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State of Arizona

**Department
of
Water Resources**

www.water.az.gov

ANNUAL REPORT

July 1, 2004

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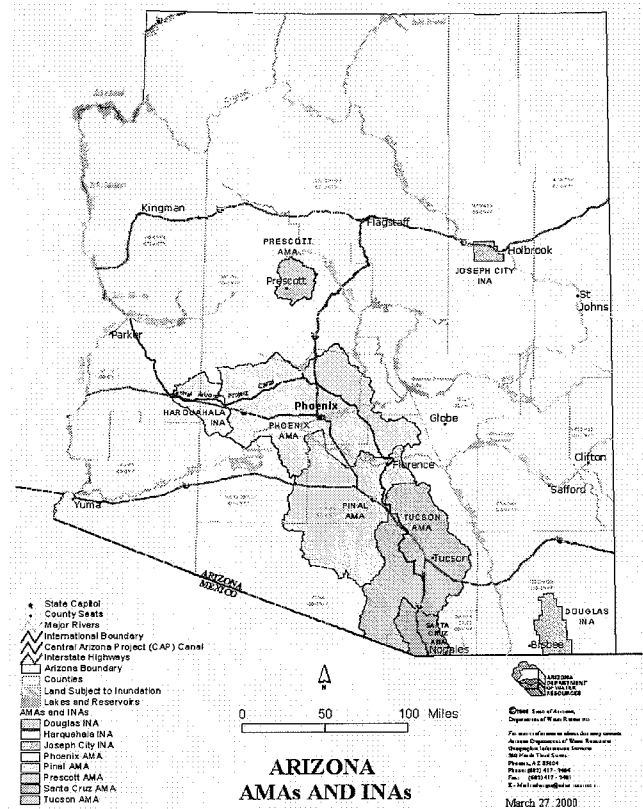
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ADWR 2004 ANNUAL REPORT

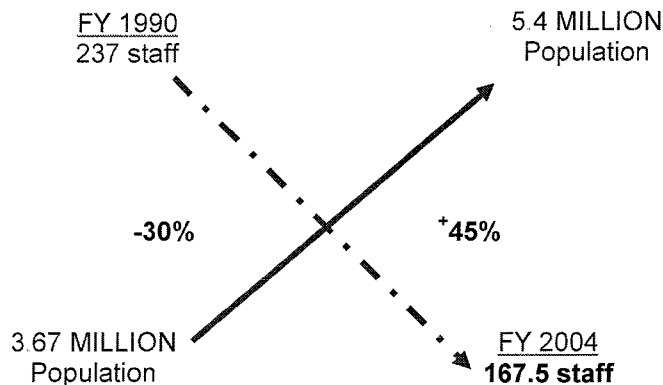
EXECUTIVE SUMMARY

The Arizona Department of Water Resources (ADWR) manages the state's most precious resource. ADWR's mission extends from licensing well drillers, assuring the safety of dams, and developing mandatory conservation requirements for all water use sectors, to protecting the state's Colorado River allocation and facilitating Indian water rights negotiations among tribal representatives, local interests, federal and state officials and members of Congress. This wide range of responsibilities, in combination with the evolving and complex nature of the legal and political arena in which water management is conducted, has created a challenging environment for ADWR. For the last 24 years, the Agency has been quick to respond to changing conditions, to identify key strategic moves to protect the state's interests and to respond to legislative directives. Arizona's water supply is more secure today than it was 24 years ago as a result of the institutional knowledge of the ADWR staff, and the partnerships forged with Arizona's water users and water providers.

The landmark 1980 Groundwater Management Code (Code) created ADWR. The Legislature enacted the Code to relieve the problem of groundwater overdraft in parts of Arizona that were designated as Active Management Areas (AMAs). ADWR's groundwater management structure within the AMAs has received national and international acclaim. In more recent times, additional praise has been focused on ADWR's leadership in underground storage and recovery (recharge) programs, the establishment of the Arizona Water Banking Authority (AWBA), and the Assured Water Supply (AWS) Program that requires proof of a 100-year water supply before a subdivision plat can be approved by the platting entity.



Despite its important role and the many successes described in this report, ADWR faces a significant funding crisis threatening core functions and the structure of the water management program. There are fewer people on ADWR's staff than at any time since ADWR was created. Lawmakers authorized a General Fund staffing level of 189.7, yet there are now only 167.5 General Fund employees in ADWR. During the last decade, the state's population has risen by 45 percent and statutory mandates have continued to increase, while the agency's staffing level has declined by 30 percent.



The primary mission of ADWR is to ensure an adequate quantity of water of adequate quality for Arizona's future. Challenges to providing a sustainable water supply are numerous. By 2025, when the Code requires key management goals to be met, the projected population of the state will exceed six million within the AMAs and 1.8 million in the rest of the state. This represents a 280% population increase in the AMAs alone since 1980. Competition for water throughout the southwest continues to increase as neighboring states experience similar rates of growth; Arizona must

continue to be vigilant to protect its water rights, particularly its rights to Colorado River water. It is essential that our state continue to play a prominent role in Colorado River negotiations.

Arizona's water also supports a number of Indian tribes whose legal rights to quantities of water currently are in negotiation as part of the adjudication of water rights within the state. The outcome of these settlement negotiations will significantly impact the state's water budget. In addition to water supply needs for human use, environmental protection issues are of substantial concern and may affect Arizona's future water supply availability.

The water needs of Arizona's rural areas, where few renewable supply options exist, are becoming urgent. The persistent drought has caused several small communities where wells have gone dry to import water by truck. Drought will continue as a key concern in this desert state. With the likelihood of increased climatic variability, floodplain management and dam safety activities may become even more critical than they are today. Despite the critical need, ADWR lacks the financial resources to adequately support statewide water management.

Substantial progress has been made within central Arizona in moving toward a sustainable water future, particularly in transitioning the urban demand from a primarily non-renewable groundwater-based supply to increasing dependence on the Colorado River and effluent. ADWR's long-term view of water management needs has served the state well. However, without adequate staff and budget, Arizona's water management programs are severely threatened.

AGENCY PURPOSE

ADWR manages the water supplies within the state, and represents the state in local, regional, national and international water policy matters.

Mission/Vision Statement

The Vision/Mission Statement of ADWR is as follows:

- To ensure a long-term, safe, sufficient and secure water supply for the state.
- To develop public policies that promote the efficient use and equitable distribution of water in an environmentally sound manner.
- To promote the management of floodplains and dams to reduce loss of life and damage to property.

AGENCY GOALS

The Department adopted the following to goals support the Vision/ Mission Statement.

Maximize usage of Arizona's Colorado River entitlement and other renewable water supplies.

The three programs that have the greatest effect on increasing the use of Colorado River water are the Recharge Program, the AWBA and the AWS Program. The Recharge Program, established in 1986, encourages Colorado River water and effluent to be stored underground for future use. This program regulates the development of storage and recovery facilities, protects the ownership of stored water and provides technical assistance in developing recharge facilities. Over three million acre-feet of water have been stored since 1986. Three major units within ADWR, Hydrology, Legal Services, and Water Management, support the Recharge Program. ADWR provides staffing and technical support to the AWBA. The AWBA is described in a separate transition report (Attachment A). Since 1996, the AWBA has worked to store excess Central Arizona Project (CAP) water to benefit communities along the Colorado River, water users within the AMAs, Indian tribes and other states (with full protection of Arizona's water rights). The AWS Program within Water Management requires that all new subdivisions within AMAs demonstrate that they have a 100-year supply of water of adequate quality and quantity prior to plat approval (or be served by a water provider that has already made a similar

demonstration). The AWS Rules, adopted by ADWR in 1995, require that the water used in this demonstration be primarily renewable. A major source of water for this demonstration is CAP water; the AWS Rules have been the primary driving force behind substantial investments in the use of CAP water and effluent for municipal supply. In addition, ADWR administers programs that encourage the use of CAP in lieu of groundwater. The pricing policies of the CAP have also expanded agricultural CAP water use. The Colorado River Office monitors all intra- and inter-state activity related to the River, represents the state in technical and policy matters, and ensures that Arizona's interests are protected.

To decrease mining of groundwater within the Active Management Areas.

There are two components of the program for decreasing groundwater mining. The supply-side focuses on replacing existing groundwater use with CAP water, other surface water or effluent through the recharge and AWS programs described above. The demand side focuses on reductions in current and future water demand through conservation. The Groundwater Code requires reductions in groundwater use and/or best management practices to ensure water use efficiency for the major water using sectors (agricultural, municipal and industrial) through regulations adopted within the Management Plans for each AMA. Measuring, reporting and conserving water are now required components of all large groundwater-using operations within AMAs. The Water Management Division also has a conservation, augmentation and monitoring assistance program within the AMAs that provides technical assistance and grants to encourage conservation, augmentation (primarily use of effluent, other renewable supplies and recharge), and increased monitoring of water supply conditions and land subsidence.

Ensure that dam design, construction, operation and maintenance are in compliance with state laws and current dam safety guidelines.

The Office of Engineering oversees dam safety, operations and maintenance, and maintains a flood warning system for the state. Licensed professional engineers and other technical staff perform site inspections and ensure that unsafe dams are repaired to meet safety requirements.

Collect, analyze and disseminate high quality data in support of surface water and groundwater rights administration, hydrologic investigations, planning activities, inter-agency efforts and the adjudication courts, and to prevent unauthorized uses of surface water and groundwater.

ADWR has management responsibilities for both groundwater and surface water. The Water Management Support Unit processes surface water rights claims, other than those along the Colorado River, and the AMAs manage the majority of the groundwater rights. Most water resource reports and assessments contain a hydrologic data component, and the Hydrology Division collects, analyzes and reports on the majority of the surface and groundwater supply information in the state, often in collaboration with the U.S. Geological Survey. The Hydrology Field Services Section specializes in collecting groundwater levels, groundwater quality data, and land subsidence information, followed by development of watershed and basin reports and hydrologic models. Water demand information is collected and reported on within the AMAs, while the Statewide Water Planning Division focuses (to a more limited extent) on the areas outside of AMAs. The Office of Legal Services also brings enforcement proceedings against individuals who are not in compliance with the Groundwater Code, ADWR Rules and AMA Management Plan regulations, and negotiates and facilitates Indian Water Right settlements. Historically, ADWR had a large Adjudications Section that was focused on producing the information required by the courts in the Gila and Little Colorado River Adjudications. In the mid-1990's, this section was eliminated, due to legal impediments that slowed progress in the Adjudications. In the last two years, the Adjudication Courts have moved forward with increasing requests for assistance from ADWR. A small unit within the Office of Legal Services provides technical support to the courts and processes claims within the Adjudication.

Incorporate water quality objectives into water management in coordination with the Arizona Department of Environmental Quality.

ADWR has a very limited, but important, role in water quality issues. Current activities include well drilling, permitting and coordination activities related to the Water Quality Assurance Revolving Fund (WQARF), the Environmental Protection Agency's Superfund (CERCLA) requirements, and some data collection and exchange. These activities are primarily within the Hydrology Division.

Manage the agency's financial and staff resources to maximize efficiency and effectiveness.

The Office of Administration handles all financial and budget transactions, and the Human Resources Office performs all employee-related activities, including generating hiring lists and providing staff training. The Information Technology Office provides computer systems operation and development, technical support and training, and network and website development and maintenance. ADWR is heavily focused on a transition to the use of technology to reduce costs, improve public access to information and increase productivity.

ARIZONA GROUNDWATER MANAGEMENT CODE

From its inception as a state, Arizona's courts have dealt with surface water and groundwater separately. Surface water maintained its pre-statehood allocation based on "first in time, first in right," or prior appropriation. Rights to percolating water, or groundwater, were governed by the common law rule that such water belongs to the overlying landowner. The Arizona Groundwater Management Code was adopted in response to threats to the water supplies of two of the state's major economic factions, mining and municipalities; an ongoing threat by the federal government to halt the long awaited Central Arizona Project (CAP); and in recognition of severe overdraft conditions in several parts of the state.

The Code, passed in 1980, has three primary goals. The first goal is to control the severe overdraft occurring in many parts of the state. The second goal is to provide a means to allocate the state's limited groundwater resources to most effectively meet the changing needs of the state. The third goal is to offset Arizona's use of groundwater through renewable water supply development. To accomplish these goals, the Code set up a comprehensive management framework and established ADWR to administer the Code provisions on three levels: statewide provisions, Irrigation Non-Expansion Areas (INAs), and AMAS. The AMAs have the highest degree of groundwater restrictions, focusing on conservation and management goals, while the INAs are prohibited from new irrigated acreage.

Statewide Provisions

Statewide regulatory programs and requirements managed by ADWR include well drilling, construction, licensing, registration and abandonment, groundwater transportation restrictions, and adequate water supply requirements. ADWR conducts testing for well drilling licenses and issues authorizations to drill for any well drilling and construction that occurs in the state. ADWR enforces groundwater transportation restrictions throughout the state and maintains the provisions of the Water Adequacy Program outside of AMAs.

Irrigation NonExpansion Areas

Three Irrigation Non-Expansion Areas (INAs) were established in rural farming areas where the groundwater overdraft was less severe than in AMAs. The Douglas INA and the Joseph City INA were established as the initial INAs. The Harquahala INA, was designated in 1982. The management objective in INAs is the prevention of further declines of groundwater supplies primarily through prohibition of irrigation acreage expansion. Any land not irrigated during the years 1975 through 1979 in the Douglas and Joseph City INAs, and during the years 1976 through 1980 in the Harquahala INA cannot now be irrigated. Specific water conservation measures are not required within an INA, although it is hoped that all water users within INAs will conserve water where possible. ADWR generally does not regulate the quantity of

water used within INAs, although water users are required to file for underground storage and recovery permits, to file notice of intent to drill wells and to obtain notices of irrigation authority to irrigate eligible lands. Also, owners of nonexempt wells must use approved measuring devices and submit annual groundwater pumping reports.

Active Management Areas

The magnitude of the overdraft in certain areas of the state led to the statutory designation of four initial AMAs. The Prescott, Phoenix, Pinal and Tucson AMAs, roughly the central region of the state, include 80 percent of Arizona's population and account for 70 percent of the groundwater overdraft. In 1994, a southern portion of the Tucson AMA was separately designated as the Santa Cruz AMA. Each AMA has a regional office and an AMA director.

The Phoenix, Prescott and Tucson AMAs are directed to achieve safe-yield by 2025. Safe-yield is defined as a long-term balance between the amount of groundwater withdrawn in an AMA and the amount of water naturally recharged to the aquifer, through either rainfall or runoff percolating into the aquifer, or artificially through recharge projects. The management goal of the Pinal AMA calls for allowing the area's predominantly agricultural economy to continue for as long as feasible, while also allowing for the development of non-irrigation uses by the municipal and industrial water use sectors. The management goal of the Santa Cruz AMA is to maintain a safe-yield condition and prevent local water tables from experiencing long-term declines.

The Code directs ADWR to develop and implement water conservation requirements for the agricultural, municipal and industrial water use sectors in five consecutive management periods. These requirements are published in Management Plans for each AMA. These documents are required by the Code and are based on Code criteria. The Code generally requires that each consecutive management plan contain more rigorous water conservation and management requirements. Background information and data concerning water use patterns are also contained in the Management Plans. The Management Plans provide the framework for the day-to-day implementation of Code mandates and ADWR policies for each AMA.

Information from annual water use reports is used to estimate the volume of groundwater withdrawals, water stored, and water recovered in an AMA. Water budgets are constructed from these data to illustrate the total supply and demand for a given year.

Current groundwater withdrawal authorities established in the Code, such as Irrigation Grandfathered Rights, Type 1 and Type 2 Non-Irrigation Grandfathered Rights, withdrawal permits, and service area rights, plus groundwater allocations under the AWS Rules, play a major role in groundwater overdraft. To address this problem, water management efforts focus on ways to encourage water users to convert to renewable supplies. In the AMAs, these efforts include the Underground Storage and Recovery Programs and renewable supply utilization requirements under the AWS Rules.

Commission/Board Appointments & Terms

Water management policies are developed through extensive stakeholder participation in both formally and informally recognized arenas.

Groundwater Users Advisory Councils (GUACs)

The GUACs are appointed by the Governor pursuant to represent the water users in the AMAs and to provide advice to the Director. Key statutory requirements include commenting on the annual groundwater withdrawal fee, the annual Plan of Operation for the Arizona Water Banking Authority, the expenditure of funds in the Conservation, Augmentation and Monitoring Funds for the AMAs, and the AMA Management Plans.

<i>Phoenix AMA</i>	<i>Stephen Cleveland</i>	<i>Municipal</i>	<i>1/16/2006</i>
	<i>Patricia Turpin</i>	<i>General Public</i>	<i>1/18/2010</i>

	<i>John Williams, Jr</i>	<i>Salt River Project</i>	<i>1/16/2006</i>
	<i>F. Ronald Rayner</i>	<i>Agriculture</i>	<i>1/21/2008</i>
	<i>Frank Fairbanks</i>	<i>Municipal</i>	<i>1/21/2008</i>
<i>Pinal AMA</i>	<i>Oliver Anderson</i>	<i>Agriculture</i>	<i>1/21/2008</i>
	<i>Henry Perales</i>	<i>Municipal</i>	<i>1/19/2004</i>
	<i>Paul Prechel</i>	<i>Agriculture</i>	<i>1/16/2006</i>
	<i>Steve Pretzer</i>	<i>Agriculture</i>	<i>1/16/2006</i>
	<i>David Snider</i>	<i>Municipal</i>	<i>1/16/2006</i>
<i>Prescott AMA</i>	<i>Marvin Larson,</i>	<i>Developer</i>	<i>1/21/2008</i>
	<i>James Neal</i>	<i>Private Citizen</i>	<i>1/21/2008</i>
	<i>John Olson</i>	<i>Agriculture</i>	<i>1/16/2006</i>
	<i>Larry Tarkowski</i>	<i>Municipal</i>	<i>1/16/2006</i>
	<i>Carl Tenney</i>	<i>Municipal</i>	<i>1/19/2004</i>
<i>Santa Cruz AMA</i>	<i>Simon Escalada</i>	<i>Developer, Rancher</i>	<i>1/17/2006</i>
	<i>James Barr</i>	<i>Developer</i>	<i>1/19/2004</i>
	<i>Ron Fish</i>	<i>Agriculture</i>	<i>1/21/2008</i>
	<i>Roy Ross</i>	<i>Developer</i>	<i>1/19/2004</i>
	<i>Sherry Sass</i>	<i>Friends of Santa Cruz</i>	<i>1/21/2008</i>
<i>Tucson AMA</i>	<i>Alan Lurie</i>	<i>Homebuilder's Assoc.</i>	<i>1/16/2006</i>
	<i>David Modeer</i>	<i>Municipal</i>	<i>1/16/2004</i>
	<i>Dee O'Neill</i>	<i>Private Citizen</i>	<i>1/19/2008</i>
	<i>Jon Post</i>	<i>Agriculture</i>	<i>1/21/2008</i>
	<i>Charles Sweet</i>	<i>Municipal</i>	<i>1/21/2008</i>

Agricultural Water Conservation Best Management Practices Advisory Committee

Governor Hull appointed the Agricultural Water Conservation Best Management Practices Advisory Committee in September 2002, to advise the Director on the development of an agricultural best management practices (BMP) program. The BMP program was established by The Legislature authorized the establishment of a BMP program in the 2002 legislative session. A BMP program provides an alternative to the standard water allocation conservation program for farmers with Irrigation Grandfathered Rights.

<i>Farmers</i>	<i>Bryan Hartman</i> <i>F. Ronald Rayner</i> <i>Scott Riggins</i> <i>Ron Wong</i>
<i>Irrigation</i>	<i>Stanley Ashby</i>

<i>Districts</i>	<i>Grant Ward</i>
<i>Salt River Project</i>	<i>John Sullivan</i>
<i>Municipal</i>	<i>John (Bob) McCain</i>
<i>Ex Officio</i>	<i>Bert Clemmons (USDA Water Conservation Lab)</i> <i>Donald Butler (Department of Agriculture)</i> <i>Herb Guenther (Department of Water Resources)</i>

Arizona Water Banking Authority

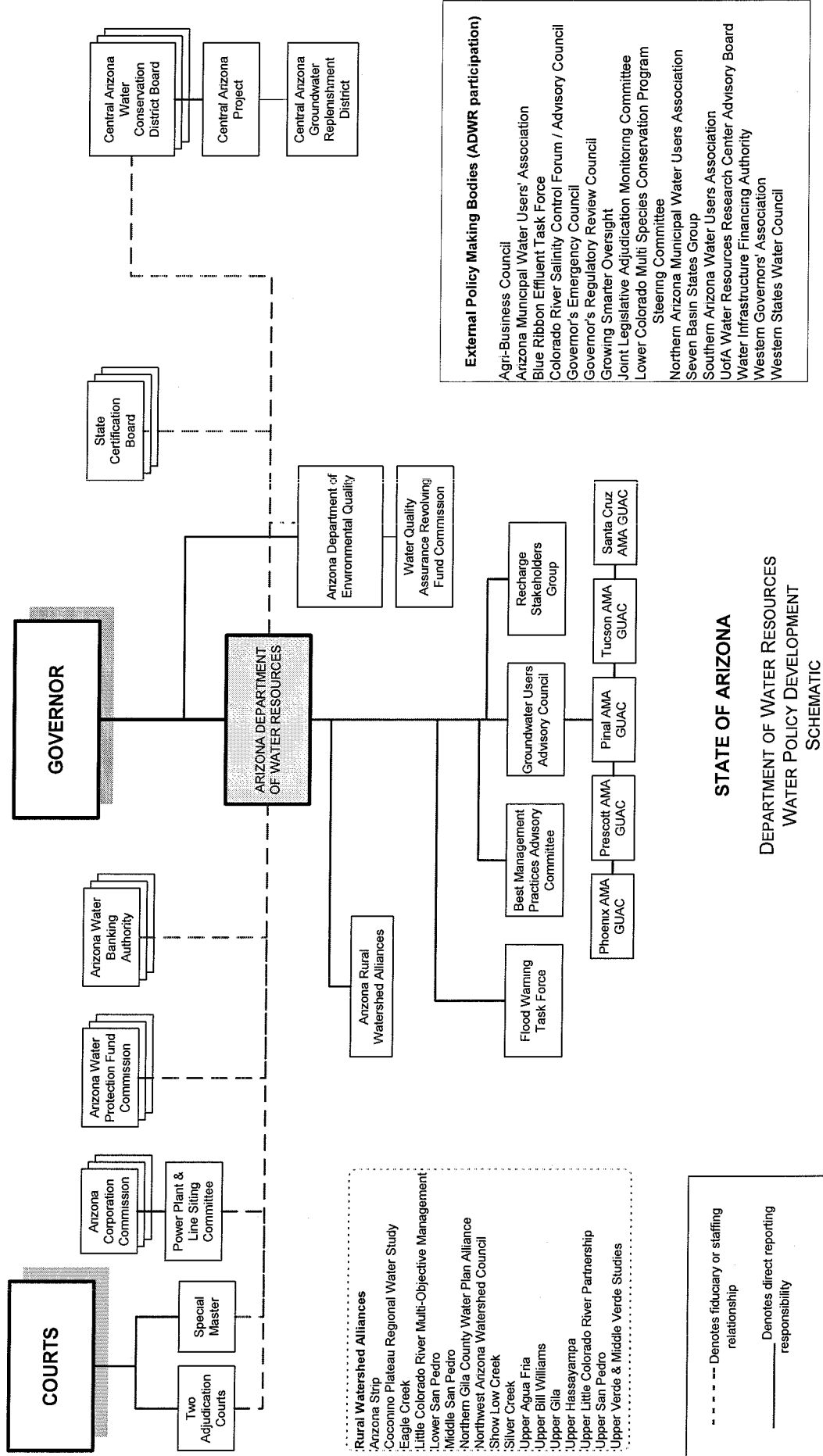
Please see separate Annual Report (Appendix A).

Arizona Water Protection Fund Commission

Please see separate Annual Report (Appendix B).

Other Advisory Groups

ADWR is strongly committed to working closely with the regulated community and other interest groups in developing its water management programs, and seeks input from advisory committees on a regular basis. The flow chart on the next page depicts some of the relationships between ADWR and other water management entities and advisory groups.



STATE OF ARIZONA

**DEPARTMENT OF WATER RESOURCES
WATER POLICY DEVELOPMENT
SCHEMATIC**

NOVEMBER 2002

----- Denotes fiduciary or staffing relationship
 _____ Denotes direct reporting responsibility

- Rural Watershed Alliances
- Arizona Strip
- Coconino Plateau Regional Water Study
- Eagle Creek
- Little Colorado River Multi-Objective Management:
- Lower San Pedro
- Middle San Pedro
- Northern Gila County Water Plan Alliance
- Northwest Arizona Watershed Council
- Silver Creek
- Upper Agua Fria
- Upper Bill Williams
- Upper Gila
- Upper Hassayampa
- Upper Little Colorado River Partnership
- Upper San Pedro
- Upper Verde & Middle Verde Studies

AGENCY ORGANIZATION

Office of the Director

The Office of the Director is comprised of the Director and support staff. It oversees the operations of the agency which is comprised of six key divisions: the Office of Legal Services, Water Management, Hydrology, Water Engineering, the Information Technology Division and Statewide Planning.

Office of Legal Services

ADWR is supported by in-house counsel primarily due to the conflict that arises as a result of other state agencies holding water rights that are subject to ADWR regulation. The Office of Legal Services also includes adjudication technical staff and the ADWR Docket Supervisor.

Office of Legal Services Responsibilities

- Respond to and participate in lawsuits
- Prepare for administrative hearings
- Write, review and administer contracts (grants, IGA's, leases, etc.)
- Advise the Director and staff on all ADWR programs, and statewide and national water issues
- Facilitate and negotiate Indian Settlements
- Draft and adopt administrative rules
- Develop and adopt Management Plans
- Prepare Groundwater Code, rule and Management Plan compliance cases
- Provide technical support to the Maricopa and Apache County Superior Courts in the Gila and Little Colorado River Adjudications
- Assist in writing and implementation of policies for all ADWR programs
- Serve as the Director's designee on the State Power Plant and Transmission Line Siting Committee and assist in preparing conditions on Certificates of Environmental Compatibility

Current Litigation

Arizona v. California, United States Supreme Court, No. 8, Original.

Problem Description: Litigation to determine the entitlement of the Fort Yuma Indian Reservation (Quechan Tribe) to Colorado River water. To the extent that such an entitlement is determined to arise from reservation lands, if any, in Arizona, use of that entitlement will count as a part of the state's annual entitlement to 2.8 million acre feet of Colorado River water, to the detriment of lower priority Arizona water users, including the CAP.

Relevant Facts: In 1953, Arizona invoked the original jurisdiction of the United States Supreme Court to bring action against California to determine Arizona's entitlement to Colorado River water. In 1963, the Court issued its opinion, dividing the waters among the states, but also finding that various Indian tribes along the river held "reserved rights" to river water. This is a claim by the Quechan Tribe for Colorado River water in addition to the amount decreed to the tribe in 1964. It could displace up to 12,000 acre-feet of the Colorado River priority expectancy of the CAP. The states of Arizona and California filed summary judgment motions in *Arizona v. California* in July, 2003 and were denied on January 27, 2004. On March 29, 2004, Special Master McGarr set a trial date of September 13, 2004. ADWR continued to argue that the reservation boundaries were diminished by Acts of Congress in 1894, 1902 and 1904 resulting in no reservation lands on the Arizona side of the California border (the tribe claims 1800 acres of reservation in Arizona). Thus, Arizona asserted that the Quechan tribe has no right to Colorado River water in the State of Arizona. The tribe runs a casino with a gaming compact in Arizona that was jeopardized by ADWR's diminishment argument. On April 20, ADWR made a formal settlement offer to the Quechan Tribe. After several mediation meetings, The Director of ADWR and Quechan Tribal President Jackson reached a tentative settlement on June 15, 2004 recognizing the existence of reservation lands in Arizona and 6,350 acre-feet of Colorado River water right in Arizona. California reached a similar tentative settlement on June 18, 2004 and ADWR is currently negotiating the settlement details.

Center for Biological Diversity, et al. v. Smith, ADWR, et al., Maricopa County Superior Court, No. CV2002000171; Court of Appeals, Division One, Nos. 1 CASA 020168, 1 CASA 020177, and 1 CASA 020178 (consolidated).

Problem Description: Suit brought by environmental group alleging that Arizona laws administering groundwater pumping inadequately protect public trust interests in surface water flows.

Relevant Facts: Motion to dismiss brought in Superior Court was denied; however, special action to court of appeals seeking dismissal was granted. Plaintiff has petitioned for review before the Arizona Supreme Court. On March 9, 2004 the Court granted separate motions to dismiss filed by ADWR and the Attorney General's Office. On May 21, 2004, plaintiffs filed a notice of appeal.

Coalition of Canada del Oro Residents, et al. v. ADWR, et al., Maricopa Superior Court, No. CV2002091362.

Problem Description: Challenge by neighborhood activists to a Certificate of AWS issued by ADWR for a subdivision in the Tucson area. Suit alleges that laws governing the assured water supply program violate the public trust doctrine.

Relevant Facts: ADWR's actions were upheld before the Office of Administrative Hearings. Case is pending before Superior Court. The Plaintiffs originally brought this suit to challenge a certificate of AWS issued by ADWR for a subdivision in the Tucson AMA and alleged that the laws governing the AWS program violate the public trust doctrine, that ADWR does not adequately consider water quality issues when considering applications for AWS certificates, and that ADWR unlawfully denies unincorporated associations the right to appeal its decisions on certificates of AWS. The Plaintiffs dismissed their public trust and water quality challenges, leaving only the unincorporate association issue remaining. On May 26, 2004, by minute entry, the trial court concluded that the Plaintiff-Coalition lacks the capacity to bring suit in Superior Court or before administrative agencies. Therefore, the court granted ADWR's Cross-Motion for Summary Judgment and denied Plaintiff's Motion for Summary Judgment. ADWR lodged an order and judgment consistent with the court's minute entry on June 18, 2004.

Arizona Water Company v. ADWR, Maricopa County Superior Court, No. CV90008015 and CV99001840.

Problem Description: Suit brought by private water company challenging ADWR's conservation program for municipal water providers in the Groundwater Management Plans for the Second Management Period (1990 to 2000).

Relevant Facts: After program was affirmed before the Office of Administrative Hearings, the Superior Court found for the plaintiff. Although the SMP was no longer in effect, ADWR appealed the ruling to the Court of Appeals because the same issue was raised by AWC with respect to the Third Management Plan (TMP). On August 12, 2003, the Court of Appeals issued a two-to-one opinion affirming the individual user issue, holding that the SMP must include conservation requirements for all individual users. The Court also ruled that ADWR can count CAP water in determining a provider's compliance with gallons per capita per day requirements. ADWR filed a petition for review with the Arizona Supreme Court on the individual user issue and AWC filed a cross-petition for review on the CAP issue. The Arizona Supreme Court granted review of both petitions and on June 14, 2004, issued a unanimous opinion vacating the Court of Appeals decision on the individual user issue and affirming Court of Appeals decision on the CAP issue. The Supreme Court agreed with ADWR that the Director has discretion to determine which, if any, individual users to regulate directly with conservation requirements and that the Director has authority to count a municipal provider's use of CAP water when determining the providers compliance with its GPCD requirements. The opinion affirms the SMP (as well as the TMP) on those issues. The Supreme Court remanded the case back to the Superior Court to decide AWC's claim that the GPCD requirements established for its Apache Junction (AJ) System were not reasonable in light of various circumstances applicable to that system. Among other things, AWC claims that the AJ System's GPCD requirements are unreasonable because they limit the amount of water the system can serve to non-residential uses.

Arizona Water Company v. ADWR, Maricopa Superior Court, No. CV2000001700; *Arizona—American Water Company v. ADWR*, Maricopa County Superior Court, No. CV200001497.

Problem Description: Suits brought by private water companies challenging ADWR's conservation program for municipal water providers in the Groundwater Management Plans for the Third Management Period (2000 to 2010).

Relevant Facts: Both suits deal with issues being determined in the suit brought by Arizona Water Company for the conservation plan for the Second Management Period. Therefore, both of these suits are on hold pending resolution of that action.

Rio Rico Properties, Inc. and City of Nogales v. ADWR, Maricopa County Superior Court, No. CV2002012124.

Problem Description: Plaintiffs brought \$450,000 action against ADWR seeking refund of groundwater withdrawal fees paid between 1984 through 1994. Suit seeks reimbursement of fees paid, with interest, asserting that water pumped during the relevant time period was surface water, not groundwater, and therefore not subject to the groundwater withdrawal fee.

Relevant Facts: Action is pending before Superior Court, but currently stayed by agreement of parties.

10K, L.L.C. v. ADWR, et al., Maricopa County Superior Court, No. CV2001008089; Court of Appeals, Division One, No. 1 CACV 02-0622

Problem Description: Suit brought by property owner objecting to the issuance of a permit by ADWR to allow an underground storage facility on adjacent land.

Relevant Facts: Action pending before Court of Appeals.

In re the General Adjudication of all Rights to Use Water in the Gila River System and Source, Maricopa County Superior Court, Nos. W1, W2, W3 and W4; In re the General Adjudication of all Rights to Use Water in the Little Colorado River System and Source, Apache County Superior Court, No. 6417.

Problem Description: The two general stream adjudications ongoing in the state are to resolve the nature, extent and relative priority of water rights to surface water flows located on lands that cover over half of the state, including the Phoenix and Tucson areas, and numerous Indian reservations.

Relevant Facts: ADWR provides assistance to the courts hearing the adjudications on hydrologic and technical issues. In Re the General Adjudication of All Rights to Use Water in the Gila River System and Source is one of the two general stream adjudications to resolve the nature, extent and relative priority of federal and state-leased water rights in the state. The Gila adjudication covers more than half of the state. Legal and factual issues regarding appropriable subflow were argued before the Special Master on May 20, 2004. A decision from the Special Master is expected in July 2004. The Little Colorado River adjudication covers the northeastern part of the state. On July 1, 2004, ADWR filed a hydrographic survey report that addresses claims filed by Phelps Dodge to use water from Show Low Lake at the Morenci Mine through exchange agreements. ADWR is also analyzing recently amended claims for water uses on the Hopi Indian Reservation.

Defenders of Wildlife v. Bureau of Reclamation, United States District Court, District of Columbia, Civ. No. 1:00CV01544; United States Court of Appeals for the District of Columbia Circuit, No. 005377.

Problem Description: Plaintiffs challenge the Bureau's management of the dams of the Colorado River, asserting that the management is violative of the Endangered Species Act (ESA). Relief sought by Plaintiffs may jeopardize Arizona's ability to exercise its full right to Colorado River water.

Relevant Facts: ADWR's motion to intervene was denied and has been appealed to the Court of Appeals. ADWR has filed amicus brief in District Court on merits of case.

In the Matter of Application for a Permit to Appropriate Public Water of Cherry Creek, Application No. 33-966009, Office of Administrative Hearings, Docket No. 02A-SW002-DWR.

Problem Description: In an administrative proceeding, ADWR's legal authority to administer an instream flow program has been challenged. It has been asserted that ADWR does not have authority to issue permits and certificates for instream flow purposes, that the federal government is not entitled to hold an instream flow permit or certificate, that all prior instream flow permits and certificates granted by ADWR are void, and that no further permits or certificates may be issued in the future without additional legislation and rules.

Relevant Facts: The U.S. Forest Service filed an application for a water right based on wildlife and recreation uses in Cherry Creek. Phelps Dodge protested the application on legal grounds. Phelps Dodge appealed the decision. The administrative law judge made a recommendation to the Director regarding the legal issues, as well as whether the U.S. Forest Service application should be granted. The administrative law judge upheld the authority of ADWR to issue instream flow permits. The Director agreed with the administrative law judge's finding. The Director's decision may be subject to judicial review in Superior Court. On March 8, 2004, the Superior Court upheld ADWR's instream flow program and final judgment was entered in ADWR's favor on May 26, 2004. Phelps Dodge filed a notice of appeal on June 25, 2004.

San Carlos Apache Tribe, et al., v. United States, et al. (Globe Equity Decree), United States District Court, District of Arizona, No. CIV 99255 TUC ACM.

Problem Description: Litigation involving the interpretation of a previous court decree establishing relative rights to surface water on the Gila River.

Relevant Facts: ADWR monitors the case for issues of statewide importance and has participated as *amicus curiae* on some issues.

Ongoing Proceedings before the Office of Administrative Hearings (OAH)

Problem Description: All ADWR permits are subject to appeal by the applicant and usually by protestants to the issuance of the permit. Hearings on these appeals are mandated by law before OAH. In addition, ADWR pursues civil violations of the Groundwater Code through hearings before OAH.

Relevant Facts: The number of challenges before OAH of ADWR permits has increased significantly in the five years and there has been a resulting increase in the number of those administrative actions that parties have appealed to Superior Court. The majority of the recent challenges have occurred in the AWS program, where citizens or environmental groups have challenged the issuance of a certificate that allows the construction of a new subdivision, and the underground water storage program, where landowners near proposed underground storage facilities have objected on the basis of concerns for their property. During that same five-year period, ADWR has actions at OAH for civil violations of the Groundwater Code.

Adjudications

ADWR provides technical assistance to the Court or the Special Master at their request “in all aspects of the general adjudication with respect to which the director possesses hydrological or other expertise.” A general stream adjudication is a judicial proceeding in which the nature, extent and relative priority of water rights is determined. The Office of Legal Services oversees ADWR’s role in the Adjudication, represents ADWR in front of the Court and the Special Master, and assists with the preparation of reports and comments requested by the Court and the Special Master.

There are two general stream adjudications in the state, the Gila River System and Source (Gila Adjudication) and the Little Colorado River System and Source (LCR Adjudication). The exterior boundaries of these two Adjudications include more than half of the state, where most of the Indian reservations and federal land is located. There are nearly 30,000 parties in the Gila Adjudication and over 3,000 parties in the LCR Adjudication. A party is a person or entity that has filed one or more claims to water rights in the Adjudication (Statement of Claimant or SOC). On behalf of federal nonIndian lands alone, the United States has filed over 15,000 claims.

Pursuant to statute and as requested by the Court and the Special Master, the Office of Legal Services provides technical assistance to both of the Adjudications in the following areas:

HSRs ADWR is required to prepare and publish comprehensive Hydrographic Survey Reports (HSRs) for each of the 10 watersheds within the two adjudications. HSRs are multivolume publications that involve intensive data collection and field inspection efforts by the ADWR, including detailed information regarding land ownership, hydrology, and the factual basis for each SOC, and ADWR’s recommendations regarding the water rights attributes for each individual water right claim or use investigated. For each HSR, ADWR prepares a preliminary and a final draft. Generally, at least two years are required to prepare the preliminary HSR, with another year or more to review comments and prepare a final HSR. ADWR must provide notice of the filing of the preliminary HSR to each party within the affected watershed, and notice of the final HSR to each party throughout the affected Adjudication area. Technical and legal staff within the Legal Division coordinate and prepare HSRs for the Court with assistance from other technical staff within ADWR.

Reports As requested by the Court or the Special Master, ADWR prepares and publishes technical reports on specific issues or factual matters within the Adjudications, such as Indian water rights settlements, the Globe Equity 59 decree, *de minimis* uses, inventory of uses within the Santa Cruz River watershed, the determination of subflow, comments on legal issues and status reports. Technical and legal staff within the Legal Division coordinate and prepare these reports with other technical staff within ADWR.

- Data Bases** ADWR maintains and updates SOC information, including names and addresses of the parties to the Adjudication, the location and nature of claims, property records, and the payment of filing fees that are forwarded to either the Maricopa County Court (Gila Adjudication), or the Apache County Court (LCR Adjudication). The information is updated as new SOCs are filed, and as existing SOCs are assigned due to changes in property ownership. These data bases are maintained and updated by staff within the Office of Legal Services.
- Summons** As required by A.R.S. § 45-253, ADWR sends summons by certified mail to known potential claimants, and provides additional service by publication. Many SOCs were filed in response to the summons that were issued at the beginning of the Adjudication. Additional SOCs are filed as summons for new uses are issued. Over the last two years, the Office of Legal Services, with assistance from other staff within ADWR, sent out over 20,000 new use summons in the Gila adjudication, which covered the period between 1991 and 2001. Another 3,000 new use summons were sent out in the LCR adjudication. Thereafter, new use summons will be sent out in both adjudications on an annual basis.
- Central Information Repository** The Office of Legal Services maintains a Central Information Repository for all data, reports, and other information related to the Adjudications. This information is available to the public and to the parties. The repository contains thousands of documents.
- Court Appearances** Legal counsel within the Office of Legal Services appear in front of the Adjudication Court to respond to questions regarding reports/comments that ADWR has prepared. Legal counsel also directs testimony by technical staff and the preparation of Court exhibits in hearings before the Court.

Office of Information Technology

The Office of Information Technology contains three units: Applications Development, Web Development and Network Support.

Application Development Unit Responsibilities

- Develop custom business applications that support agency activities
- Provide user training on all new custom applications
- Perform quarterly/yearly operational functions as they pertain to the custom applications such as Annual Reports and other noticing functions

Web Development Unit Responsibilities

- Develop and maintain website for ADWR, as well as for groups directly related to ADWR
- Respond to users with web-related issues, improve use of technology

Network Support / Customer Support Unit Responsibilities

- Provide technical support for the ADWR's computer, network and telecommunications systems hardware and software
- Provide end user support on PC systems hardware and software
- Provide network security for ADWR
- Log all Customer Support calls

Hydrology Division

The Hydrology Division provides technical hydrologic support to the Water Management, Water Engineering and Statewide Water Planning Divisions. This Division manages all surface and groundwater rights in the state, with a special

focus on groundwater management within the five Active Management Areas (AMAs). The Hydrology Division collects and/or evaluates groundwater and surface water information that is used in developing water budgets, hydrologic models, hydrographic survey reports, land subsidence evaluations, Indian settlements, water rights decisions, well drilling application review, water quality assessments, review of recharge applications and ongoing evaluations of recharge facility performance, and a variety of special projects.

Field Services Section

Basic Data Unit Responsibilities

- Measure wells in statewide water level index lines
- Monitor water level chart recorders on a quarterly basis
- Install water level transducers
- Sample water quality index wells
- Monitor index wells in Prescott AMA
- Sample wells in Phoenix AMA for Total Dissolved Solids data
- Conduct water level surveys outside of AMAs
- Prepare HMS reports for CD format
- Support sites through Water Quality Assurance Revolving Fund (WQARF) activities
- Provide Rural Watersheds with hydrologic support (Little Colorado Basin, Upper San Pedro Basin, Verde Valley Basin)
- Measure well discharges on as-needed basis in AMAs

GPS/Gravity Survey Unit Responsibilities

- Conduct GPS surveys at WQARF sites
- Conduct GPS surveys for land
- Conduct microgravity and GPS
- Establish absolute gravity stations established in Phoenix AMA
- Provide support for three interferogram studies (Phoenix and Tucson AMAs, NASA grant)

Geographic Information System Responsibilities

- Provide GIS training sessions
- Produce new GIS maps

Surface Water Investigations and Support Unit Responsibilities

- Conduct field investigations of unregistered and low hazard dams
- Conduct agricultural surveys
- Prepare surface water right application reports
- Respond to field investigations of surface water rights complaints

Modeling Section*Modeling Section Responsibilities*

- Update or enhance AMA hydrologic models
- Calibrate and prepare for peer review AMA hydrologic models
- Publish Annual Monitoring Reports
- Prepare water budgets
- Review groundwater flow models submitted to ADWR for the AWS Section, the Colorado River Management Section, and contaminant transport models submitted to the Arizona Department of Environmental Quality

Water Resources Section*Water Resources Section Responsibilities*

- Review Certificates of AWS
- Review Water Adequacy Statements
- Prepare water availability letters for future certificates
- Review Designations of AWS or Adequacy
- Prepare Analyses of AWS for future certificates or adequacy reports
- Issue water availability reports for unsubdivided lands
-

Surface Water and Recharge Section*Surface Water and Recharge Responsibilities*

- Reviewed underground storage facility application technical and draft permits
- Review recovery well applications
- Conduct pre-recharge site inspections
- Review quarterly and annual reports
- Conduct recharge rule and application packet meetings
- Prepare technical bulletins for storage facilities
- Review instream flow projects
- Conduct site visits for instream flow projects
- Review hydrologic models
- Conduct appropriability studies
- Review Water Protection Fund grants, site visit deliverables
-

Technical Support Section

Technical Support Section Responsibilities

- Review WQARF NOI's to drill and abandon wells
- Review NOI's outside areas of WQARF concern
- Evaluate groundwater withdrawal permit applications, including well impact analysis, for water quality implications in WQARF areas
- Evaluate groundwater withdrawal permit applications, including well impact analysis, for water quality implications outside of WQARF areas
- Evaluate AWS applications for proximity to WQARF and CERCLA sites
- Produce the annual WQARF Advisory Board report
- Inspect sites for vertical cross-contamination
- Prepare the groundwater monitoring report for Prescott

Statewide Water Planning

Policy Development and Planning Section

Ongoing activities within this section include interstate negotiations related to the Colorado River, the Arizona Water Banking Authority, Indian settlements and other major policy initiatives.

Policy Development and Planning Section Responsibilities

- Develop water supply and demand information for Arizona communities outside of AMAs
- Prepare special reports such as the ADWR review of the Upper San Pedro Basin for AMA designation
- Support interagency activities
- Provide coordination on border region water issues
- Monitor Endangered Species Act implications for water management
- Represent Arizona's interests in international and interstate water issues
- Support Indian Water Rights settlement activities
- Provide input on statewide water policy development

Water Resources Planning Section

Water Resources Planning Section Responsibilities

ADWR provides planning and technical assistance to rural Arizona where expanding populations, limited groundwater resources and unique environmental factors are major concerns. This assistance is provided primarily through partnerships with local watershed groups. Staff attend meetings throughout the state to facilitate planning objectives, provide data and hydrologic input, and apprise partnerships of Agency activities.

Current activities include supporting 17 watershed partnerships. Each watershed partnership has regular meetings; ADWR has official membership and is expected to attend. For some of the partnerships, ADWR has membership on

several subcommittees or working groups. The goal is to motivate and assist the watershed partnerships organizationally, technically, and financially in the development of long-range water resources management and conservation plans.

- ADWR Memberships Related to the Rural Watershed Initiative
 - Upper San Pedro: Staff Working Group, Technical Subcommittee, Administrative subcommittee, and the Partnership Advisory Council.
 - Middle San Pedro: Partnership
 - Lower San Pedro: Partnership
 - Coconino: Coconino Advisory Committee and Technical Subcommittee
 - Eagle Creek: Partnership
 - Upper Gila: Partnership
 - Upper Little Colorado River: Partnership and Technical Subcommittee
 - Upper Little Colorado River MOM: Partnership
 - Upper Bill Williams: Partnership and Technical Subcommittee
 - Upper Hassayampa: Partnership
 - Silver Creek: Partnership and Technical Subcommittee
 - Show Low Creek: Partnership
 - Northwest Alliance: Partnership
 - Upper Agua Fria: Partnership
 - Arizona Strip: Partnership

- External Committee Memberships with Regular Meeting Commitments
 - Navajo Nation Municipal and Non-municipal Task Forces
 - Oak Creek Canyon Task Force
 - Population Technical Advisory Committee
 - Rural Watershed Alliance
 - Mohave County Water Authority
 - Yavapai County Water Advisory Council
 - Northern Arizona Municipal Water Users Association
 - Rural Infrastructure Committee
 - NAU's Verde Watershed Research and Education Advisory Board
 - Verde Watershed and Natural Resources Association

Colorado River Management Office

The Colorado River provides 30 percent of Arizona's water supplies through mainstream entitlements and CAP allocations. The Secretary of the Interior, in consultation with the seven basin states, manages the River. This office provides policy and legal consultation for interstate, intrastate and international activities related to the Colorado River.

Colorado River Management Responsibilities

- Make recommendations to the Secretary of the Interior regarding allocation and transfer of Colorado River and CAP water

- Project water supplies and use for Colorado River communities, CAWCD, Indian and non-Indian CAP customers and AWBA
- Consult with Bureau of Reclamation (USBR) regarding annual reservoir and river operations for the delivery of water, and regarding the five year Long-range Operating Criteria for the Colorado River
- Coordinate with USBR, CAWCD and major Arizona Colorado River water users to forecast and manage annual water use within Arizona's 2.8 million acre-foot apportionment
- Develop the Multiple Species Conservation Plan for the Lower Colorado Basin
- Represent the state in Colorado River Basin Salinity Control Forum
- Represent the state on the Glen Canyon Dam Adaptive Management Work Group
- Represent ADWR on environmental issues related to statewide Endangered Species Act and National Environmental Policy Act issues, such as response to draft recovery plans, comments on Biological Opinions and Environmental Impact Statements

Office of Water Engineering

This office is responsible for the safety of all nonfederal dams in Arizona. It inspects and evaluates operating dams to determine if safety deficiencies exist and develops actions to remove the deficiencies. Additionally, this Office reviews applications for proposed new dams, monitors the construction of new dams and repairs for existing facilities to reduce the likelihood of catastrophic dam failure and mitigates flood damage through floodplain management. Staff works closely with other state and local entities to provide appropriate flood information through a statewide flood warning system to the National Weather Service and local entities to issue warnings to minimize risk for loss of life and property damage.

Office of Water Engineering Responsibilities

- Negotiate grants to secure engineering services for repairs to the highest priority unsafe ranked dams in Arizona
- Conduct detailed reviews of applications for dam construction and repair
- Perform safety inspections
- Contact owners of unregistered dams to assure that those dams are registered
- Add dams to the unsafe dams list

Water Quality Unit

Water Quality Unit Responsibilities

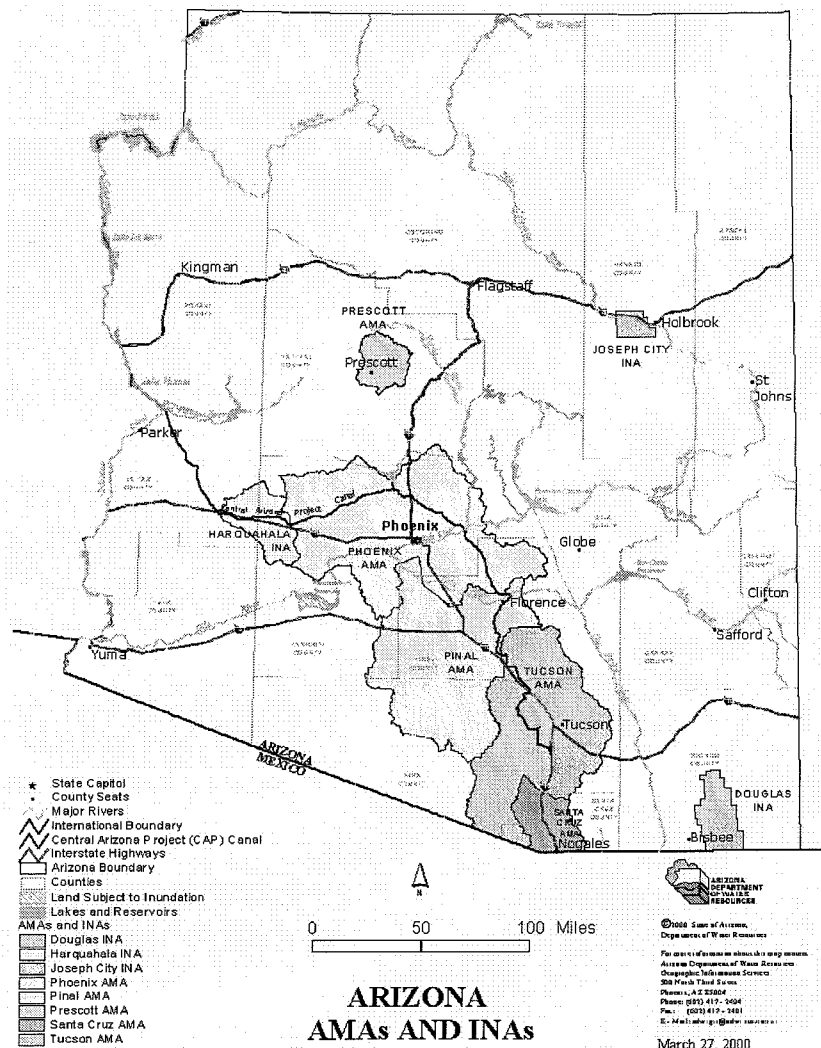
This unit coordinates with ADEQ concerning WQARF programs, including rule making, Payson's Remedial Action Program and Estes Landfill Remedial Action Program.

- Provide support for the WQARF Advisory Board
- Participate in negotiations for U.S. Supreme Remedial Action Plans for North Indian Bend Wash and the Apache Powder Company
- Participate in the development of the Federal Remedial Action Plan preparation for William Air Force Base

Water Management

Active Management Areas

Offices in each of the AMAs allow for a high level of customer service, and ability to respond to local issues and conditions in each area. Staff is responsible for administration of the area's water rights, permits and regulatory programs, and serve as the main point of contact for members of the public and the regulated community. The AMA staff develop and enforce mandatory conservation requirements for each water use sector, process annual water use reports, review and coordinate applications for underground storage and recovery and assured water supply. AMAs also develop water use information and projections, and water management policy and planning alternatives; coordinate their activities with other sections of ADWR and local jurisdictions; and manage grant programs for conservation and augmentation assistance and monitoring. AMA staff provide policy advice to local jurisdictions on an as-needed basis. In addition, the Phoenix and Tucson AMAs administer water rights in the Douglas, Harquahala and Joseph City Irrigation Non-Expansion Areas.



CRITICAL CHALLENGES AND OPPORTUNITIES

Short-Term

Staffing Concerns

ADWR is significantly understaffed to meet its legislatively mandated requirements and Agency goals. Staff turnover has been a constant concern, since ADWR staff are in high demand in the both the public and private sectors, which typically pay higher salaries. Although the Agency is currently authorized at 189.7 FTEs, General Fund levels only support 177. Most of the recent reductions in staff have resulted from the Agency's professional and management programs. Key directorate level staff (who are critical sources of institutional memory and key negotiators at the intra- and inter-state levels) have either left ADWR or are planning retirement in the near future. In addition to budget cuts, the increasing cost of ADWR's Phoenix building lease is a significant burden. The adverse impacts of these staff reductions include: longer permit processing; diminished water rights tracking, monitoring and compliance; less timely and thorough public assistance; reduced outreach activities; limited policy development and analysis; reduced support available for the Rural Watershed Initiative and water quality activities; inadequate ability to provide data and technical support for management decisions; and limitations on Arizona's ability to protect its water-related interests from interstate, international and other legal challenges.

Outstanding Legal Challenges/Lawsuits

ADWR has faced a significant increase in legal challenges in the last five years. As growth in the State continues at a dramatic pace, competition is increasing for the quickly diminishing supply of unallocated water. Increased environmental and neighborhood activism has led to challenges to ADWR permits that are requested by those seeking water supplies for industrial/agricultural users and for existing and new residents. ADWR programs that ensure the efficient use of water and that help stretch available supplies to meet more demands have also been challenged. Administrative appeals and hearings of objections to and denials of permits, and judicial review of those administrative proceedings, are on the increase, particularly in the Assured Water Supply and Recharge Programs.

Drought/Rural Water Supply

Arizona is currently affected by the most severe drought in at least the last 100 years. Although some portions of the state have received near-normal rainfall during the monsoon season, experts at the National Weather Service and elsewhere within the National Oceanic and Atmospheric Administration believe that the drought may continue well into next year and possibly longer. Climate experts believe Arizona may be in the beginning stages of a longer-term drought than has been experienced in recent history. Reservoir conditions on the Colorado River and throughout the state are at or near record low levels. The Salt River Project system is experiencing the most severe drought since 1902. This is the first time in the last century that the Salt/Verde River system has been in a drought condition at the same time as the Colorado River system. In addition to increased wildfires, the drought has resulted in huge economic impacts on rural areas that do not have supplemental water supplies. Water supply conditions are critical in Flagstaff, Prescott, Williams, Mayer, Payson, Pine-Strawberry and other communities on the Mogollon Rim.

Even in the absence of drought, water supply conditions in the communities of rural Arizona are a serious problem. Growth rates are very high, with projected continued growth in many communities that do not have the water supplies or the financial resources to sustain it. There are inadequate mechanisms to ensure availability of water supplies to support growth in the rural areas of the state. In addition, increasing demands for groundwater will continue to impact important springs and surface water flows that support riparian areas and recreation.

Upper San Pedro Basin Report

Staff is completing a three-year study of the Upper San Pedro Basin to determine if conditions exist that meet the statutory criteria for designation as an AMA. This review has involved public outreach, extensive research and substantial staff resources. The effort will culminate in a Hydrology Report and in an AMA Review Report. The AMA report will contain a recommendation on whether the Director should designate the basin as an AMA. This study will contribute important information and updated population, water supply and water demand data that is of benefit to ADWR, the public, research institutions, other agencies and resource planning activities in the basin, including the work of the Upper San Pedro Partnership.

LONG-TERM CRITICAL CHALLENGES AND OPPORTUNITIES

Long-Term Issues Affecting all Active Management Areas

Achievement of AMA Management Goals

The ability to achieve and maintain the long-term management goals within the AMAs is a key water management consideration for the state, and there is some question about the ability to meet these goals. Substantial progress has been made to date through use of renewable supplies, conservation programs and conversion of rights. Continued efforts will be required, but ADWR's projections show shortfalls in those efforts.

- In the Phoenix AMA, all credible projections for the year 2025 show continued overdraft conditions, though reduced from current levels.
- Projections for the Tucson AMA also show greatly reduced overdraft in 2025, but the use of CAP water must increase.
- The Pinal AMA's dual goal of maintaining the agricultural economy while preserving future municipal and industrial supplies can likely be met, though there are concerns about the storage and recovery of renewable supplies, drought provisions and the need to modify the AWS criteria to ensure sustainable supplies for municipal growth.
- In the Prescott AMA, current uses and commitments to serve new subdivisions will result in groundwater demands that are more than double the long-term sustainable supply of groundwater.
- In the Santa Cruz AMA, the goal of maintaining a safe-yield condition and local water levels is hampered by complex hydrology (inability to distinguish between surface water and groundwater), lack of adjudication of surface water rights, uncertainty of continued delivery of effluent from Mexico and the need to amend the AWS Rules.

Achievement of the AMAs' statutory goals and ensuring adequate, dependable water supplies will require continued development of both regulatory and non-regulatory programs and policies. In many cases ADWR's ability to influence critical water management decisions is both indirect and insufficient. Cooperative efforts with regional entities and technically sophisticated long-term planning will be critical to achieving the AMAs' water management goals.

Use of Renewable and Alternative Supplies

Conversion to non-groundwater sources is the single most important means of achieving the management goals within the AMAs. The AWS requirements are the major tool ensuring that new subdivisions in the AMAs use renewable water supplies. To continue recent positive trends, additional opportunities must be pursued to substitute renewable or imported supplies in place of mined groundwater. Expanding the types of users with mandatory replenishment obligations is an approach that has been considered in all of the AMAs and by the

Governor's Water Management Commission (GWMC). In both the Santa Cruz and Prescott AMAs, where access to renewable supplies is very limited, local communities have expressed interest in forming water management authorities to facilitate the importation, transfer and allocation of regional supplies.

Allowable Pumping

The Code allows most existing right-holders to pump groundwater without a replenishment obligation, and without regard to the impact on the management goal. In addition, a few types of new pumping are allowed, including General Industrial Use permits and exempt wells, even in areas experiencing overdraft.

Goal Refinement

The management goals of the Pinal and Santa Cruz AMAs are unique and require refinement. The Pinal AMA goal has two components: preserving the agricultural economy for as long as feasible, and ensuring that municipal and industrial uses have a reliable and sustainable water supply in the future. The Santa Cruz AMA management goal requires management of local water levels, as well as maintenance of the safe-yield condition. These goals add complexity and some ambiguity to the administration of ADWR's programs, including recharge and recovery, and most pressingly, the AWS Rules. The Pinal AMA's existing AWS rules over-allocate groundwater supplies, and the Santa Cruz AMA has not yet adopted AMA-specific AWS rules and well-spacing criteria related to consistency with the management goal.

Sub-Area Issues

The management goals of the AMAs are administered on an AMA-wide basis and do not fully take into account localized conditions (with the partial exception of the Santa Cruz AMA). Safe-yield in the Phoenix, Tucson and Prescott AMAs would provide some overall level of resource sustainability, but would not prevent localized declines in groundwater levels and the associated adverse impacts.

Physical Availability

There are currently portions of the Phoenix AMA, such as the Carefree Sub-basin, which do not have sufficient groundwater supplies to demonstrate a 100-year assured water supply. In other areas, notably in the Prescott AMA, shallower domestic wells run dry due to intensive groundwater pumping and drought conditions (many areas lack access to adequate groundwater supplies even in the absence of drought conditions). As further development takes place, the number of locations that are facing similar problems will increase. Over-allocation of existing supplies could also result in supply constraints and disruptions in areas that are not growing.

Land Subsidence

Land subsidence and fissuring are two of the most serious consequences of overdraft. The Phoenix, Pinal and Tucson AMAs all have measurable and ongoing levels of subsidence, and there are well-documented cases of damage to transportation, water, sewer and flood-control infrastructure. A notable example is the greater than 15 feet of land subsidence which has occurred in the vicinity of Luke Air Force Base since the 1950's. Preventive measures, including use of renewable supplies, conservation and monitoring and well spacing rules, and designing infrastructure to deal with anticipated subsidence can be cost-effective alternatives to infrastructure repair. However, damage to the aquifer associated with subsidence may be irreversible.

Riparian Habitat and Perennial Flow

The riparian habitat associated with perennial and intermittent streams is among Arizona's most prized assets. Though there are relatively few naturally occurring areas remaining within the AMAs, there is growing community recognition of their ecological, cultural and economic value. There is currently no legal authority to regulate groundwater pumping adjacent to these areas.

Waterlogging

Portions of the Phoenix AMA suffer from poor drainage and water levels at or near the land surface. Natural geologic formations, coupled with water use patterns, result in waterlogging in the vicinity of the Buckeye, Arlington and Saint Johns Irrigation Districts. Though there are statutory provisions designed to mitigate the problem, waterlogging is an ongoing threat to agricultural productivity and to sub-surface infrastructure.

Water Quality

Though often considered separately, there is an intimate connection between water quality and quantity. Groundwater contamination from municipal, industrial and agricultural processes is a concern in all of the AMAs. There is also an emerging awareness of constituents in effluent, including pharmaceuticals, disinfection by-products and viruses that may harm water supplies. In addition to the numerous human-caused pollutants that diminish or restrict the use of supplies, increased salinity associated with CAP water and effluent reuse is a concern in some areas.

Coordination

Water issues are invariably complex and multifaceted. Effective water management requires coordination to avoid inefficiencies arising from multiple supply sources, a complex regulatory environment and occasionally conflicting policy objectives. As the regional representatives of ADWR, AMA staff are often in a unique position to assist in coordination. Participation levels range from publicizing and hosting meetings, to providing technical and analytical support, to initiating and encouraging new regional partnerships. Existing staffing reductions have already curtailed the degree to which the AMAs can effectively serve in this capacity, to the long-term detriment of management of the state's water resources.

Regional Partnerships

The geographic and economic scale of many water resource issues lend themselves to regional solutions. ADWR's broad role in water management has often proven helpful in bringing together disparate interests. The AMAs are involved in a broad range of cooperative efforts dealing with policy, planning and outreach. Failure to maintain this role may delay or jeopardize resolution of regional issues.

Inter-Agency

Key water resource management responsibilities are split among many federal, state and local agencies. Coordination of agendas is currently inadequate, and encouraging a cooperative atmosphere for long-term planning is a high priority. Key state and federal water management agencies include the Central Arizona Water Conservation District, the Central Arizona Groundwater Replenishment District, the Arizona Water Banking Authority, the Arizona Department of Environmental Quality, the Arizona Corporation Commission, the Environmental Protection Agency, the International Boundary Water Commission (IBWC), the Bureau of Reclamation, and ADWR.

Involvement of Regulated Community

ADWR has consistently made a commitment to include stakeholders in the review, modification and development of programs and policies. In addition to the statutorily-established Groundwater Users Advisory Councils (GUACs) in each AMA, both formal and ad hoc groups exist to ensure open dialog between ADWR and the regulated community. The existence of these forums, and the trust they help establish, have been instrumental in gaining support for key programs and policies sought by ADWR. However, the agency's ability to maintain these forums and relationships is affected by staffing limitations.

Bi-National

There are serious long-term water supply issues in the U.S. - Mexico border region that have become critical. Water use and population growth in Mexico affect Arizona's water resources and water management efforts. This issue most directly affects the Santa Cruz AMA, which relies heavily on the effluent generated within

Sonora and on surface water inflows in the Santa Cruz River. Mexico retains a legal treaty right to its effluent, but this supply, which is treated at the International Water Wastewater Treatment Plant in Nogales, Arizona, is discharged in the Santa Cruz AMA. Long-range planning and supply reliability are compromised by the uncertainty of that supply. Coordination with water users and federal, state and local agencies regarding conservation, supply planning for drought and growth is necessary. Other international activities, including those of the International Boundary Water Commission can significantly impact Arizona and require close attention.

Monitoring and Planning

Water management decisions are increasingly reliant on predictive modeling and more sophisticated sources of data. ADWR has made considerable investments and progress in developing technical capabilities, but the quality and completeness of some of ADWR's data, notably water budget information for the Phoenix and Prescott AMAs, have been challenged by parties disputing ADWR's programs and policies. These data sources form the foundation of many critical programs and planning efforts both within ADWR and externally. Ensuring the quality of those baseline data is an ADWR priority.

Recharge and Recovery Planning

The recharge and recovery program has been a major policy success, allowing renewable supplies, particularly CAP water, to be put to use much more extensively and less expensively than would have otherwise been possible. Recharge has also been the mechanism by which the AWBA has fulfilled the crucial objective of putting Arizona's entire Colorado River allocation to use. However, there is an ongoing and increasingly urgent need to engage in long-range planning for recharge and recovery. Some three million acre-feet have been stored in the central AMAs and there are issues related to how that stored water will be recovered and the longer-term effects of large-scale recharge and recovery. The two non-CAP AMAs (Prescott and Santa Cruz) have more limited opportunities for recharge, but have pressing needs to manage supplies in ways that could be assisted by storage and recovery. As many areas of the state become increasingly dependent on recharge and recovery, it is critical that recharge activities and utilization of storage space in our aquifers be optimized to best meet the state's land and water use needs.

Hydrologic Modeling

The Hydrology Division has developed groundwater models for each of the AMAs. The AMAs have acted in a supportive role to the Hydrology Division in the development of scenarios of future conditions. This work, in conjunction with creation of projected water budgets, is an important part of how trends, policies and proposed water resource investment programs are analyzed and evaluated. The reasonableness and utility of projections depend on detailed input from staff with different program responsibilities and a high degree of quality control, both of which can suffer without adequate resources. In addition, the models that have been developed are not as fully utilized as they could be if staffing constraints were not so severe.

Data Collection, Tracking And Dissemination

The AMAs bear primary responsibility to collect and analyze annual groundwater use data. The size and complexity of these activities have grown considerably over time. The AMAs must collect and track data that retains unique hydrologic and legal characteristics and integrate the data with hydrologic modeling, program administration, compliance and water budget development activities. In cooperation with Hydrology staff, each of the AMAs has recently expanded its commitment to comprehensive aquifer monitoring and implementing improvements to database design. The Hydrology Division now produces annual monitoring reports for the Prescott and Santa Cruz AMAs. In addition to increasing the accuracy of the data, efforts are underway to ensure that data can be disseminated in ways that are accessible to both technical and general audiences.

INTERSTATE COLORADO RIVER ISSUES

Mexico

Increasing water demands in Mexico are creating political pressures to increase water deliveries to Mexico, impacting the amount and dependability of Colorado River water supplies available to Arizona. The 1944 Treaty with Mexico apportions 1.5 million acre-feet (MAF) of Colorado River water in normal years to Mexico, and 1.7 MAF in surplus years. Minute 242 of the Treaty requires that the U.S. deliver water at the Northerly International Boundary of a quality not to exceed 115 parts per million total dissolved solids (+/-30) greater than the quality of water at Imperial Dam.

Within Mexico, approximately 2.5 million people and nearly 500,000 acres of agricultural land are completely dependent on the Colorado River. Non-governmental agencies in the U.S. and Mexico, and the Mexican Government are now requesting water from the U.S. to restore and maintain habitat in the Colorado River Delta. Non-governmental organizations are also requesting more water from the U.S. be provided to Mexico for environmental purposes.

Mexico and the U.S. signed Minute 306 in the year 2000 requiring the two countries to study the environmental water needs of the Colorado River Delta within Mexico. Arizona is participating with the other six Basin States to monitor the discussions and provide input to the IBWC regarding protection of the water supplies available to the states.

Inter-basin Water Transfers Between the Upper and Lower Colorado River Basins

The Colorado River Compact of 1922 divided the Basin into the Upper and Lower Basins and apportioned 7.5 MAF to each. Arizona's entitlement comes primarily from the Lower Basin apportionment. Proposals are occasionally made to use water apportioned to the Upper Colorado River basin in the Lower Basin and vice versa. The Colorado River Compact prohibits these water transfers. However, Utah and New Mexico need to use their Upper Basin apportionments in parts of their states that lie in the Lower Basin. Both states may invoke the dispute resolution section of the Compact to resolve this issue. The Arizona Legislature must ratify this action. The states may also ask Congress to authorize the water transfer as part of pending Indian water rights settlements. If so, the Arizona delegation must be apprised of the position of the State of Arizona.

These issues are very important to Arizona for two reasons. First, increased water uses caused by the transfer of water to the Lower Basin will impact the dependability of water supplies to Arizona. There is tremendous demand for water in California and Nevada. Opening the Compact to general inter-basin transfers could be highly detrimental to Arizona. Second, Arizona needs to support the Upper Basin states, which oppose inter-basin transfers because such transfers would reduce water available to the Upper Basin states. Arizona has allied with the Upper Basin states for many decades in successful efforts to protect the state's vital interests in negotiations with California, and this relationship is essential for the foreseeable future.

INTRASTATE COLORADO RIVER ISSUES

Water Allocations

ADWR is responsible for making recommendations to the U.S. Secretary of the Interior regarding the allocation of Colorado River water to mainstream water users and to customers of the CAP. ADWR also makes recommendations on the transfers of CAP water allocations based on substantive policy statements. Arizona used its entire 2.8 MAF allocation of Colorado River water in FY 2004. To ensure that the state will not exceed its entitlement ADWR must:

- Curtail or authorize to continue unauthorized water uses.
- Coordinate annual water use accounting between the mainstream water users and the CAP to optimize water deliveries.

- Recommend new water allocations for the CAP and mainstream users.
- Review and recommend water transfers.
- Recommend a new water transfer policy for mainstream entitlement holders.

All Colorado River water users must have a contract with the Secretary of the Interior to use Colorado River water. Several large water users on the river do not have contracts and are considered unauthorized water users. Also, many small well owners are withdrawing water from the Colorado River and must obtain permission to continue to use water. The Bureau of Reclamation (BOR) has begun a two-year rule making process to address unauthorized water users and other water contract administration issues. When BOR adopts its rules, an Arizona law will be activated that will require ADWR to more closely manage and monitor well drilling activities along the river. ADWR will also have to recommend allocations of water to entities that must secure contracts to continue their current uses. The reallocation process is an intensive public process involving public meetings, informal hearings and a decision by the director.

ADWR assists the CAP and mainstream districts with annual water use accounting so that the state can maximize its Colorado River water use, but not exceed its 2.8 MAF apportionment. ADWR should consult with BOR with regard to unauthorized water users, contract changes, water use accounting and water resources policy changes. The primary benefit is the continued protection of Arizona's Colorado River apportionment.

Rural Water Management Planning on the Colorado River

Water resources information is critical to properly recommend allocations and transfers of Colorado River water. In addition, local interests frequently require assistance from ADWR in developing and implementing consensus water management solutions.

The Yuma area irrigation districts, City of Yuma, Yuma County and ADWR meet regularly to discuss water management issues that are critical to the Yuma area. The informal organization is called the Yuma Area Water Resources Management Group. This group meets with the federal Reclamation team to discuss drainage issues, water allocation issues, salinity and desalter issues, and other water-related issues.

The Mohave County Water Authority is a political subdivision of the state created by statute for the purposes of holding water contracts for Colorado River water and for allocation of water to member agencies. Within La Paz County, there are several small communities and irrigation water users that hold contracts for Colorado River water.

Current issues include:

- Improving drainage pumping in the Yuma area
- Obtaining temporary Colorado River water supplies for the U.S. to offset the desalter bypass flows
- Improving consumptive use accounting in the Yuma Area; BOR does not properly account for return flows in the Yuma area
- Preparing plans to mitigate water shortages in the Mohave County area
- Transferring water entitlements between water users in all counties.

Multi-Species Conservation Program

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) is a multi-state environmental compliance program. The Program goal is to develop a comprehensive plan to restore the habitat of several endangered species that are found within the floodplain area of the lower Colorado River. Program participants include the lower division states, several federal agencies and tribes.

Two events led to the formation of the LCR MSCP. In 1994, critical habitat was designated within the Lower Colorado River for the razorback sucker and the bonytail chub. In 1995, the southwestern willow flycatcher, a migratory bird that utilizes habitat within the Colorado River corridor, was listed as an endangered species. Water and power interests in the three states were concerned that these species would continue to decline and that, in response, the federal government would require unacceptable changes to dam operations, power production and water availability.

Arizona seeks National Environmental Policy Act compliance and Federal Endangered Species Act (ESA) coverage for "covered actions". Arizona covered actions include water deliveries pursuant to existing Colorado River water rights, the operation and maintenance of existing facilities, and the contracting for, ordering and scheduling of federal hydroelectric power by purchasers in Arizona to maximize the economic value of such power generation within the constraints of the water release schedule.

The LCR MSCP is intended to assure that the benefits provided by the River to Colorado River communities, CAP subcontractors, power users, and recreational and environmental interests are not unnecessarily reduced in amount or increased in cost. Participation in the LCR MSCP will provide a framework for ESA compliance that supports the state's continued economic growth and development. Federal legislation will obligate California, Nevada, Arizona and BOR to a multi-decade project to build critical habitat for several endangered aquatic and terrestrial species.

STATEWIDE WATER ISSUES

Indian Water Rights Settlements

Tribal claims are based on the federal reserved rights doctrine outlined by the U. S. Supreme Court in the *Winters* case in 1908. When adjudicated, these rights have senior priority dates to most state-based rights. Litigation to quantify Indian water rights claims is a lengthy and expensive process. Settlement of the tribal claims benefits private and public parties by providing the water certainty necessary for long-term economic development. Arizona is currently conducting two massive stream adjudications -- the Gila River (26,500 litigants) and the Little Colorado River (LCR) (3,211 litigants). Settlements may be less expensive than litigation. The greatest benefit of settlements may be the goodwill created by neighboring communities working together for Arizona's future.

The Gila River Indian Community (GRIC) settlement and amendments to the Southern Arizona Water Rights Settlement Act (SAWRSA) were recently introduced in Congress as part of a larger package to resolve CAP repayment issues and division of the remaining unallocated CAP water between state entities and the federal government. The GRIC settlement will be the largest in terms of dollars and water in the West. Almost 40 entities in six counties have participated in the negotiations. ADWR played an integral role in protecting the rights of state-based water users in reaching all of these settlements. ADWR interacts with the Governor's Office, fellow state agencies, and the Legislature to assure that state interests are fully apprised of settlement activities.

ADWR also has a leading role in the settlement of the claims of the Navajo Nation, the Hopi Tribe, and the San Juan Southern Paiute Tribe within the Little Colorado River (LCR) Basin. Such a settlement would encompass the entire LCR basin from Flagstaff to Springerville. Earlier discussions have included proposed pipelines to bring water from the Colorado River to areas within the Basin. ADWR's role is to protect Arizona's rights to the Colorado River as outlined in the interstate compacts and U.S. Supreme Court cases. Talks also continue with the San Carlos Apaches about uses in the upper Gila River basin, and new discussions with the Tohono O'odham Nation are expected soon for the Sif Oidak area south of Casa Grande.

The GRIC Settlement proposals and the SAWRSA Amendments should continue to be supported by the State as they move through the Congressional approval process. Both settlements will involve statutory changes and financial contributions from the State in the form of appropriations, services or firming obligations.

Adjudications Issues

Progress in the adjudication of surface water rights within Arizona has been slow in recent years due to setbacks in the legal process. Recently, the adjudications in both the Gila River and Little Colorado River (LCR) watersheds have moved forward, and the Adjudication Courts have begun to request more assistance from ADWR regarding claims waiting to be adjudicated. As a general matter, the court is adjudicating Indian and federal non-Indian claims first, then intends to move to individual claims of which there are just under 29,000 in the Gila and Little Colorado Rivers combined. The adjudication is probably decades away from being completed.

Major claims yet to be addressed by the court involve the Hopi and Navajo lands in the Little Colorado River adjudication. In the next couple of years, the court has indicated that it would like ADWR to begin work on a HSR for the Hopi lands. This effort will require significant staff resources.

Surface Water Issues

Water Rights Located on Federal and State Land

In 1995, House Bills 2276 and 2193 were enacted, which in part, attempted to clarify ownership of water rights on state and federal land. In 1999, many of the provisions within these bills were declared unconstitutional, which left unresolved legal issues concerning water uses on federal land. The state land provisions were upheld. As a result, ADWR has taken no action regarding applications for new water rights or assignments of water rights on federal land since 1999. In addition, ADWR has not taken action on applications filed before 1999 on state lands.

Flood Control Structures

Due to the availability of federal funds, many entities throughout the state want to construct flood control structures. Water cannot be stored without being put to beneficial use and flood control is not a beneficial use by statute. This has caused a lot of controversy and has made it necessary to increase ADWR efforts to educate the public and other agencies about surface water.

Rural Watershed Initiative

The future of funding for the Rural Watershed Initiative is unknown at this time. Without completing hydrologic studies in rural Arizona, most of rural Arizona will have inadequate planning information regarding the state of the groundwater system within the watersheds.

Increasing populations in rural Arizona necessitate the development of water management and conservation plans to ensure adequate water supplies for the future of the rural communities and towns. The Rural Watershed Initiative was the primary source of funding for technical studies in rural Arizona. Discontinuation of funding for the Rural Watershed Initiative will also result in the loss of matching funds from other sources.

Border Water Issues

Long-term water supply availability issues in the U.S.- Mexico border region are receiving increasing attention as conditions become more critical. Water using activities and population growth in Mexico affect Arizona's water resources and water management efforts. Coordination with water users and other agencies in the border region regarding water conservation opportunities and water supply planning for drought and growth is necessary. The IBWC has indicated an interest in working on a bi-national groundwater management treaty.

Power Plant Line Siting Issues

Development of new power plants in Arizona may have a significant impact on future water supply availability, both in rural communities and within AMAs. Although dry cooling methods exist, Arizona does not require the use of this technology. The Director of ADWR, or the director's designee, is a statutorily prescribed member of the Power Plant and Transmission Line Siting Committee. This Committee considers applications for new power plants and corridors for

transmission lines, and balances the need for new power sources and reliability against environmental factors. A Certificate of Environmental Compatibility is a permit to construct issued by the Corporation Commission upon recommendation of this Committee. ADWR reviews the water source and reliability for a proposed power plant, and assesses its impact on water resources in the surrounding area, including groundwater depletion and land subsidence.

Recharge Program

Staff from each of the AMAs, Hydrology and the Office of Legal Services supports this program. The Underground Storage, Savings and Replenishment (Recharge) Program has been in place since 1986. The purpose of the program is to maximize utilization and storage for future use of CAP water, surface water and effluent.

The Underground Storage, Savings and Replenishment (Recharge) Program is critical to the implementation of effective groundwater management programs. Credits generated through this program are used in a variety of ways, including meeting AWS requirements for renewable supply use. Permits issued by ADWR pursuant to statute govern recharge activities in Arizona. The table below summarizes the permit status; most were issued in the last five years.

Once a permit has been issued, ADWR monitors the performance of the recharge facility to ensure that it continues to meet the statutory criteria and to track the resulting credits. ADWR staff evaluates reports, which are submitted by every permit holder on at least an annual basis. Staff examine each report for accuracy and completeness as well as compliance with permit conditions, which may include water level and water quality limits, as well as other requirements.

Recharge credits are then calculated based on water stored and recovered during the year. Credits are tracked internally as well as reported to permit holders. At this time, over three million acre-feet of recharge credits are held by more than 70 different entities.

Office of Assured and Adequate Water Supply

This office processes all of the applications to demonstrate an AWS within AMAs, and an adequate water supply outside of AMAs. These demonstrations ensure that consumers purchasing land in new subdivisions are aware of water supply availability outside of AMAs, and that a 100-year supply of (primarily renewable) water of adequate quality and quantity is available for new subdivisions inside AMAs. Despite the economic slowdown, the numbers of applications for Assured and Adequate Water Supply continues to increase.

Office of Assured and Adequate Water Supply Responsibilities

- Processed Certificates of AWS/Adequacy
- Processed Designations of AWS/Adequacy
- Reviewed applications for membership in CAGRD
- Processed amendments to Certificates/Designations
- Processed exemptions
- Issued reliance letters
- Processed annual reports from Designations

Water Management Support Section

This section manages surface water rights and certain groundwater rights and permits, maintains water rights records, provides information to the public, and provides imaging and library services.

*Water Management Support Section Responsibilities*Water Right (Surface Water) Unit Responsibilities

- Issued permits, certificates and claims for rights to use surface water
- Amended surface water right records
- Prepared and conducted field investigations
- Reviewed Statement of Right of Claims forms

Groundwater Unit Responsibilities

- Processed Notices of Intent to Drill a well
- Processed Notices of Intent to Abandon a well
- Processed requests for variances
- Processed applications to renew or reactivate a well driller's license
- Processed applications for a new well driller's license
- Processed applications for a single well driller's license/exams
- Conducted onsite well inspections
- Participated in administrative hearings
- Located and capped open wells

Records Management, Document Imaging, Water Resources Information and Library Units Responsibilities

- Responded to public inquiries
- Processed fees
- Entered surface water records into database
- Entered groundwater records into database
- Available publications, reports, maps for sale:
 - 11 CD ROMs
 - 89 maps
 - 12 books
 - 13 modeling reports
 - 3 hydrologic monitoring reports
 - (\$35,000 Information Central sales annually)
- Participated in information/outreach events

Arizona State Library and Archives



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