

Arizona Water Banking Authority

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AWBA

Water Supply Opportunities

Study

Evaluate Need and Opportunity for
Acquisition of Additional Water
Supplies

AWBA

At the December 16, 2009 AWBA Meeting

- The Commissioners Directed Staff to Begin to Evaluate the Need and Opportunities to Insure That Interstate Water Banking Obligations Would Be Met
- Recent Changes to the SNWA Agreement Have Altered the Timing

AWBA-Need for Study

- One Year Ago, the Bank Estimated That It Needed 668,000 Acre-feet Over the **Next 10 Years** to Meet Remainder of Interstate Water Banking Agreement With Nevada (The Total Agreement Is for 1.25 Million AF)
- However, CAP Excess Water Will Become Less Available In The Next Several Years
 - ◆ CAP Excess Water may only be 50,000 to 60,000 AF given the demand for CAP water and other Instate Banking needs

AWBA Need for Study

- Other Entities Also Have Growing Water Supply Needs
- Creates Opportunities for Partnerships
- Example: Central Arizona Groundwater Replenishment District (CAGRDR)
 - ◆ Purpose of CAGRDR: to replenish (recharge) groundwater uses by members inside AMAs to meet safe-yield goals
 - ◆ CAGRDR needs to evaluate potential supplies to meet its projected growth through 2015

TABLE 1
General Schedule of CAGR Water Supply Acquisitions

Supply Description	Term	Annual Volume (AF)	Estimated Year that Usage Begins
CAP Supplies			
M&I Subcontract	Long-term	7,746	2005
Indian Leases	Long-term	20,000	2012
Indian Leases	Short-term	42,500	2021
Effluent	Long-term	10,000	2008
Effluent	Short-term	28,000	2008
On-River Supplies	Long-term	15,000	2015
On-River Supplies	Long-term	25,000	2022
On-River Supplies	Short-term	30,000	2018
Imported Groundwater	Long-term	35,000	2027
Totals	Long-term	112,746	
	Short-term	100,500	

Chart 1
Timing, Estimated Magnitude and Term
For the Acquisition of Water for the AWBA and CAGR

Year Term	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2027	Extended Period
Temporary (Short-term) Acquisition															
AWBA 10 YR						40 TO 50 KAF/YR									
CAGR 30 YR	28 KAF/YR													+ 17 YRS	
CAGR 30 YR									30 KAF/YR					+ 25 YRS	
CAGR 30 YR											42.5 KAF/YR			+ 28 YRS	
Long-term Acquisition															
CAGR 100 YR	10 KAF/YR														
CAGR 100 YR			20 KAF/YR												
CAGR 100 YR						15 KAF/YR									
CAGR 100 YR												25 KAF/YR			
CAGR 100 YR													35 KAF/YR		
Total Annual Supply	78 KAF		98 KAF			113 KAF			143 KAF			145.5 KAF	170.5 KAF	205.5 KAF	

SNWA Interstate Banking

1.25 MAF Obligation; 600 KAF Credits Stored

- Because The Interstate Agreement Has Been Suspended Until 2015
 - ◆ Annual payments will be delayed
 - ◆ Need for water supply acquisition for Interstate is now deferred
- Meanwhile, CAP Needs Will Grow, and
- Colorado River Shortages Could Restrict Excess Water Availability

Indian Firming

AWBA Has Obligation to Firm Water Supplies for Indian Tribes in Times of Shortage

AZ Water Settlements Act

- ◆ GRIC 15,000 AF of NIA water
- ◆ Other 8,724 AF of NIA water
 - White Mountain Apache Tribe 3750 AF
 - Navajo Nation 4250 AF?
 - Other Future Settlements

NE AZ Indian Water Rights Settlement

- ◆ Navajo Nation 11,000 AF of NIA water + 2,000 P4
- ◆ Hopi Tribe 1,500 AF P4

Other AWBA Water Needs

AWBA Has Responsibility to:

- Firm Water Supplies in Times of Shortage for M&I subcontractors - (3 counties & on-river = 3.1 MAF)
 - ◆ When Needed? Variable Depending on Size of Shortage and Other Factors.
 - ◆ If a Shortage Occurs, CAP M&I May Not Have A Need For Storage Credits in the Next Decade, But Credits May Have to Be Transferred to On-River M&I.
- Deliver water for Southside Replenishment obligations

Preliminary Survey

- All Water Supplies Were Considered
- Many Issues Must Be Addressed If Acquisition Is Approved
 - ◆ Willing sellers and deal points
 - ◆ Reliability
 - ◆ Costs
 - ◆ Legal constraints, third party, environmental issues
- Issues Unique for Every Supply

Survey of Supplies

List of Types of Supplies

- Mainstream Colorado River Contracts
- Mainstream Decreed Tribal Rights
- CAP Indian Contracts
- Excess Yuma Groundwater (Water Logging)
- Groundwater Transfers from Harquahala, Butler or McMullen Valley

Survey of Supplies

List Of Types Of Supplies (cont.)

- Excess Long-term Storage Credits in the AMAs
- Effluent in the AMAs
- Poor Quality Groundwater
- System Conservation and Augmentation

Colorado River Contracts

- **Mainstream Colorado River Contracts**
 - ◆ **Priorities**
 - P-1 - pre-1928 (PPRs)
 - P-2 - Federal Reservations 1929 - 1967
 - P-3 - 1929 - 1967
 - P-4 - Post - 1967 (CAP)
 - P-5, P-6 - Surplus
 - ◆ **Contract Provisions vary considerably, but all transfers must have SOI approval**

Colorado River Tribes

Mainstream Tribal Water Rights Are Established By the AZ v. CA Decree

Ft. Mohave Res.	103,535 AF	16,018 Ac
Colorado Indian Res.	662,402 AF	99,375 Ac
Cocopah Res.	9,707 AF	1,524 Ac
Quechan Res.	6,350 AF	952 Ac

Leasing Opportunities Are Limited - ADWR Position - Leasing Requires Act of Congress -

CAP Indian Leases

- CAP Indian Contracts
 - ◆ Opportunities exist for leasing, but restrictions apply
 - ◆ Difficult to assess quantity of water available and the length of term
 - ◆ Negotiations will be necessary

CAP Indian Leases

POTENTIAL MAGNITUDE*

Ft McDowell	13,393 AF
Tohono O'odham	~ 45,000 AF
Gila River	~ 249,000 AF
Ak Chin	75,000 AF
San Carlos Apache	~ 35,000 AF

*Does not represent intentions of Tribes. Ak Chin supply in full use.

Yuma Groundwater Transfers

- Indirect Water Transfer
- Groundwater in Water Logged Areas May Be Pumped and Delivered to River
- Upstream Colorado River Contractor (CAP) May Divert Like Amount From the River
- May Be Used by USBR for Deliveries to Mexico
- Issues – Treaty, Federal Law, State Permit, Limited Supply

Groundwater Importation

- McMullen Valley Groundwater Basin
 - ◆ Restricted to City owning land before 1988 (and 1 farm). A city, town, or private water company may purchase this land for water transportation or to sell to the AWBA for Indian firming.
- Butler Valley Groundwater Basin
 - ◆ ASLD major owner, limited information on quantity.
 - ◆ CAP could transport for its use, or sell to AWBA.
 - ◆ ASLD leasing requires auction.

Groundwater Importation

- Harquahala Valley Irrigation Non-Expansion Area
 - ◆ The State or a political subdivision of the state (CAP, city) may transport and sell water to AWBA for Indian Farming
 - ◆ Limitations on annual withdrawals
 - ◆ Large amount of water - 13 MAF
 - ◆ Many private landowners, consolidation of land ownership necessary

Other Water Sources

- Long-term Storage Credits Excess to Needs
 - ◆ Interested parties unknown
 - ◆ Quantities of water unknown
- Effluent within AMAs
- Poor Quality Groundwater Within AMAs
 - ◆ Contaminated Groundwater
 - ◆ Waterlogged Areas (Brackish Water)

Other Water Sources

- System Conservation and Augmentation
 - ◆ Ocean Desalination
 - ◆ System Conservation (Drop 2, YDP)
 - ◆ International Exchanges

Issues and Concerns

- If the AWBA Decides to Acquire New Water Supplies, Many Issues and Concerns Will Have to Be Addressed by the Staff to Evaluate the Suitability of a Particular Supply
- But Before Offers Can Be Solicited, Policy Guidance Is Needed in Several Areas

Policy Discussion and Questions

What Are the Major Concerns for the AWBA With Regard to Meeting Its Obligations?

Indian Firming-Interstate Banking Agreement-CAP M&I & On-River M&I

Policy Discussion

Legal Limitations Related to the Acquisition
of Water Supplies

This Topic Will Be Presented at the
Executive Session

Policy Discussion

- Should the AWBA Pursue Cooperative Agreements With the CAP to Obtain and Store Water for M&I and Indian Firming, and the Interstate Agreement?
- Are There Other Partners That Should Be Asked to Assist the AWBA (I.E. Tribes, Cities, Districts, Etc.)?

Policy Discussion

- Planning for Shortages
 - ◆ Shortages Will Limit Excess Water to AWBA.
 - ◆ Revenue from Property Taxes and Withdrawal Fees May Still be Collected During Shortages.
 - ◆ What Should AWBA Plan to Do With These Potential Revenues?
 - ◆ Should the AWBA Plan For Acquisition of Water During Shortages For:
 - Firming M&I Water Supplies?
 - Firming Indian Settlement Water?

Policy Discussion

- What Are the Next Steps and When Should They Begin?
 - ◆ Develop Cooperative Programs and Agreements
 - ◆ Identify Long-term Water Supply Needs
 - ◆ Legislative Initiatives
- Does the AWBA Need a Long-term Water Supply and Demand Study to Support Next Steps?