and 4 cent demonstration tax in Maricopa, Pima and Pinal County when dealing with the property taxes.

Along with the funds, HB 2494 envisioned potential partnerships or contracts with Nevada and California for the storage and potential delivery of water in the future, with new accounts needed for any developed revenues as a result of interstate water marketing.

**Grants and Donations** - although not expected, an account exists to accommodate any future donation.

**In-lieu Payments** - an account established in recognition of the potential to recover some of the costs from in-lieu recharge.

**Administration Account** - referred to as the debit account, staff salaries, travel and contract work being paid out of this account. It is hoped that an interest account may be added to help pay the administrative costs of administering the Fund.

### Revenue Sources

\$2 million General Fund appropriation -

Groundwater Pump Tax - generated based on groundwater pumping in any given year. Estimates are given as \$2.2 million from Phoenix AMA; \$800,000 from Pinal AMA; \$650,000 from Tucson AMA.

\$.04 Tax - The four cent demonstration tax is paid in two phases, with the first half due in October, becoming delinquent in November and should be available in November/December time frame. The second half tax is due March, delinquent in April. It is estimated that \$7.5 million will come from Maricopa County, \$600,00 from Pima County, \$150,00 - \$200,000 from Pinal County.

## VI. DWR/CAWCD COST OF SERVICES PROPOSALS

Mr. Henley explained that the Department of Water Resources and the Board of the Central Arizona Water Conservation District were given additional authorities by the Legislature so that a new bureaucracy would not be created. Pursuant to legislation, the Authority may request for technical assistance, legal assistance and administrative assistance be provided by DWR and technical assistance by the CAWCD. The law does require that the Authority request those services from both the Department of Water Resources and the CAWCD, with the Authority having the opportunity to accept or reject a cost of services presented by these two agencies for the assistance provided.

### Adoption of Resolution 96-3 (Cost of Services)

Resolution 96-3, the Interim Budget (Section 6), discusses that the budget will be from July 1, 1996 through September 30, 1996 (first quarter). This will allow the opportunity to purchase furniture, supplies and equipment.

There will be three full-time staff dedicated to the Water Banking Authority, consisting of a Project Manager, Technical Administrator and an Administrative Assistant (this position will be advertised in the near future). AWBA staff will report to the Director, Rita Pearson.

**VII. AUTHORITY / DWR / CAWCD IGA**

DWR legal staff will help Authority staff in drafting the Inter-Governmental Agreement (IGA). The exact content of the IGA is being drafted and will be available for review by Authority members over the next two months.

The AMA's will be providing some planning assistance after examining the facilities inventory.

CAWCD Technical Support for water ordered by the AWBA intends to provide for the scheduling and billing. Annual Reports will be provided, ensuring the funds match the accounting funds of ADWR by CAWCD and will go through a process to set water prices annually. CAWCD staff, working with Authority staff will help in providing information to the CAWCD Board and Authority members, including helping with a facility inventory.

**VIII. UPCOMING AUTHORITY ACTIONS**

August 1, 1996 - The Authority will be submitting an Annual Report to the Governor, the President and the Speaker.

December 1996 - An approved 1997 Plan of Operation must be submitted to the Governor, President and Speaker or the Authority cannot operate.

March 1997 - The Authority must submit a facilities inventory to the Governor, President and Speaker. The CAP and the AMA's will be relied upon heavily for their assistance in providing this information.

**IX. STATUS STUDY COMMISSION** - Herb Dishlip will be staffing the Arizona Water Banking Authority Study Commission. Mr. Dishlip presented a brief history of the staff to the Water Banking Authority. He stated that the concept was put together in October 1995, laid out in discussion papers, public meetings were held on the issue and the concept was eventually adopted by a joint legislative study committee.

Mr. Dishlip stated that the purpose of the Study Commission is to: Study the existing powers and duties of the water banking authority during the first year of operation and make recommendations for any necessary changes; study the opportunities for additional water banking authority uses within Arizona; identify appropriated mechanism that will enable Indian communities participation in water banking and; make recommendation for continuation of modification of the collection of taxes. He also indicated the commission would bring people together knowledgeable about water issues in the state, have open public dialogue and hold public meetings. In addition, the Commission is charged with looking at funding mechanisms, especially with regard to the property tax and its structure.

An interim report is due to the legislature by November 1, 1997 with a final report by November 1, 1998.

The membership of the Study Commission is as follows: Mary Ann Antone (Tohono O'Odham Tribal Council Legislative Branch); Karen Barfoot (City of Chandler); Cynthia Chandley (Phelps Dodge Corp.); Gary Hansen (Colorado River Indian Tribes); Mark Myers (private consultant, Tucson); Paul Orme (agricultural lawyer); Don Pope (Yuma County Water users Assoc.); Larry Robertson (representing many private water companies); and John Sullivan (Manager, SRP). The Authority members are also members of the Study Commission.

The first meeting of the Study Commission is scheduled for September 11, 1996 at ADWR.

**X. ANNUAL REPORT**

The Annual Report will be submitted by the Chairman to the Governor, President and Speaker with a cover letter from the chairman. An organizational chart, the biographical statues of the Authority members and staff, a brief history of the Colorado River, and recognizing the importance of that resource and a brief overview of the Water Banking Authority.

Grady Gammage stated he was very pleased with the draft, and moved to authorize the Chairman to submit the report by August 1, 1996 to the Governor. All members of the Authority were in agreement.

**XI. FUTURE MEETINGS**

The next meeting is scheduled for Tuesday, August 20, 1996, 12:30 pm - 3:30 pm at the ADWR, third floor conference room. The September meeting is scheduled to take place on September 10, 1996 in Tucson. Dates and times will be finalized in the very near future, with meetings lasting approximately two to three hours.

**XII. CALL TO PUBLIC**

**Charlie Vaughn, Water Resource Program Manager for the Hualapai Indian Tribe -**

The reservation is approximately 1,000,000 acres, established by executive order in 1883. The Tribe has a water claim to the Colorado River that is unresolved.

Mr. Vaughn asked if the Water Banking Authority would be the proper vehicle to resolve the claim outstanding and the tribe would be interested in discussing the tribe's claim with ADWR and the Banking Authority.

Chairman Pearson replied that the Authority may not be the appropriate entity to offer assistance on unresolved water claims, noting that the activities relating to Indian settlements should be the focus of the Study Commission and Mr. Vaughn was encouraged to participate through the Study Commission meetings by Chairman Pearson.

**CLOSING:**

Chairman Pearson thanked all Authority members and all members of the general public for attending and encouraged further participation.

The Water Banking Authority meeting was adjourned at 3:00 p.m.

Sec. 27. Arizona Water Banking Authority Study Commission

- A. The Arizona Water Banking Authority Study Commission is established. The purpose of the commission is to:
1. Study the existing powers and duties of the Water Banking Authority during the first year of operation and make recommendations regarding any necessary changes to the existing powers and duties.
  2. Study the opportunities for additional Water Banking Authority uses within Arizona and in cooperation with California and Nevada.
  3. Identify appropriate mechanisms that will enable Indian communities that hold entitlements to Colorado River water to participate in water banking with the Arizona Water Banking Authority.
  4. Make recommendations for continuation or modification of the tax collected pursuant to section 48-3715.02, Arizona Revised Statutes.
- B. The Study Commission consists of the members of the Arizona Water Banking Authority Commission and nine additional members appointed by the Director of Water Resources. The Director of Water Resources shall serve as chairperson of the Study Commission. The members appointed by the Director shall represent municipal and industrial water users, agricultural water users including those that do not use the Central Arizona Project facilities, persons interested in Central Arizona Project issues, persons interested in Colorado River issues, persons from Indian communities in this state and persons affiliated with environmental interests. All members appointed by the Director shall be knowledgeable in water resource management in this state.
- C. The Department of Water Resources shall provide staff support for the Study Commission.
- D. The Study Commission shall file with the Legislature an interim report of its activities by November 1, 1997, and shall report its final findings and recommendations to the Legislature by November 1, 1998.





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# News Release

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## ADWR DIRECTOR APPOINTS NINE TO ARIZONA WATER BANKING STUDY COMMISSION

Phoenix, July 9, 1996-- Rita P. Pearson, director of Arizona Department of Water Resources, announced today the appointment of nine members to the Study Commission associated with the Arizona Water Banking Authority, the entity responsible for storing surplus Colorado River water underground in central and southern Arizona.

"The Water Banking Authority gives Arizona an unprecedented opportunity to enhance the water supplies available in the future. The Study Commission will provide information valuable to the long-term success of the Water Bank. It will help to fine tune the operation of the program and provide the opportunity to find ways to include all Colorado River water users," Pearson said.

Ms. Pearson's appointments to the Study Commission reflect the diversity among Colorado River water users. The new members represent municipal, industrial, agricultural and Indian tribe interests along the River and throughout central and southern Arizona.

**Mary Ann Antone:** Ms. Antone is an elected representative from the Sif Oidak District to the Tohono O'odham Tribal Council Legislative Branch. A native and resident of the village of ChuiChu, she serves as Chairman of the Water Resources, Appropriations and Budget Committees. She is active in the negotiations for the implementation of the Southern Arizona Water Rights Settlement Act and in other land and water issues before the U.S. Congress.

**Karen Barfoot:** Ms. Barfoot is a water resources advisor to the City of Chandler. In this capacity she advises the City Manager, Mayor and Council on water issues. She also supervises the implementation of Chandler's Water Conservation Plan, and provides technical assistance regarding water matters to the City's legal staff. Ms. Barfoot is a Professional Engineer.

More...

Water Banking Study Commission

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**Cynthia Chandley:** Ms. Chandley is an assistant counsel on water and environmental law to the Phelps Dodge Corporation. She has extensive experience in water rights litigation and environmental law and has practiced in both the public and private sector.

**Gary Hanson:** Mr. Hanson is the water resources director for the Colorado River Indian Tribes. He is an attorney and has extensive experience in water resources planning. Mr. Hanson lives in Parker.

**Mark Myers:** Mr. Myers operates a private consulting practice in Tucson. His work focuses on multiple purpose projects related to land use, natural resources, water policy and environmental policy. Mr. Myers has broad expertise in balancing the policy concerns and economic considerations involved in the integrated management of real property, natural resources and water rights.

**Paul Orme:** Mr. Orme is water and agricultural lawyer from Mayer, Arizona. He is active in the Cattle Growers' Association and is a member of the Arizona Water Protection Fund Commission.

**Donald Pope:** Mr. Pope is the manager of the Yuma County Water Users' Association. He directs the activities related to administering, operating and maintaining the 53,000 acre Valley Division of the Yuma Project. Mr. Pope also served twenty-two years with the U.S. Army Corps of Engineers. He is a registered civil engineer in Arizona.

**Lawrence Robertson:** Mr. Robertson has experience in water, energy, municipal and public utility law. He lives in Tucson and is an attorney in private practice.

**John Sullivan:** Mr. Sullivan is an associate general manager in the Water Group at the Salt River Project. He manages overall operations for the Salt River Valley Water Users' Association, delivering nearly 1 million acre-feet of water to the Phoenix area.

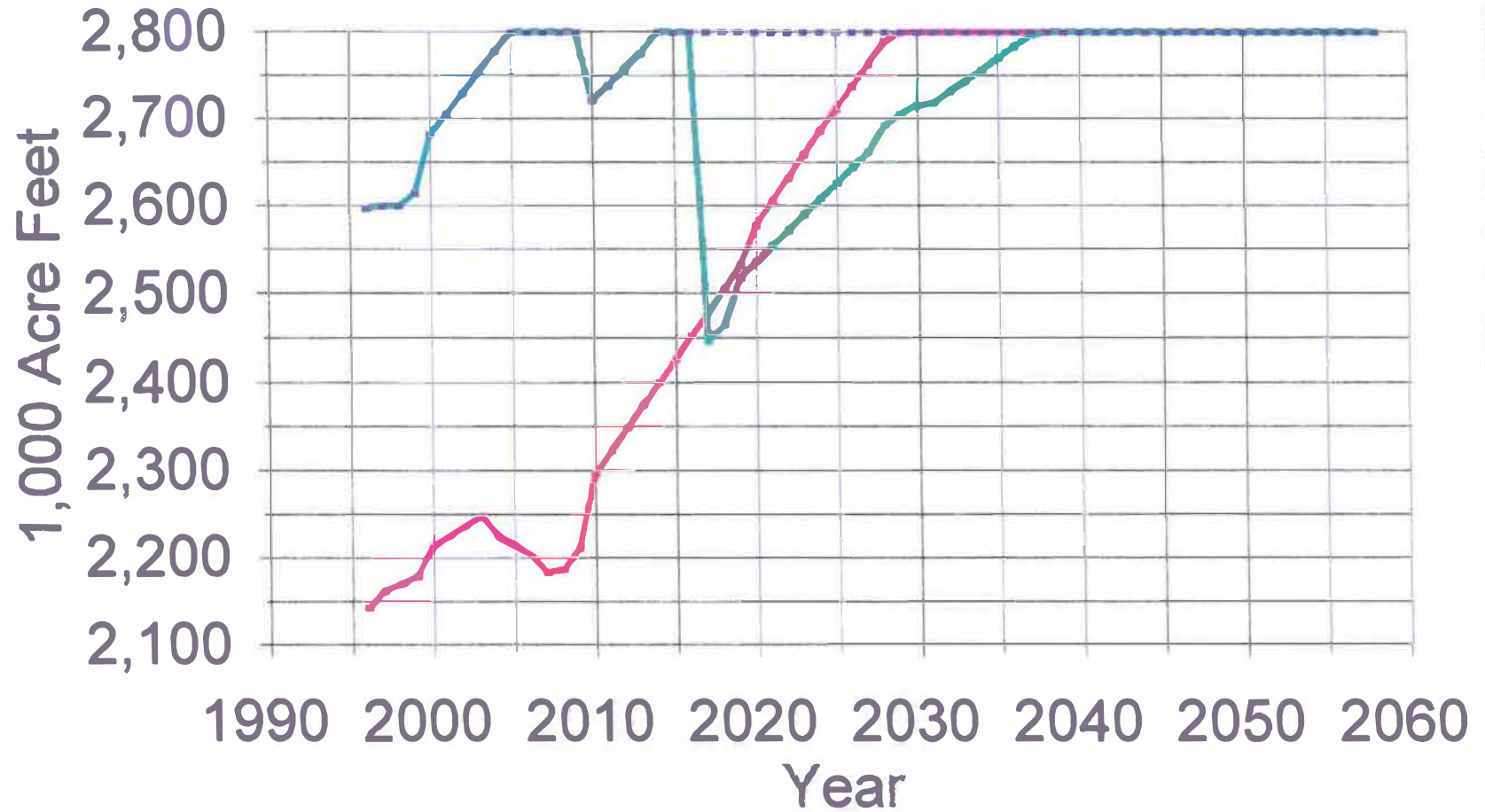
In addition to these nine appointments, the Study Commission will also include the five members and two ex officio members of the Arizona Water Banking Authority (AWBA). The Study Commission is charged with several important tasks related to the AWBA, among them:

- Investigate opportunities to strengthen and expand the water storage activities of the AWBA;
- Seek out mechanisms to help Indian communities with rights to Colorado River water participate in the program;
- Review and evaluate the first year operation of the AWBA.

The Study Commission will submit an interim report of its recommendations and analyses to the Legislature by November 1, 1997 and will submit a final report by November 1, 1998. The Arizona Department of Water Resources will provide staff support to the Study Commission.

###

# Projection of Arizona Colo. River CU



— Old Schedule — New Schedule - - - New Alternate

## Management Eras

The Lower Basin Technical Committee defined three eras of future water management in which different water management opportunities and solutions may exist for meeting the Lower Basin water needs.

Era 1 is defined as that period of time during which all mainstream needs in the Lower Basin are less than 7.5 million acre feet. During this time frame, by definition all needs are met.

Era 2 is defined as that period of time during which demand for Colorado River mainstream water in the Lower Basin exceeds 7.5 million acre feet; but because Arizona or Nevada are still not using all of their apportionment, some unused apportionment is still available to help meet California's or Nevada's needs.

Era 3 is defined as that period of time when all three Lower Division states are using their full mainstream entitlements to Colorado River water and no unused apportionments are available.

### Affect of new demand projections on when Eras will occur:

	<i>Old Schedule</i>	<i>New Schedule</i>
Era 1	Until 2010	1996
Era 2	Until 2029	Until 2005
Era 3	From 2029 on	From 2005 on with possible change back to era 2 if banking funding ends in 2017

# EXISTING, PROPOSED, AND POTENTIAL RECHARGE FACILITIES LOCATED IN THE PINAL ACTIVE MANAGEMENT AREA

= FACILITY NUMBER INDICATED ON THE ATTACHED MAP

## GROUNDWATER SAVINGS FACILITIES

Maricopa-Stanfield Irrigation and District

Central Arizona Irrigation and Drainage District

Hohokam Irrigation and Drainage District

## CONSTRUCTED UNDERGROUND STORAGE FACILITIES

Town of Florence Underground Storage Facility

## PROPOSED UNDERGROUND STORAGE FACILITIES

Picacho Reservoir

City of Casa Grande

## POTENTIAL UNDERGROUND STORAGE FACILITIES<sup>1</sup>

Gravel pits near Town of Florence

Tat Momolikat Dam

Spreading basins in Maricopa-Stanfield Irrigation and Drainage District

Spreading basins near Picacho Mountains

Gila River channel

<sup>1</sup> from *Joint Annual Storage and Recovery Project study, Pinal County Governmental Alliance, August, 1994*

PINAL ACTIVE MANAGEMENT AREA

**Permitted Groundwater Savings Facilities**

Map Number	PERMIT TYPE/NO. (DURATION)	PERMIT HOLDER	PROJECT DESCRIPTION	ASSOCIATED WATER STORAGE PERMIT NO.s AND PERMIT HOLDER	SUB-BASIN	SOURCE WATERS	PERMITTED VOLUME (AF/Yr)	TOTAL WATER STORAGE PERMIT VOLUME (AF/Yr)	CAP VOLUME (AF/Yr)	TOTAL STORAGE CREDITS ACCRUED 1995 (AF)
1	72-531381 (1/1/95 to 12/31/04)	Central Arizona Water Conservation District	Indirect recharge of up to 120,000 acre feet annually of CAP water within the boundaries of the Maricopa-Stanfield Irrigation and Drainage District.	73-531381: Central Arizona Water Conservation District	Maricopa-Stanfield	CAP	120,000	120,000	120,000	204,852
2	72-531382 (1/1/95 to 12/31/95) Expired; permittee requested extension	Central Arizona Water Conservation District	Indirect recharge of up to 110,000 acre feet annually of CAP water within the boundaries of the Central Arizona Irrigation and Drainage District.	73-531382: Central Arizona Water Conservation District	Eloy	CAP	110,000	110,000	110,000	152,136
3	72-534489.0001 (1/1/96 to 12/31/25)	Hohokam Irrigation and Drainage District	Indirect recharge of up to 40,000 acre feet annually of CAP water within the boundaries of the Hohokam Irrigation and Drainage District.	73-534489: Central Arizona Water Conservation District (Additional water storage permit application pending from City of Eloy)	Eloy	CAP	40,000	40,000 CAWCD 27,000 City of Eloy	67,000	81,958

NOTE: Approval of storage credits in 1995 for the three groundwater savings facilities permitted to CAWCD in the Pinal AMA is pending. The amounts shown in the column "Total storage credits accrued" assume that the number of credits will be equivalent, or nearly so, to the total amount of in lieu CAP water delivered to these facilities.

**Storage Capacity of Groundwater Savings Facilities:**

PERMIT NUMBER	ESTIMATED CAPACITY (Minimum)	ESTIMATED CAPACITY (Maximum)	VOLUME USED in 1996 (As of Aug )	VOLUME AVAILABLE 1996	VOLUME AVAILABLE 1997 (Minimum)	VOLUME AVAILABLE 1997 (Maximum)
72-531381	N/A	120,000	13,311	106,689	N/A	120,000
72-531382	N/A	110,000	0	110,000	N/A	110,000
72-534489.0001	N/A	40,000	17,221	22,779	N/A	40,000

**Permitted Underground Storage Facilities**

Map Number	PERMIT TYPE/NO. (DURATION)	PERMIT HOLDER	PROJECT DESCRIPTION	ASSOCIATED WATER STORAGE PERMIT NO.s AND PERMIT HOLDER	TYPE OF FACILITY	LOCATION	SUB-BASIN	SOURCE WATERS	PERMITTED VOLUME	TOTAL WSP VOLUME	EFFLUENT VOLUME	TOTAL STORAGE CREDITS ACCRUED 1995
4	USF 71-519876 (2/1/89 to 2/1/09)	Town of Florence	Annual recharge within spreading basins, of up to 456 acre feet of treated effluent from the Town of Florence - North System (56-001318). Located north of the Gila River, and north of the Town of Florence.	73-519876: Town of Florence	Spreading Basins	4S 9E Sec 23, 24, 25, 26	Eloy	Effluent	456	456	456	715

PINAL ACTIVE MANAGEMENT AREA

**Proposed Underground Storage Facility Projects**

MAP NUMBER	PROJECT	(F)ULL, (P)ILOT (P)ROPOSED, (IN)-PROCESS	TYPE OF FACILITY	LOCATION	SUB-BASIN	SOURCE WATERS	PROPOSED VOLUME (AF/Yr)	ESTIMATED COST TO CONSTRUCT (\$)
5	Pinal County - Picacho Reservoir	F	Constructed facility comprised of basins for recharging mostly CAP water. Approximate size of project area: 500 acres	6S 8E Sec 25, 35,36 7S 8E Sec 1, 2	Eloy	Mostly CAP, and some San Carlos Irrigation Project surface water	5,000+	Unknown
6	City of Casa Grande	F	Managed facility for storing treated effluent from the City of Casa Grande within a 5- 10 mile reach of the North Branch of the Santa Cruz River	6S 4E Sec 2,3, 10, 11 6S 5E Sec 7,8,9,10, 11	Maricopa-Stanfield	Effluent	141,000	Unknown

**Potential Sites for Underground Storage Facility Projects**

MAP NUMBER	PROJECT	(F)ULL, (P)ILOT (P)ROPOSED, (IN)-PROCESS	TYPE OF FACILITY	LOCATION	SUB-BASIN	SOURCE WATERS	PROPOSED VOLUME (AF/Yr)	ESTIMATED COST TO CONSTRUCT (\$)
7	"Gravel pits near Florence"	Unknown	Constructed facility for storing CAP water. Spreading basins would be built inside of two existing gravel pits (with a total area of approximately 10 acres) downgradient from the CAP canal. Delivery of water to the site would require construction of a pipeline for crossing a state highway.	Southwest of Florence. 5S 9E Sec 9	Eloy	CAP	25,000	1,300,000
8	"Tat Momolikat Dam"	Unknown	Constructed facility for storing flood and/or CAP water. An unlined diversion levee would be constructed to divert flood water from the Santa Cruz River to the impoundment behind Tat Momolikat Dam. Most recharge would occur within the constructed channel.	Proposed channel would meander from a diversion on the Santa Cruz River near Red Rock to the Tat Momolikat Dam, a distance of 20 miles.	Eloy	Flood Runoff and CAP	25,000	275,000
9	"MSIDD"	Unknown	Constructed facility for storing CAP water. Approximately 20 acres of spreading basins would be built in an area with highly permeable surface soils. Sub-soil characteristics are unknown.	6S 3E Sec 12	Maricopa-Stanfield	CAP	18,000	124,000
10	"Picacho Mountains"	Unknown	Constructed facility for storing CAP water in spreading basins within the confines of an existing borrow/gravel pit, approximately 20 acres in size. High permeability is likely, but sub-soil characteristics are unknown.	8S 9E Sec 21	Eloy	CAP	12,000	120,000
11	"Gila River"	Unknown	Managed facility for storing CAP and/or other surface water in approximately 11,000 feet of river channel. In addition, a constructed facility of spreading basins might be built within a 35 acre gravel pit adjacent to the river and downgradient from the crossover of the CAP aqueduct.	5S 9E Sec 6 and 9	Eloy	CAP and/or other surface water	18,000	1,300,000

NOTE: The estimated cost of potential underground water storage facilities was developed in a report for the Pinal County Governmental Alliance, August, 1994. These costs include applicable pumps, delivery pipeline, and earthwork. Excluded from this report are those costs which are related to site investigation or design, construction of monitoring or recovery wells, or aquisition of right-of-way.

**Appendix C: Existing and Proposed Recharge Facilities**

**Table 1- Permitted Recharge Facilities**

Permit No./ Facility Name	Type of Recharge	Recharge Volume (AF)*	Source Water	Credits Accrued (AF)	Associated Permits	Project Status/ Comments
72-538100 CAWCD/CMID	GSF	10,000	CAP	2,650 as of 12/31/94	73-538100 73-547710	Facility is permitted and operating. Tucson Water & CAWCD are supplying water. One of the two entities may apply to increase the permit volume.
72-538133 CAWCD / Tucson Water / MDWID / BKW Farms	GSF	8,800	CAP	2,014 as of 12/31/94	73-538133 73-545928 73-555750	Facility is permitted & operating. CAWCD and Tucson are supplying water. Augmentation grant awarded to construct delivery ditch - \$51,000.
71-535587 Tucson Water - 1st Pilot Injection Project	IW	10,000	CAP	2,394.9 as of 12/31/93	73-535587	Facility is permitted. No injection was done in 1994 or 1995 due to Mayor & Council decision to cease CAP deliveries.
71-537406 Tucson Water - 2nd Pilot Injection Project	IW	10,000	CAP	2.2 as of 12/31/93	73-537406	Facility is permitted. Reported 1574 AF in 1994. No injection since 10/1/94 maintenance outage and Mayor & Council decision to cease all deliveries of CAP.
71-520083 Sweetwater USF	SB	6,500	Effluent	80.1 as of 12/31/93	73-520083	Facility is permitted. Have applied to increase # of basins to reach max permitted amount of 6,500 AF.
71-551092 CAWCD / MDWID Avra Valley Pilot Project RRC Site No. 3	SB	10,000	CAP	NA	73-551092 73-552745	Capacity of full scale facility may be limited by fine grained layers. Part of Northwest Replenishment Program. Permit issued in June, 1996, project operational in July, 1996.
71-557981 (Pilot) 71-556102 (Full scale) Tucson Water-Central Avra Valley Storage & Recovery (CAVSARP) RRC Site 5	SB	100,000	CAP	NA	73-558078	Pilot permit issued 8/1/96 (500 AF). Application for full scale facility received 9/4/96.

\*Estimated recharge volume based on preliminary site facility descriptions.

GSF-Groundwater Savings Facility

IW-Injection Wells

IC-In-channel

SB-Spreading Basins

9/5/96



**Table 2 - Proposed Recharge Facilities  
(Not Evaluated by RRC)**

Permit No./ Facility Name	Type of Recharge	Recharge Volume (AF) <sup>a</sup>	Source Water	Credits Accrued (AF)	Associated Permits	Project Status/ Comments
71-545944 Tucson Water - Santa Cruz River Managed Project	IC	9,307	Effluent	NA	73-545943	Application found complete/correct on 2/29/96. Two objections received 4/3/96. No hearing date scheduled.
64-544777 SaddleBrooke	IW	621	Effluent	NA	NA	Application found incomplete/incorrect on 10/13/94. Applicant has indicated project will not be pursued.
71-545220 Pima County Wastewater Santa Cruz River	IC	~ 17,000?	Effluent	NA	NA	Applicant has requested that this application be put on hold. Application is based in part upon the County recharging the SAWRSA effluent.
High Plains Effluent Recharge Project	SB	600	Effluent	NA	NA	Research project for riparian enhancement supported by High Plains and Water Protection Fund money. Sponsors include Pima County, Tucson Water, Marana. No application submitted. Pre-application meetings have been held.
Tucson Water /BKW- Central Avra Valley Groundwater Savings	GSF	750	CAP	NA	NA	Proposed. Associated with CAVSARP Project. (A modification of 72-538133)
Picacho Pecans/Kai 72-7558092	GSF	10,000	CAP	NA	NA	Application received 6/5/96, found complete and correct on 8/9/96.
Tucson - San Xavier Surface Basins	SB	10,000	CAP	NA	NA	Proposed. Negotiations with District and Nation are ongoing.
Pima County - Avra Valley & Green Valley Wastewater Treatment facilities	SB	1,500	Effluent	NA	NA	Proposed. County has had discussions with potential buyers of San Ignacio golf course. County would recharge effluent from plants, sell credits to GV Water Co, operate golf course well as recovery well.

<sup>a</sup>Estimated recharge volume based on preliminary site facility descriptions.

GSF-Groundwater Savings Facility

IW-Injection Wells

IC-In-channel

SB-Spreading Basins

9/5/96

**Table 3- Proposed Recharge Facilities  
(Evaluated by RRC)**

Permit No./ Facility Name	Type of Recharge	Recharge Volume (AF)*	Source Water	Credits Accrued (AF)	Associated Permits	Project Status/ Comments
Pima Co., Metro Water, etc. - Lower Santa Cruz River Replenishment Project RRC Site 1	SB IC	44,000	CAP and Effluent	NA	NA	Part of overall NW Replenishment Program. Studies are underway and partially supported with a \$296,000 augmentation grant. Additional funding/in-kind services provided by BOR and other NW area interests. Pre-application meeting held on 11/27/95.
Metro Water, Pima Co. - Oro Valley Cañada Del Oro Recharge Project RRC Site 2	SB IC	25,000	CAP	NA	NA	Area is under investigation. Studies are being supported by two augmentation grants for ~ \$75,000 and part of another grant for \$296,000. Additional funding/in-kind services provided by BOR and other NW area interests. Part of Northwest Replenishment Program.
71-551092 CAWCD / MDWID Avra Valley Pilot Project RRC Site No. 3	SB	10,000	CAP	NA	73-551092 73-552745	Capacity of full scale facility may be limited by fine grained layers. Part of Northwest Replenishment Program. Permit issued in June, 1996, project operational in July, 1996.
Tucson Water/CAWCD - Pima Mine Road Project RRC Site 4	SB	10,000	CAP	NA	NA	Application submitted on 12/20/95. Objection received, denied on 8/2/96.
71-557981 (Pilot) 71-556102 (Full scale) Tucson Water-Central Avra Valley Storage & Recovery (CAVSARP) RRC Site 5	SB	100,000	CAP	NA	73-558078	Pilot permit issued 8/1/96 (500 AF). Application for full scale facility received 9/4/96.
Tucson Water - South Avra Valley RRC Site 6	SB	44,000	CAP	NA	NA	Proposed.
West of CAP @ Tangerine Rd. RRC Site 7	GSF	50,000	CAP	NA	NA	Proposed.
Tucson/BOR-San Xavier Arroyos RRC Site 8	IC	9,000	CAP	NA	NA	Proposed. Use natural arroyos within San Xavier District to recharge water released from blowoff structures. Tohono O'odham Nation has not yet endorsed this project.

\*Estimated recharge volume based on preliminary site facility descriptions.

GSF-Groundwater Savings Facility

IW-Injection Wells

IC-In-channel

SB-Spreading Basins

9/5/96

**Table 3- Proposed Recharge Facilities  
(Evaluated by RRC)**

Permit No./ Facility Name	Type of Recharge	Recharge Volume (AF)*	Source Water	Credits Accrued (AF)	Associated Permits	Project Status/ Comments
Tucson Water - Santa Cruz River at Pima Mine Road RRC Site 9	IC	8,500	CAP	NA	NA	Proposed. Pipeline required from CAP terminus to river. Tohono O'odham Nation has not yet endorsed this project.
Pantano, Tanque Verde Rillito River RRC Site 10	IC	17,000	CAP	NA	NA	Proposed.
Tucson Water - Brawley Wash at Three Points RRC Site 11	SB	40,000	CAP	NA	NA	Proposed. Pilot tests show good recharge rates, but site is not close to CAP canal.
Cortaro Marana Irrigation District Expansion RRC Site 12	GSF	6,000	CAP	NA	75-538100 73-547710	Expansion of existing GSF from 10,000 AF/year to 16,000 AF/year.
BKW Farms Expansion 72-538133 RRC Site 13	GSF	6,200	CAP	NA	73-538133 73-545928 73-555750	Expansion of existing GSF from 8,800 AF/year to 15,000 AF/year.
Avra Valley Irrigation District RRC Site 14	GSF	20,000	CAP	NA	NA	Preliminary meeting held in late 1994. No application submitted to date.
Farmers Investment Co. RRC Site 15	GSF	20,000	CAP	NA	NA	Conceptual phase. Pipeline construction required.
ASARCO - Mission RRC Site 16	GSF	9,000+	CAP	NA	NA	Proposed.

\*Estimated recharge volume based on preliminary site facility descriptions.

GSF-Groundwater Savings Facility

IW-Injection Wells

IC-In-channel

SB-Spreading Basins

9/5/96

**Table 4- Newly Proposed Recharge Facilities  
(Not Evaluated by RRC)**

Permit No./ Facility Name	Type of Recharge	Recharge Volume (AF)*	Source Water	Credits Accrued (AF)	Associated Permits	Project Status/ Comments
Tanner Gravel Pit	SB	7,000	CAP	NA	NA	Proposed.
Tucson Airport Remediation Project (TARP)-Santa Cruz River	IC	10,000	Remediated GW	NA	NA	Proposed.
Alvernon/Rillito Storm Drain	IC	50,000	CAP	NA	NA	Proposed.
Pascua Yaqui	SB	10,000	CAP	NA	NA	Proposed.
Avra Valley Gravel Pit	SB	10,000	CAP	NA	NA	Proposed.
Ajo Detention Basin	SB	10,000	CAP	NA	NA	Proposed.

\*Estimated recharge volume based on preliminary site facility descriptions.

GSF-Groundwater Savings Facility

IW-Injection Wells

IC-In-channel

SB-Spreading Basins

9/5/96

# **ARIZONA'S UNDERGROUND WATER STORAGE, SAVINGS AND REPLENISHMENT PROGRAM**

## *Prepared for the Arizona Water Banking Authority*

- I. Permits issued under the Underground Water Storage, Savings and Replenishment Program (“UWS Program”).
  - A. The UWS Program is administered by the Department of Water Resources (“DWR”).
  - B. Storage Facility Permits<sup>1</sup> allow a person to operate a site at which water is stored, saved or replenished.
    1. Underground Storage Facility Permits allow a person to operate a site at which water is physically added to an aquifer.
      - a. Constructed Underground Storage Facilities add water to an aquifer by using some type of constructed device, such as an injection well or a percolation pond.
      - b. Managed Underground Storage Facilities add water to an aquifer by releasing water to a naturally water-transmissive area, such as a stream bed, and allowing the water to percolate into the aquifer.
    2. Groundwater Savings Facilities allow the permit holder to operate a site where a person, called a recipient, who would otherwise pump groundwater receives an alternative supply of a renewable water supply, called in lieu water. The recipient uses the in lieu water instead of the groundwater, thus creating a groundwater savings. Groundwater Savings Facilities are sometimes generically referred to as “in lieu recharge” or “indirect recharge.”
  - C. Water Storage Permits are affiliated with a particular Storage Facility Permit and allow the permit holder to store a specific amount of water at that facility.
    1. Storage Credits earned through the UWS Program accrue to the holder of the Water Storage Permit.

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<sup>1</sup> Terms and phrases underlined in this document are defined in the UWS Program statutes. See A.R.S. § 45-802.01.

2. Water Storage Permits are the only permits under the UWS Program that the Arizona Water Banking Authority is legally authorized to apply for and to obtain.
  3. A Water Storage Permit may be designated by the applicant as Storing Non-Recoverable Water. The water stored pursuant to a permit with this designation may not later be recovered for any purpose. This designation may be used if the applicant wishes to store water for the benefit of the aquifer rather than for later recovery.
- D. Recovery Well Permits allow the permit holder to recover water stored in accordance with the UWS program by pumping water out of aquifers. When water is recovered, it retains the legal characteristics it had when it was stored. Thus, when Central Arizona Project is stored, it is still considered Central Arizona Project water for Arizona Groundwater Code purposes when it is recovered, even though physically it may be groundwater.

## II. Obtaining UWS Program Permits

- A. All UWS Program Permits are obtained by application to DWR.
- B. The major component of an Underground Storage Facility Permit application is the hydrologic report. The report must prove that storage at the proposed site will not cause unreasonable harm to surrounding land and water users and that it is hydrologically feasible for water to be stored at the proposed site with the proposed technology. DWR will examine the report's conclusions regarding the efficiency of the proposed Underground Storage Facility to determine how much of the water that enters the facility will reach the aquifer, called the recoverable amount, and thus be eligible for recovery, and how much will be lost through evaporation, transmission and other causes.
- C. The major component of the Groundwater Savings Facility Permit application is the plan of operation. This plan must explain how the facility will be operated, and most important, how the permit holder will prove and quantify the groundwater savings at the facility each year. The burden of proving groundwater savings is on the permit holder each year, and the DWR will issue storage credits based only on the amount of groundwater saved at the facility, not the amount of in lieu water delivered to the facility.
- D. The primary element of proof necessary to obtain a Water Storage Permit is proof that the applicant has the right to the water to be stored. For Central Arizona Project water, this element is typically established by submitting to DWR a contract with the Central Arizona Water Conservation District for the water to be

stored.

- E. The application process for Storage Facility Permits can take several months to complete primarily because of the complexity of the issues usually involved and because of the public notice and objection period. If an objection is filed to an application, the application process is lengthened by several months.
- F. The application process for Water Storage Permits is usually quicker than for Storage Facility Permits, particularly when the water to be stored is Central Arizona Project water. The issues involved with issuing a Water Storage Permit for Central Arizona Project water are relatively simple, and if Central Arizona Project water has previously been stored at the Storage Facility where the water is to be stored, no public notice period is required. If no public notice is required, a Water Storage Permit can be issued in two to three weeks from the date of application.

### III. UWS Program Accounting

#### A. UWS Accounting Methods

1. Under the UWS program, there are three basic ways that the stored water may be used and accounted for--annual recovery, long-term recovery and replenishment.
2. Almost any water stored under the program may be recovered within the same calendar year. This annual storage and recovery is viewed under the UWS Program as equivalent to direct use of water. Therefore, water stored and recovered within the same year is not subject to the same restrictions as long-term storage.
3. If water is to be stored for use in later years, it must meet the eligibility requirements of long-term storage and recovery. These eligibility requirements focus on whether the storer could be putting the water to use directly rather than storing it for future use, particularly if the storer will be using groundwater to supply its immediate needs. If the storage does qualify for long-term storage, a credit is made to the storer's long-term storage account and will be available for use at any time the storer wishes to call on it.
4. Water that is eligible for long-term storage may also be used for replenishment by the Central Arizona Groundwater Replenish District ("CAGRDR"). The CAGRDR, which is a part of the Central Arizona Water Conservation District, is required to replace water that has been

pumped by the CAGR D's members in excess of what is allowed by Arizona's Assured Water Supply Program. The CAGR D fulfills its replenishment obligations either by earning or acquiring long-term storage credits.

B. Factors Impacting Long-Term Storage Account Balances

1. Long-term storage credits are issued by DWR for water actually stored or saved at a Storage Facility, not for the amount of water delivered to that facility.
  - a. At Underground Storage Facilities, credits may be issued for water which is measured entering the facility and that will reach the aquifer. Water lost to evaporation or other causes is not eligible for storage credits.
  - b. At Groundwater Savings Facilities, credits may be issued to the extent it can be proven to the satisfaction of the Director of DWR that a groundwater savings has occurred. Problems most frequently arise when water use records at the facility indicate that water use has increased during a year in which in lieu water was used, thus raising the question of whether the in lieu water is being used as a substitute or a supplement to water use at the facility.
2. Under most circumstances, 95% of the recoverable amount of water stored at a facility may be credited to a long-term storage account. The remaining 5% is left for the benefit of the aquifer and is referred to as the "cut to the aquifer." Central Arizona Project water is subject to the 5% cut to the aquifer when it is stored.
3. Only water that cannot reasonably be used directly may be stored for long-term storage credits. The UWS Program encourages the storage of renewable water supplies, but not if the storer is simultaneously pumping groundwater for direct use. By statute, any Central Arizona Project water stored by the Arizona Water Banking Authority is water that cannot reasonably be used directly.
4. If water is stored in an active management area, but in an area where the stored water will migrate out of the active management area, that amount of water that migrates out of the active management area will be deducted from the storer's long-term storage account.



#### IV. Recovery Locations

- A. The water stored pursuant to the UWS program does not have to be recovered from the same area where it was stored. The conditions determining where the water may be recovered differ, depending on whether the water was stored inside or outside an active management area.
- B. If the water was stored in an active management area:
  - 1. The storer of the water may always recover the stored water from within the area of impact of the water storage. This recovery is not required to be consistent with the goals and management plans of the active management area.
  - 2. A person holding long-term storage credits, but who does not hold the Water Storage Permit the credits were earned under, could recover the water from within the area of impact, but, as is explained below, the recovery would have to be consistent with management plans and goals.
  - 3. Anyone holding long-term storage credits may recover stored water from anywhere within the same active management area in which it was stored, so long as a number of conditions are met:
    - a. The recovery must be consistent with the management plan and achievement of the management goal of that active management area. The current management plans prohibit recovery from areas with significant declines in the water table.
    - b. If the recovery will occur inside of or within three miles of the service area of a city, town, private water company or irrigation district, that city, town, private water company or irrigation district must be the person recovering the water or must have given consent to the recovery.
- C. If the water was stored outside of an active management area, the recovery must occur in the same irrigation non-expansion area, groundwater basin or sub-basin in which the storage occurred.

**DEPARTMENT OF WATER RESOURCES**  
**Total Water Storage - 1986-1995\***

<b>AMA</b>	<b>Groundwater Savings</b>	<b>Underground Storage</b>	<b>Total</b>
<b>Phoenix</b>	281,000	152,000	<b>433,000</b>
<b>Tucson</b>	15,000	13,000	<b>28,000</b>
<b>Pinal</b>	437,000	1,000	<b>438,000</b>
<b>Prescott</b>	0	14,000	<b>14,000</b>
<b>Santa Cruz</b>	0	0	<b>0</b>
<b>Total</b>	<b>733,000</b>	<b>180,000</b>	<b>913,000</b>

\*Figures are derived from reported information, and are subject to continuing review.



# Central Arizona Project MEMO

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**DATE:** September 10, 1996

**TO:** Arizona Water Banking Authority

**FROM:** John Newman, Assistant General Manager - Planning and Resources  
Central Arizona Water Conservation District

**SUBJECT:** Central Arizona Water Conservation District (CAWCD) Groundwater Recharge Programs

CAWCD's recharge program consists of activities under the current State Demonstration authority including recharge at SRP's Granite Reef Underground Storage Project (GRUSP), active development of three State Demonstration Projects, and identification of additional sites for project development; participation in groundwater savings projects (in-lieu projects) with non-Indian agricultural users; and development of an incentive priced recharge program with CAP M&I subcontractors. Our efforts to develop groundwater savings projects with CAP Indian contractors have thus far been unsuccessful.

## **STATE DEMONSTRATION PROJECTS**

State Demonstration Projects were originally authorized by the Arizona legislature in 1990 and are funded through an Arizona Water Storage Fund compiled from revenues collected from a four cent per \$100 of assessed value ad valorem tax in Maricopa and Pima Counties. Effective July 1, 1996, these ad valorem taxes will continue to be levied by CAWCD and will include Pinal County; however, CAWCD will determine on an annual basis whether these taxes are needed to fund CAP repayment or CAP operation and maintenance costs. Any amount levied that is not needed for these purposes, as determined by the CAWCD Board of Directors, will be made available to the Arizona Water Banking Authority to fund groundwater recharge activities. The Arizona Water Storage Fund which was accumulated from taxes levied prior to July 1, 1996, is to be used, until exhausted, to construct groundwater recharge facilities and to recharge excess CAP water.

In Maricopa County, CAWCD's activities under the State Demonstration authority has been focused at the Granite Reef Underground Storage Project (GRUSP). In addition to GRUSP, CAWCD is actively working toward development of a groundwater recharge facility on the Agua Fria River and is investigating another site on Queen Creek. In Pima County, CAWCD has recently completed construction on the pilot phase of the

Avra Valley Recharge Project and is currently designing another project at Pima Mine Road near the Santa Cruz River.

### **Granite Reef Underground Storage Project (GRUSP)**

GRUSP was developed by the Salt River Project and the cities of Chandler, Gilbert, Mesa, Phoenix, Scottsdale and Tempe and began operation in August 1994. CAWCD entered into a contract with SRP for use of SRP's share of GRUSP to recharge excess CAP water using State Demonstration funds. CAWCD has stored over 150,000 acre-feet (AF) at GRUSP through June 1996. With the Arizona Water Banking Authority (AWBA) becoming operational in July 1996, CAWCD has suspended its participation in GRUSP to allow for the use of that recharge capacity by the CAP M&I customers and the AWBA.

### **Avra Valley Pilot Recharge Project**

This project is located on state land near Marana, between the Avra Valley Airport and the Santa Cruz River. The pilot phase of the project consists of about eleven acres of spreading basins divided into four cells which can be operated individually. The basins are located in an abandoned borrow pit, thus reducing project construction costs. Untreated CAP water is delivered from the CAP aqueduct to the recharge basins via a pump station and conveyance ditch constructed by BKW Farms. During the two-year pilot phase, the project is expected to recharge about 8,300 AF.

The Avra Valley Recharge Project became operational in July 1996 and stored about 70 AF in July and about 160 AF in August. We anticipate storing about 2,000 AF at the site during 1996. CAWCD has entered into a lease agreement with Metropolitan Domestic Water Improvement District (MDWID) to store excess CAP water at the site. MDWID has agreed to lease the entire capacity at Avra Valley over the 2 year pilot phase plus an option for 40 percent of the capacity for an additional 3 years. CAWCD has also entered into an agreement with Pima County to share data collection efforts associated with groundwater monitoring in the area.

The total cost of planning, permitting, designing and constructing this project was about \$700,000. Information gained during pilot operations will be used in developing a full-scale project at the site, as well as in the development of the Lower Santa Cruz River Project which is a key component of the Northwest Replenishment Program.

### **Pima Mine Road (PMR) Pilot Recharge Project**

This project is located south of the metropolitan Tucson area just north of Pima Mine Road and just east of the San Xavier Indian Reservation. This site was

identified during Phase B of the Tucson Recharge Feasibility Assessment conducted by Tucson Water as being viable for development as a project for recharging excess CAP water. The pilot phase of the project will consist of about fourteen acres of spreading basins divided into eight cells which can be operated individually. Untreated CAP water will be delivered from the CAP aqueduct to the recharge basins via a two-mile conveyance pipeline. Over the two-year pilot phase, the project is expected to recharge about 10,000 AF. The annual recharge capacity of the 14-acre project is estimated to be just under 13,000 AF per year, with potential for expansion if the pilot phase is successful.

Construction is scheduled to be completed in mid to late 1997. The total cost of this pilot project is projected to be about \$9 million, and CAWCD staff will manage the construction contract for this project. CAWCD and the City of Tucson have entered into an Intergovernmental Agreement (IGA) which allows Tucson to share the recharge capacity (and development cost) at the PMR site up to 50 percent.

The original design for the PMR delivery pipeline showed a connection to the CAP's Tucson Aqueduct Reach 6 pipeline on the San Xavier Indian Reservation just north of Pima Mine Road. CAWCD has applied for an easement from the San Xavier District of the Tohono O'odham Nation for access to the CAP pipeline. The existing rights-of-way for the Tucson Aqueduct Reach 6 pipeline were acquired by the Bureau of Reclamation and apply only to construction, operation, maintenance, and replacement of the CAP pipeline. The PMR pipeline, meter, and valves that are planned for installation on the reservation would require a separate right-of-way document from the Nation. The Nation is also a prospective beneficiary of this project. The Nation has been working with the City of Tucson to deliver CAP water directly to the Santa Cruz river for recharge and riparian development, and the City has agreed to fund the incremental cost of the larger pipeline size needed to accommodate this delivery. CAWCD was unsuccessful in acquiring the necessary easement and has redesigned the PMR pipeline to connect to the CAP south of Pima Mine Road, below the reservation boundary. The new alignment crosses the Southern Pacific Railroad (SPR) and lands owned by ASARCO. SPR has approved our crossing application and negotiations are underway with ASARCO to acquire the necessary rights-of-way.

The PMR Recharge site is located on retired agricultural lands. As a result, residual levels of fertilizer, pesticides, and herbicides exist in the soils as well as possible nitrates in local groundwater. Under a contract with Montgomery and Associates, CAWCD is developing a monitoring program for the facility to comply with permit requirements. Part of this program is an assessment of existing groundwater conditions within the project's area of impact. Therefore, Montgomery and Associates is conducting an analysis of soils and groundwater quality to better define the existence of contamination.

On October 25, 1995, CAWCD applied to the Arizona Department of Water Resources for an Underground Storage Facility Permit and Water Storage Permit for a pilot recharge project at the PMR site. ADWR notified CAWCD on March 1, 1996 that the applications were incorrect and incomplete due to insufficient information. The required information was filed with ADWR on April 24, 1996. On May 9, 1996, ADWR notified CAWCD that the applications were found to be correct and complete. Legal notice of the applications was published on May 24 and 31. On June 17, 1996, ASARCO filed a formal objection to CAWCD's applications. The objections are (1) that recharge at the facility will cause unreasonable harm to ASARCO's Mission Complex land, industrial water facilities and uses within the area of impact; (2) the recharge water will not remain in a discrete area but will migrate laterally and invade ASARCO's well field; (3) the area of impact includes an abandoned laboratory site that may be contaminated; (4) recharge water will jeopardize an active domestic well; and (5) the City of Tucson has condemned an easement for the facility over 579 acres of ASARCO's property. CAWCD responded to this objection on July 12, 1996. On July 31, 1996, ASARCO's objection was denied by ADWR.

To date, CAWCD has incurred costs of about \$500,000 and the city of Tucson has spent about \$1,000,000 for planning, permitting, design, and development of the Pima Mine Road Pilot Recharge Project.

### **Agua Fria River Recharge Project**

This project will be located in the Agua Fria River bed between the CAP siphon crossing and about Happy Valley Road. A 1986 study done by Camp Dresser & McKee for the Arizona Municipal Water Users Association rated the site as among the best for recharge in the Phoenix Metro area. Also, the City of Phoenix performed hydrogeologic studies, prepared preliminary designs for recharge basins, and constructed three monitor wells. Some or all of this work may be useful in developing the project.

Under current plans, untreated CAP water will be released directly into the Agua Fria riverbed from the CAP's Agua Fria River replacement siphon blowoff structure. The water will flow in the river until it either infiltrates in the riverbed or flows into spreading basins located just south of Jomax Road. The annual recharge capacity of the project will depend on the basins constructed. The maximum flow capacity of the blowoff structure will be about 325 cfs, or 237,000 AF per year. The following describes the work which has already been completed for this project.

The planned recharge basins will be located on BLM land which was reserved by the City of Phoenix under a right-of-way issued by BLM. With approval from Phoenix, CAWCD has applied to BLM for a transfer of this ROW to CAWCD which is currently pending. It will also be necessary to acquire the consent of landowners

in the Agua Fria River between the recharge basins and CAP's Agua Fria siphon to transport water to the site. CAWCD is currently contacting landowners and working toward gaining the necessary consent.

CAWCD has issued a Request for Proposals for a hydrogeologic analysis and a conceptual design of the recharge basins and any construction facilities in the Agua Fria River corridor. Proposals are due on September 16, 1996. Upon completion of the necessary analyses, CAWCD will prepare and file an application for a full-scale underground Storage Facility Permit.

The Agua Fria River replacement siphon is scheduled to be operational by December 1997. The Agua Fria River Recharge Project is currently scheduled to be ready to take CAP water as soon as the siphon is capable of delivering it. Because the actual project components are not yet fully defined, total project costs have not yet been estimated.

## **CAWCD RECHARGE PROGRAM**

### **Groundwater Savings Projects (In-Lieu Projects)**

In 1992, CAWCD began delivering excess CAP water to groundwater savings projects (formerly in-lieu or indirect recharge projects) with non-Indian agricultural districts located within its three county service area. By the end of calendar year 1993, CAWCD had delivered 573,682 AF of excess CAP water under groundwater savings projects. CAWCD did not directly participate in any groundwater savings projects in calendar year 1994; however, 2,014 AF was delivered to BKW Farms through the City of Tucson's M&I subcontract. CAWCD delivered 88,429 AF of excess CAP water under CAWCD's groundwater savings projects in 1995, and for 1996, CAWCD has offered 50,000 AF using the same arrangements as 1995. As of July 31, in-lieu deliveries under this program totalled 31,249 AF in 1996.

In addition, CAWCD staff have discussed additional 1996 storage in groundwater savings facilities operated by the Salt River Project and Maricopa Water District.

Since 1992, CAWCD has developed eleven groundwater savings projects with a total permitted capacity of 429,800 AF per year (Phoenix AMA: 141,000 AF/yr; Pinal AMA: 150,000 AF/yr; Tucson AMA: 18,800 AF/yr).

### **M&I Incentive Priced Recharge Program**

In 1996, CAWCD offered 107,000 AF of excess CAP water at \$34/AF to CAP M&I subcontractors for groundwater recharge by any legally permissible means. If the M&I user participates with a CAP agricultural user in a groundwater savings project, the agricultural user must use as much Pool 1, Pool 2, regular in-lieu recharge

water, and Pool 3 water as it used the previous year before accepting any M&I incentive priced water. The \$34/AF price will apply to the M&I incentive priced water only where ADWR approves the accrual of long-term groundwater recharge storage credits. The following is a list of the 1996 participants in the M&I incentive priced recharge program:

City of Eloy/Hohokam Irrigation District	27,033 acre feet
City of Goodyear/Tonopah Irrigation District	5,000 acre feet
City of Mesa/RWCD	5,000 acre feet
City of Tempe/New Magma Irrigation and Drainage District	24,000 acre feet
Glendale	5,000 acre feet
CAP/Salt River Project	14,000 acre feet*
CAP/Queen Creek	2,800 acre feet

\* CAWCD has sponsored this incentive priced recharge program and will hold the recharge credits until SRP is able to contract with eligible CAP M&I subcontractors at which time any accrued credits will be transferred.

### **Indian Groundwater Savings Projects**

For 1996, CAWCD has offered 40,000 AF of recharge water at \$32/AF for groundwater savings projects with CAP Indian communities. Since ADWR does not have jurisdiction on Indian reservations, CAWCD has proposed a program whereby the Indian community would take CAP water in lieu of pumped groundwater and CAWCD would accrue an equivalent groundwater credit on the reservation. The credit could only be used on the reservation and could only be recovered or called upon by CAWCD to firm up future CAP deliveries to the Indian community. To date, discussions have been held with the Gila River Indian Community and the Tohono O’odham Nation; however, no agreements have been signed.

### **FUTURE DIRECTION OF CAWCD RECHARGE EFFORTS**

- Prioritize the use of remaining funds in the Arizona Water Storage Fund to construct new groundwater recharge facilities.
- We have accrued sufficient stored water credits in the Pinal AMA to meet our needs; therefore, we will not pursue storage in that AMA using CAWCD funds.
- Facilitate storage by our subcontractors and the AWBA at Groundwater Savings Facilities and existing underground storage facilities.
- Where possible, accrue additional credits in the Tucson AMA and Phoenix AMA



in groundwater savings facilities to make CAP more reliable.

- Facilitate development of new groundwater savings facilities for use by subcontractors, AWBA and CAWCD.
- Continue development of State Demo projects. Identify new projects where funds allow. Operate pilot facilities with intent to file for full-scale permits at those facilities.
- CAGRDR replenishment: CAWCD in its role as the Central Arizona Groundwater Replenishment District has a statutory obligation to replenish excess groundwater pumped by its members. Replenishment may be accomplished through the operation of underground storage facilities or groundwater savings facilities. The CAGRDR's current annual replenishment obligation is small. However, it will grow significantly over the next 20 years. We anticipate that the annual replenishment obligation for the year 2006 will be about 20,000 AF; this annual obligation is anticipated to grow to over 40,000 AF by the year 2014.
- Owning or operating recharge facilities for CAP subcontractors as an alternative to direct use of CAP water: As owner or operator of recharge facilities, CAWCD can make storage capacity at these facilities available to water providers with CAP allocations. These water providers can utilize this storage capacity to accrue long-term storage credits, using their CAP allocations, for assured water supply or other purposes. This storage capacity can also be utilized by such providers for annual storage and recovery purposes, which would be useful for water providers who do not have direct delivery capabilities.
- Accruing credits for transfer to, or leasing available storage capacity to, other entities for various purposes: A number of entities within the Phoenix, Tucson and Pinal AMAs may wish to buy long-term storage credits or accrue their own storage credits at CAWCD recharge facilities for a variety of reasons such as: (a) to establish credits for purposes of demonstrating an assured water supply; (b) to offset municipal per capita requirements and (c) to replenish groundwater mined at turf facilities.

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## **KEY DATES / TIME LINE**

**(updated 9/9/96)**

### **1996**

April 30

HB 2494 - Chapter 308 signed by Governor Symington

July 9

Appointments made to the Arizona Water Banking Authority and Study Commission

July 31

Annual Reports hand-delivered to Governor, President, Speaker

August 30

FY 98 General Fund appropriation request submitted to Governor, President and Speaker

September 10

**AWBA Meeting - Tucson**

Presentation / adoption of FY 97 Annual Operating Budget (Oct-June)

Presentation and discussion on Storage Facilities Inventory and Storage Site Criteria  
- priority ranking of sites

Presentation on Issues Raised by Mohave County Proposal

Presentations by DWR and CAWCD on types of recharge and programs / groundwater storage

Presentation by Tucson AMA Regional Recharge Committee on recharge program in the Tucson area

September 11

Arizona Water Banking Authority Study Commission Meeting - ADWR

September 12

Tucson Regional Recharge Committee meeting

September 16

Presentation of Arizona Water Banking Authority to Phoenix GUAC by Authority staff

September 19

Presentation of Arizona Water Banking Authority to Pinal GUAC by Authority staff

September 20

Tucson GUAC meets at Tucson AMA Office

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KEY DATE / TIME LINE

Page 2

September 30

Mailing of October 16 tentative agenda and finalized meeting minutes from August 20 to AWBA members, Study Commission members and mailing list

October

First half of 4 cent tax revenues due to County Treasurer offices

October 2

Phoenix GUAC meets at DWR

October 3

CAWCD Board Meeting

October 7

Deadline for materials for October 16 meeting

October 8

Mailing of materials to Authority members for October 16 meeting  
Mail copies of the proposed 1997 Annual Plan of Operation to Phoenix, Pinal and Tucson GUAC members for review prior to Authority staff presentations

October 16

**AWBA Meeting - Lake Havasu City**  
Storage Site Criteria for the storage of water adopted by Authority  
Presentation and initial recommendation of 1997 Annual Plan of Operation  
Presentation and initial recommendation of IGA by Authority  
Presentation on Mohave County Water Authority, RWCD, City of Mesa proposal  
Discussion on Interstate Water Banking

October 17

Authority Work Session (tentative)

October 17-18

Lower Colorado River Tour

October 24

Presentation of draft IGA to CAWCD Water Planning and Policy Committee (tentative)  
Presentation of 1997 Annual Operating Plan to Pinal GUAC by Authority staff

October 25

Presentation of 1997 Annual Operating Plan to Tucson GUAC by Authority staff

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KEY DATE / TIME LINE

Page 3

Week of October 28

Presentation to SRP by Authority staff (John Keane)

November

First half of 4 cent tax due to Authority

Week of November 4

Begin finalization of 1997 Annual Plan of Operation based on comments received from presentations to GUAC's and the Authority (Phoenix comments to be included)

November 4

Mailing of November 20 tentative agenda and finalized meeting minutes from September 10 meeting to AWBA members, Study Commission members and mailing list

November 6

Presentation of 1997 Annual Operating Plan to Phoenix GUAC by Authority staff

November 7

Consideration of draft IGA to CAWCD Board for recommendation and approval  
Presentation of 1997 Annual Operating Plan to CAWCD Board

November 11

Deadline for materials for November 20 meeting

November 12

Mailing of materials for November 20 meeting to Authority members

November 20

**AWBA Meeting - Yuma**

Final adoption of 1997 Annual Plan of Operation by Authority

Recommendations and final approval of IGA by Authority

Discussion on Interstate Water Banking

December 1

ANNUAL PLAN OF OPERATION (45-2456 p.37 lines 25-43, p.38 lines 1-39)  
1997 Plan of Operation submitted to Governor, President and Speaker

December 2

Mailing of December 18 tentative agenda and finalized meeting minutes from October 16 meeting to AWBA members, Study Commission members and mailing list

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KEY DATE / TIME LINE

Page 4

December 9

Deadline for materials for December 18 meeting

December 10

Mailing of materials for December 18 to Authority members

December 18

**AWBA Meeting** - Department of Water Resources

Authority consideration and possible approval of applications submitted to-date

Discussion on Interstate Water Banking

**1997**

March

General Fund appropriation for Authority determined by Legislature

March 1

**INVENTORY OF EXISTING STORAGE FACILITIES DUE**

(45-2452 p.34 lines 41-44, p.35 lines 1-31)

Determination if existing facilities meet Authority's needs for next 10 years

If Facilities Inventory concludes additional facilities are needed - the Authority must develop plan for the development of additional storage facilities

(45-2453 p.35 lines 33-42, p.36 lines 1-41)

April

Any additional requests or changes in Cost of Services budgets submitted by Authority to DWR and CAWCD for FY 98

May 1

DWR/CAWCD submit Cost of Services budget proposals for FY 98 to Authority

Revised Cost of Services budget proposals approved by Authority (if necessary)

FY 98 Annual Operating Budget preliminarily reviewed by Authority

June

FY 98 Annual Operation Budget adopted by Authority

July 1

**TARGET TO STORE 100,000 AF OF COLORADO RIVER WATER**

(45-2451 p.34 lines 31 - 39)

Fiscal Year 1998 begins - General Fund appropriations available

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KEY DATE / TIME LINE

Page 5

August 1

ANNUAL REPORT DUE TO GOVERNOR, PRESIDENT, SPEAKER  
(45-2426 p.33 lines 38-44 p.34 lines 1-15) Submit to Governor, President and Speaker  
Possible inclusion of request for General Fund appropriation for FY 99  
Report amount of water stored / state reasons if not 100,000 acre feet  
(45-2451 p.34 lines 31-39)

November 1

STUDY COMMISSION INTERIM REPORT DUE  
Interim report developed by Study Commission must be filed with the  
legislature

December 1

ANNUAL PLAN OF OPERATION (45-2456 p.37 lines 25-43, p.38 lines 1-39)  
Authority shall adopt a plan for calendar year 1998

**1998**

November 1

STUDY COMMISSION FINAL REPORT DUE  
Final report must be filed with the legislature

Arizona Water Banking Authority  
October 16, 1996 - Lake Havasu City

Proposed Agenda Items

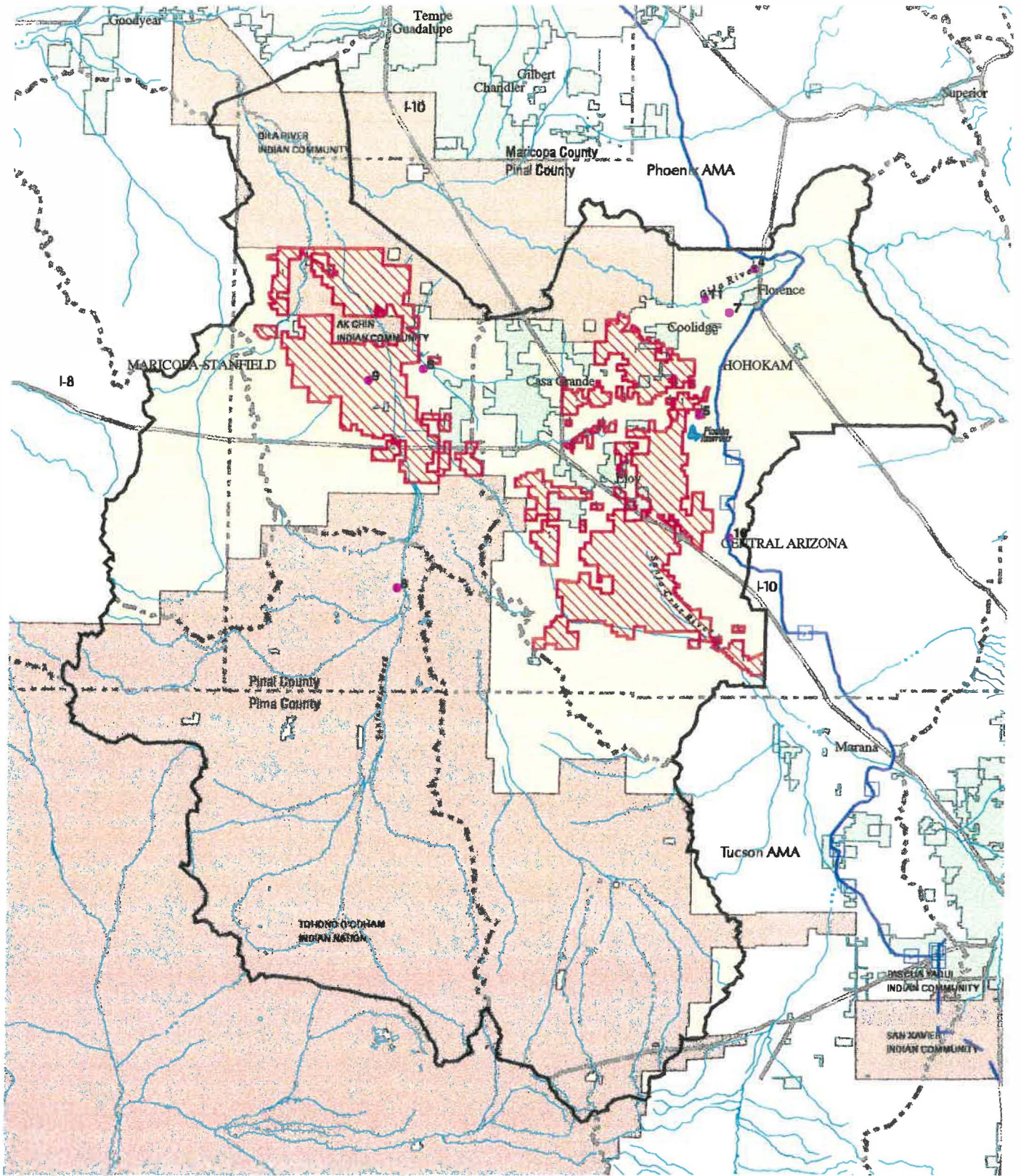
Storage Site Criteria for the storage of water adopted by Authority

Presentation and initial recommendation of 1997 Annual Plan of Operation

Presentation and initial recommendation of IGA by Authority

Presentation on Mohave County Water Authority, RWCD, City of Mesa proposal

Discussion on Interstate Water Banking



- Pinal AMA
- Indian Communities
- Subbasins
- Fannin-McFarland Aqueduct
- CAP Pipeline
- CAP Pumping Stations
- CAP Water Treatment Plant
- Streams and River Beds

- Water Providers
- Groundwater Savings Facility
- Current/Proposed Recharge Facilities

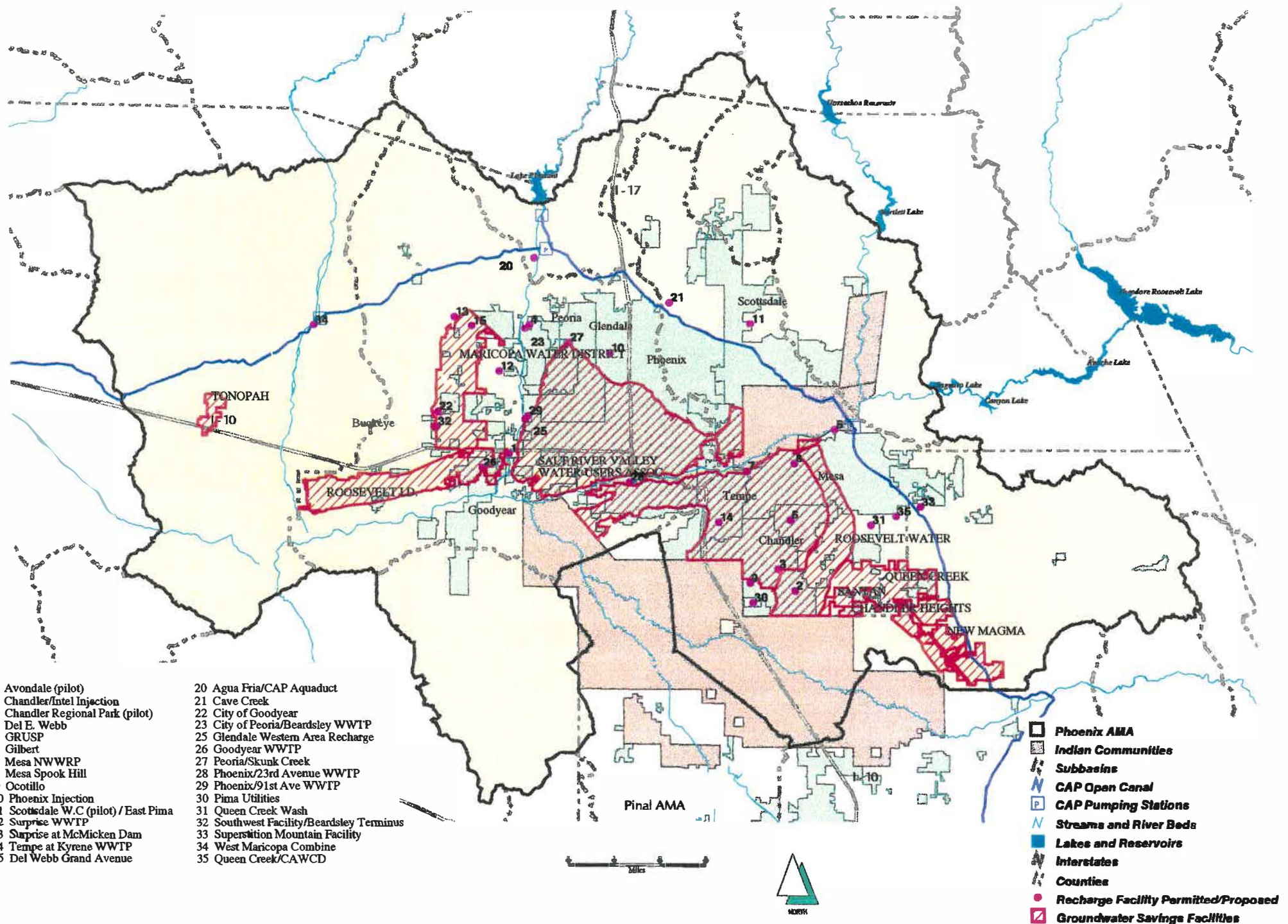


Universal Transverse Mercator Projection

- 4 Town of Florence Underground Storage Facility
- 5 Picacho Reservoir
- 6 City of Casa Grande
- 7 Gravel pits near Town of Florence
- 8 Tat Momolikat Dam
- 9 Spreading Basins in Maricopa-Stanfield IDD
- 10 Spreading Basins near Picacho Mountains
- 11 Gila River Channel

## Pinal Active Management Area

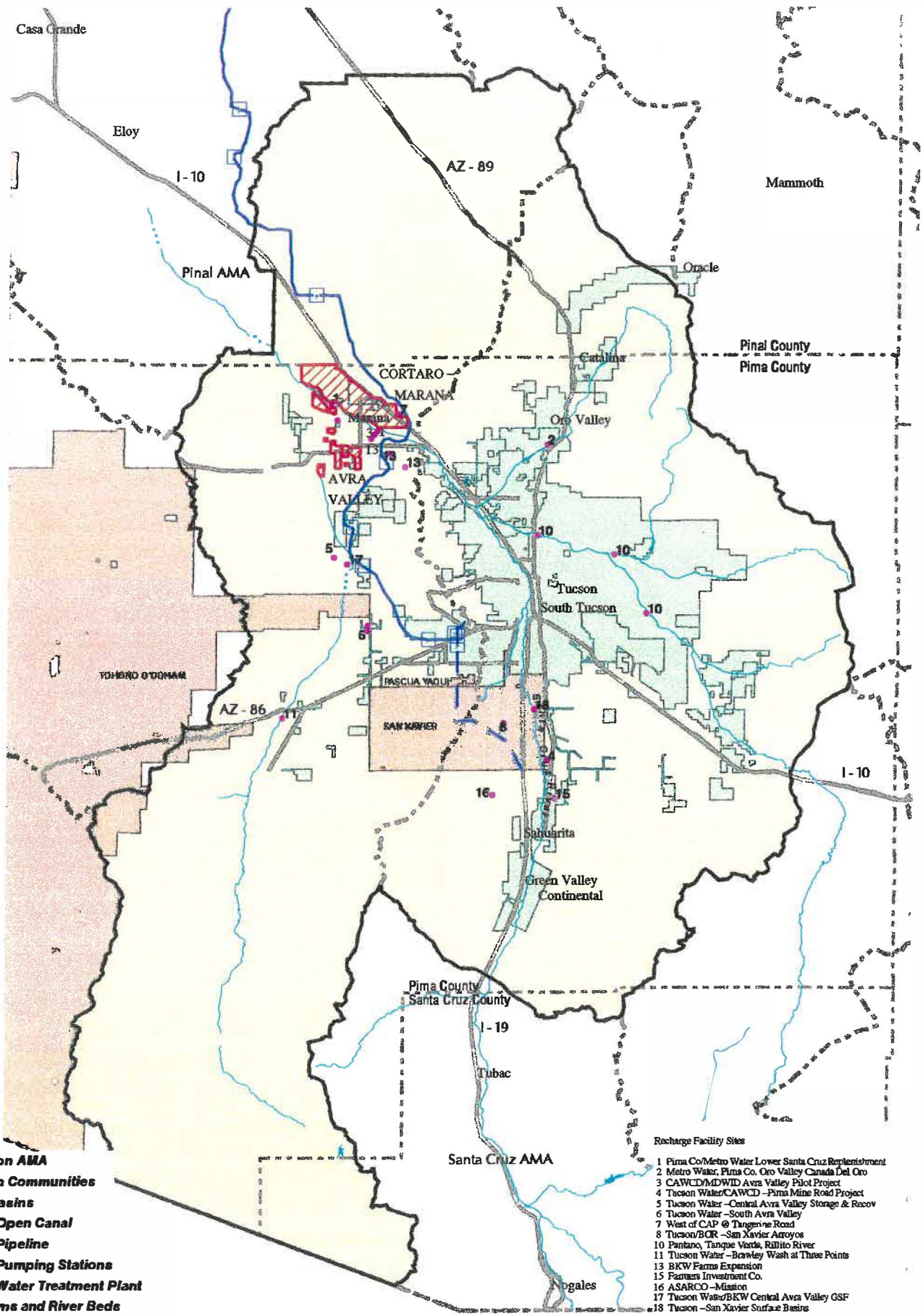




- 1 Avondale (pilot)
- 2 Chandler/Intel Injection
- 3 Chandler Regional Park (pilot)
- 4 Del E. Webb
- 5 GRUSP
- 6 Gilbert
- 7 Mesa NWWRP
- 8 Mesa Spook Hill
- 9 Ocotillo
- 10 Phoenix Injection
- 11 Scottsdale W.C (pilot) / East Pima
- 12 Surprise WWTP
- 13 Surprise at McMicken Dam
- 14 Tempe at Kyrene WWTP
- 15 Del Webb Grand Avenue

- 20 Agua Fria/CAP Aquaduct
- 21 Cave Creek
- 22 City of Goodyear
- 23 City of Peoria/Beardsley WWTP
- 25 Glendale Western Area Recharge
- 26 Goodyear WWTP
- 27 Peoria/Skunk Creek
- 28 Phoenix/23rd Avenue WWTP
- 29 Phoenix/91st Ave WWTP
- 30 Pima Utilities
- 31 Queen Creek Wash
- 32 Southwest Facility/Beardsley Terminus
- 33 Superstition Mountain Facility
- 34 West Maricopa Combine
- 35 Queen Creek/CAWCD

Phoenix Active Management Area



- Tucson AMA
- Indian Communities
- Subbasins
- CAP Open Canal
- CAP Pipeline
- CAP Pumping Stations
- CAP Water Treatment Plant
- Streams and River Beds
- Interstates
- Counties
- Water Providers
- Groundwater Savings Facilities
- Recharge Facility Sites

- Recharge Facility Sites
- 1 Pima Co/Metro Water Lower Santa Cruz Replenishment
  - 2 Metro Water, Pima Co. Oro Valley Canada Del Oro
  - 3 CAWCD/MDWID Avra Valley Pilot Project
  - 4 Tucson Water/CAWCD -Pima Mine Road Project
  - 5 Tucson Water -Central Avra Valley Storage & Recov
  - 6 Tucson Water -South Avra Valley
  - 7 West of CAP @ Tuggerne Road
  - 8 Tucson/BCR -San Xavier Arroyos
  - 10 Pantano, Tanque Verde, Rillito River
  - 11 Tucson Water -Brawley Wash at Three Points
  - 13 BKW Farms Expansion
  - 15 Farmers Investment Co.
  - 16 ASARCO -Mission
  - 17 Tucson Water/BKW Central Avra Valley GSF
  - 18 Tucson -San Xavier Surface Basins



Universal Transverse Mercator Projection



# Tucson Active Management Area