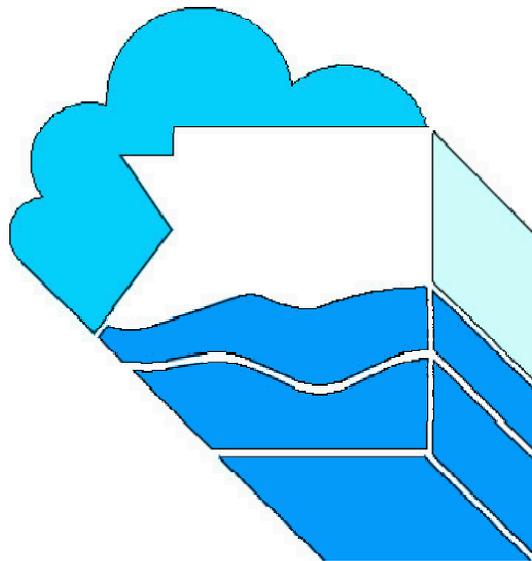


State of Arizona

DEPARTMENT OF WATER RESOURCES

ANNUAL REPORT



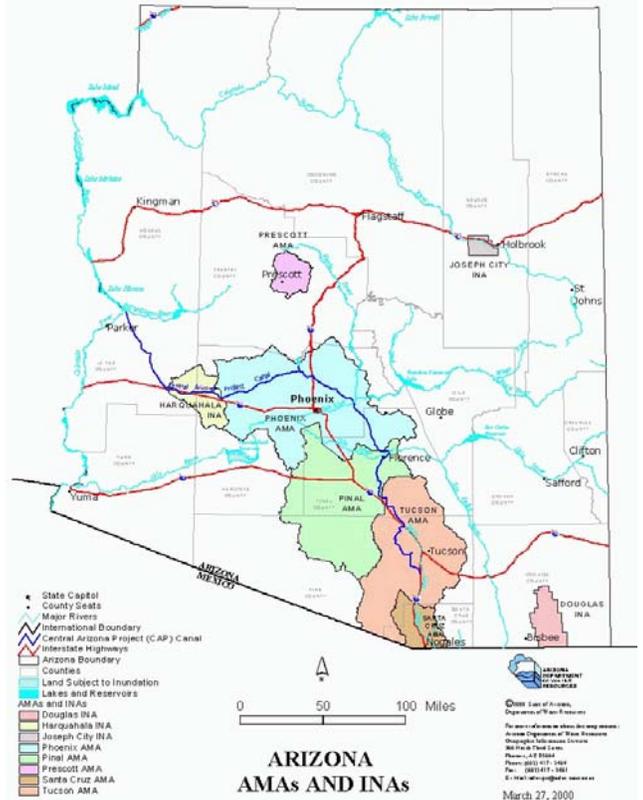
FY 2007-2008

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Executive Summary

The Arizona Department of Water Resources (ADWR) manages the State's water supply. Water management includes a wide variety of activities that are intended to protect and preserve the water supply. Examples of these activities include licensing well drillers, assuring the safety of dams, and developing mandatory conservation requirements for all water use sectors in Active Management Areas (AMAs), 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. Since ADWR was created in 1980, ADWR 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 in 1980 as a result of the institutional knowledge of 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 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, drought planning and response, protection of the State's rights to Colorado river water, 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 a platting entity in an AMA or in a city, town or county outside on an AMA that has adopted a mandatory water adequacy ordinance.

The primary mission of ADWR is to ensure an adequate quantity and quality of water 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 6 million within the AMAs and 1.8 million in the rest of the State. This represents a 280 percent 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 is also used or claimed by a number of Indian tribes whose legal rights to quantities of water currently are the subject of settlement negotiations or litigation as part of the adjudication of water rights within the State. The outcome of these proposed settlements and 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. ADWR Director Herb Guenther announced in early 2006 the formation of a Statewide Water Advisory Group (SWAG) to discuss programs needed to continue developing a reliable water supply for the future. The

purpose of the SWAG is to advise the Department regarding programs for water resources development and management that are needed to provide a reliable future water supply throughout Arizona. The SWAG first met in May 2006 and over the course of several months developed legislative proposals intended to help address rural water needs. The resulting legislation was passed by the Legislature and became effective in August 2007. The SWAG continues to meet and explore opportunities for improving water management in Arizona.

Substantial progress has been made within central Arizona in moving toward a sustainable water future, and with the new laws passed by the State Legislature, in rural Arizona as well. ADWR's long-term view of water management needs has served the State well.

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 Mission/Vision Statement of ADWR is:

- 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 risk of loss of life and damage to property

ACCOMPLISHMENTS FY 2008

Community Water Planning

Drought Planning for Community Water Systems

The Statewide Drought Program and Statewide Water Conservation Office worked this year to implement drought planning and water use reporting regulations established by the Legislature in 2005 and to provide assistance to water providers in meeting these requirements.

System Water Plans – In FY 2008, ADWR completed its reviews of approximately 200 large system plans and conducted preliminary reviews of about 400 small system plans. It is clear from ADWR's review that water providers need assistance in securing emergency supplies and preparing for potential water shortage conditions, and this will be a primary focus for ADWR in 2009.

Annual Water Use Reports – Staff focused its efforts this year on improving the online water use reporting tool as well as the paper report forms with the goal of gathering more accurate data and improving the compliance rate. ADWR continues to encourage water providers to use the online reporting option to reduce department costs and increase program efficiency. From reporting year 2006 to 2007, the number of online reporters increased by 10%. ADWR anticipates this number will continue to increase.

Education and Outreach

Another large component of the Statewide Drought Program's and Statewide Water Conservation Office's work this year focused on education and outreach to raise public awareness about drought preparedness and

conservation in Arizona. Staff improved web site design, created fact sheets, and conducted workshops. In concert with ADWR's active management area conservation staff, the Statewide Water Conservation Office promoted water efficiency technology transfer to businesses statewide.

Using water more efficiently is a critical element in Arizona's long-range plan for securing a sufficient water supply. To accomplish this, ADWR's Statewide Water Conservation Office and active management area conservation staff worked to create a culture of conservation and respond proactively to conservation needs around the state. ADWR focused on creating a more integrated approach to water conservation between the active management area offices and the Statewide Water Conservation Office (which handles areas outside the AMAs).

In FY 2008, the Statewide Water Conservation Office concentrated on implementing water efficiency programs, leak detection, and education and outreach programs. The Statewide Water Conservation Office's greatest water conservation success, to date, has been in the commercial food service sector through this retrofit of water and energy efficient pre-rinse spray valves. The spray valve or "Rinse Smart" program has been implemented in concert with Salt River Project and the Southwest Gas Corporation. As the water efficiency programs increased in popularity, businesses throughout the state reported significant water savings this year. Through the installation of 1,777 spray valves, approximately 16 million gallons of water and 750 tons of carbon were saved this year. In addition, with support from the Arizona Department of Administration and Department of Economic Security, ADWR worked with seven state agencies to replace high water use spray valves used in cafeterias with lower water use, higher pressure valves. This retrofit effort is saving each agency thousands of gallons of water each day (approximately 50% in water savings).

Local Drought Impact Groups

To date, the Statewide Drought Program, in cooperation with local coordinators, has established or begun planning efforts for 10 local drought impact groups in Arizona. These local drought groups are working to improve drought preparedness in Arizona through drought mitigation and response, education and outreach, and drought impact monitoring efforts at the local level.

To assist the local drought groups in meeting their goals, ADWR played a key role in developing AZ DroughtWatch (<http://azdroughtwatch.org/>). This interactive web tool is designed to collect and display qualitative reports of drought impacts across Arizona. Impact information will be used in conjunction with meteorological and hydrological data to characterize drought conditions, and perhaps more importantly, to help determine the environmental, social and economic impacts of drought on our state. ADWR anticipates this tool will provide benefits to many other sectors beyond the local drought groups in the future.

Colorado River

- In December 2007 the Secretary of the Interior signed the Record of Decision for the Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead. The shortage guidelines are based on a shortage strategy developed by Arizona water users who participated in the Arizona Shortage Workgroup.
- Projected runoff conditions in the Colorado River Basin have improved sufficiently that equalization water releases from Lake Powell to Lake Mead will occur in 2008. Water from Lake Powell will be released to maintain minimum water levels in Lake Mead sufficient to provide three years of normal water supply to the Lower Colorado River Basin. The mandatory release of water to protect Lake Mead is required by the new Coordinated Operations Guidelines. ADWR continues to monitor watershed conditions and work with the other Basin States and Reclamation to implement the new operating guidelines.

Rural Arizona

- The Statewide Water Conservation and Strategic Planning Division within ADWR, which includes Drought Planning, Statewide Water Conservation, Environmental Planning, Regional Strategic Planning and Resources Assessment Planning, assisted rural Arizona in assessing existing water resources and developing realistic plans for future needs. The first annual water Community Water Systems plans and annual water use reports were submitted to the Department in 2007. These reports will provide information and data to assess needs and identify programs for water resources management throughout Arizona.
- Provided informational workshops to County and local officials regarding the positive benefits of adopting an adequacy requirement for their jurisdiction as a result of legislation which originated from the Statewide Water Advisory Group (SWAG) last year. This work was in preparation for the development of a Rules package required in the legislation to facilitate the implementation of the local ordinances.

Conservation Program

In FY 2008, the ADWR Conservation Program was created to coordinate the mutual statewide goals of the Statewide Water Conservation Office and AMA offices, and to provide a more integrated approach to water conservation in Arizona. Its mission is to promote and encourage the wise and efficient use of water by providing assistance and resources throughout Arizona. Staff developed the *ADWR Conservation Program 2008-09 Plan*, which will be the main focus or priority for all members of the Conservation Group over the next two years.

The Conservation Program also developed an Executive Order designating April as water awareness month. Executive Order 2008-19 was issued by the Governor in March 2008 and reminds all Arizonans of the fragile nature of our arid environment and the importance of creating a culture of conservation.

Dam Safety

- Negotiated settlement to a Notice of Violation for illegal construction and operation of four jurisdictional dams at Bar Boot Ranch, LLC in Cochise County. The settlement requires the four dams be modified to be in compliance with State law and payment of \$10,000 in civil penalties.
- Participated in several on-going efforts towards rehabilitation and interim-time risk reduction at Magma Dam in Pinal County (Elevated-Risk Unsafe Dam), including:
 - Installed flood warning equipment at the dam and in the watershed
 - Facilitated development of early-warning emergency action plan involving cooperation of the dam owner, NWS, Maricopa and Pinal Counties
 - Acted as technical advisor to AZ School Facilities Board in flood-hazard assessment related to construction of Magma Ranch Elementary School
 - Worked closely with the dam owners' engineers and geologists to expedite review and approval of engineering studies
 - Supported passage of SB 1289 giving bonding authority to the Magma Flood Protection District for financing needed repairs

Construction of the needed repairs is scheduled to begin in February 2009.

- Negotiated Dam Repair Fund grant to Eastern Arizona College for engineering services related to the safe removal of Cook Reservoir Dam in Graham County (Elevated-Risk Unsafe Dam). Removal is scheduled to occur in FY2009.
- Performed 83 dam safety inspections of operating dams while identifying 27 dams with safety deficiencies requiring correction.
- Approved 9 permit applications for dam construction, removal, or alteration within licensing time-frames. Completed oversight and accepted final construction documentation for 5 permitted application projects.

Floodplain Management

- Performed 15 Community Assistance Visits for compliance to the National Flood Insurance Program (NFIP) while identifying 5 communities with compliance deficiencies.
- There were nine additional Community Assistance Visits (CAV) or Contacts (CAC) performed under the 2008 Community Assistance Program (CAP) contract with the Federal Emergency Management Agency (FEMA) that expires September 30, 2008.
- Conducted seven training workshops or presentations about the NFIP and Floodplain Management such as Substantial Improvement or Damage and the FEMA Elevation Certificate.
- Participated in multiple Digital Flood Insurance Rate Map update meetings and facilitated disputes between local entities and FEMA.
- Adopted State Standard 10, "State Standard for Hydrologic Modeling Guidelines."

Water Management

- Last year the Department reported the passage of legislation that created an additional regulatory program aimed at increasing the water use efficiency for the municipal sector in the Active Management Areas. The program requires water providers to develop conservation programs focused on the water use characteristics in their service area to more effectively address their largest water users. In 2007, the Director signed the orders of adoption modifying the third management plan for all AMAs.
- The Data Management Section in cooperation with the Active Management Area staff compiled information and water report information to develop detailed water budget information detailing current water use information. The water budgets are slated to be available on-line in July 2008 on the ADWR Web Site for public access.
- In cooperation with local stakeholders, ADWR has continued the development of Assured Water Supply rules for the Santa Cruz AMA. The rules focus on consistency with the AMA goal to maintain a safe-yield condition and prevent local water tables from experiencing long-term declines.
- The Department began a series of extensive stakeholder meetings to review the proposed modification of the Adequate Water Supply Rules to reflect the changes as a result of the SB1575, passed in 2006. The Department anticipates that the Rule package will be forwarded to the Governor's Regulatory Review Council in early fall of 2008.

- The Department began working with the Phoenix AMA designated water providers to begin the process to modify their Assured Water Supply determinations. The Department is developing a process for providing consistent information to increase the efficiency of the application process and the utilization of the Salt River Valley Groundwater Model for this process. The Department expects that the tools necessary to begin receiving the necessary information should be complete in late summer of 2008.

AGENCY PRIORITIES

Protect and Fully Utilize Arizona's Colorado River entitlement and other renewable water supplies.

In December 2007, the Secretary of the Interior signed the Record of Decision for the Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (Interim Guidelines). The shortage guidelines are based on a shortage strategy developed by Arizona water users who participated in the Arizona Shortage Workgroup. ADWR continues to monitor watershed conditions and work with the other Basin States and the Bureau of Reclamation to implement the new operating guidelines.

ADWR recently joined with the other Basin States, Reclamation and the International Boundary and Water Commission (IBWC) to discuss shortage management and supply optimization/augmentation opportunities with Mexico. The US and Mexican Sections of the IBWC are leading this effort to identify measures to improve system efficiencies and the reliability of water supplies for both countries, as well as identify opportunities for water augmentation to address future needs.

Arizona has experienced a brief respite from continuing drought conditions. Runoff in the Colorado River Basin has improved so that releases from Lake Powell are expected to move additional water into storage in Lake Mead in 2008. This exceeds the minimum objective release of water that has characterized annual operations in recent years.

ADWR continues its leadership role to implement the Lower Colorado River Multi-Species Conservation Program (MSCP). The MSCP is a 50-year, multi-state and federal environmental compliance program. The program provides Endangered Species Act and National Environmental Policy Act coverage for Arizona water users who divert Colorado River water, and/or operate and maintain facilities on or near the mainstream, Colorado River. The river constitutes approximately one-third of the state's total water supply and the MSCP provides long-term protection of this important resource.

The Arizona Water Banking Authority (AWBA) continues to store unused Colorado River water to meet future needs that include offsetting shortage impacts to municipal and industrial water users along the Colorado River and within the AMA's, Indian firming and interstate banking. Through 2007 the AWBA has stored more than 3 million acre-feet of water, which exceeds a full year of Arizona's Colorado River water apportionment.

Other entities in addition to the AWBA store otherwise unused Colorado River water, effluent and other surface water sources in recharge facilities that are permitted and accounted for by the ADWR Recharge Program. Recharge staff provide technical assistance to develop recharge facilities, regulate the development of facilities, protect and account for the stored water. During calendar year 2007 approximately 785,000 acre feet of water from all sources was delivered to permitted recharge projects in Arizona

The Assured Water Supply (AWS) Program relies largely on renewable water supplies from the Colorado River to demonstrate a 100-year water supply for new subdivisions within the AMAs. The 1995 AWS rules have been the primary driving force behind substantial investments in the use of CAP water and effluent by municipalities and other entities. The Colorado River Office monitors the use of the state's Colorado River water and represents the state in technical and policy matters to insure that Arizona interests are protected.

To decrease mining of groundwater within the AMAs.

There are two components of the program for decreasing groundwater mining. The supply-side component focuses on replacing existing groundwater use with CAP water, other surface water or effluent through the recharge and AWS Programs. The demand-side component focuses on reductions in current and future water demand through conservation. The 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.

Protection for the citizens of Arizona from the risk of loss of life and property damage due to floodwaters

The Office of Water Engineering's mission is protection of the public from floodwaters. Licensed professional engineers and other technical staff in the Dam Safety Section ensure dam design, construction, operation and maintenance are in compliance with State laws and current dam safety guidelines. The Flood Warning Program manages the statewide flood warning system and coordinates the combined efforts of federal, state, and local entities engaged in warning the public of potential floods. The Floodplain Management Programs provide assistance to local communities in managing development within identified floodplains.

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 water and groundwater supply information in Arizona, 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. Outside of the AMAs, the Statewide Conservation and Planning Division supports rural water management planning efforts, provides conservation and drought mitigation assistance and systematically collects water supply and water demand information. Additionally, ADWR serves as the technical advisor to the court in the Gila and Lower Colorado River Adjudications.

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 coordinating activities related to the Water Quality Assurance Revolving Fund (WQARF), the Environmental Protection Agency's Superfund requirements and some data collection and exchange. These activities are primarily within the Hydrology Division.

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. Threats to the water supplies of two of the State's major economic factions - mining and municipalities - and an ongoing threat by the Federal Government to halt the long awaited Central Arizona Project, coupled with severe overdraft conditions in several parts of the State, led to the adoption of the Code.

The Code, passed in 1980, has three primary goals:

- To control the severe overdraft occurring in many parts of the State
- To provide a means to allocate the State's limited groundwater resources to most effectively meet the changing needs of the State
- 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 adding new irrigated acreage.

Statewide Provisions

Statewide regulatory programs and requirements managed by ADWR include well drilling and abandonment standards, well registration requirements, groundwater transportation restrictions and, outside of AMAs, adequate water supply provisions. 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 Non-Expansion Areas

Three 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 an INA is the prevention of further declines of groundwater supplies primarily through prohibition of irrigation acreage expansion. With certain exceptions, 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 an INA, although water users are required to file a notice of intent to drill before drilling a well and must obtain a notice of irrigation authority to irrigate eligible lands. A person who wishes to store water underground in an INA must apply for an underground storage facility permit. Also, owners of non-exempt 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, included 80 percent of

Arizona's population and accounted 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 area director.

The Phoenix, Prescott and Tucson AMAs are directed to achieve safe-yield by 2025. Safe-yield is defined as a groundwater management goal that attempts to achieve and thereafter maintain a long-term balance between the amount of groundwater withdrawn in an AMA and the amount of water 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, consistent with the necessity to preserve future water supplies for non-irrigation use and allow 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 a Management Plan 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 allowances 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

The Groundwater Users Advisory Council (GUAC) is appointed by the Governor to represent the water users in the AMAs and to provide advice to the ADWR Director. Key statutory requirements include commenting on the annual groundwater withdrawal fee, the AWBA Annual Plan of Operation, the expenditure of funds in the Conservation, Augmentation and Monitoring Funds for the AMAs and the Management Plans.

<i>Phoenix AMA</i>	<i>Stephen Cleveland</i>	<i>Municipal</i>	<i>1/16/2012</i>
	<i>Patricia Turpin</i>	<i>General Public</i>	<i>1/18/2010</i>
	<i>David Rousseau.</i>	<i>Salt River Project</i>	<i>1/16/2012</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/Real Estate</i>	<i>1/21/2008</i> <i>1/16/2012</i>

	<i>David Snider Scott Riggins Jackie Guthrie William Collings</i>	<i>County Supervisor Agriculture/Real Estate Land Planning Consultant Civil Engineer</i>	<i>1/16/2012 1/21/2008 1/19/2010</i>
<i>Prescott AMA</i>	<i>Marvin Larson James Neal John Olson Larry Tarkowski James Holt</i>	<i>Developer Private Citizen Agriculture Municipal Municipal</i>	<i>1/21/2008 1/21/2008 1/16/2012 1/17/2012 1/18/2010</i>
<i>Santa Cruz AMA</i>	<i>Simon Escalada James Barr Ron Fish Roy Ross Sherry Sass</i>	<i>Developer, Rancher Developer Agriculture Developer Friends of Santa Cruz</i>	<i>1/17/2006 1/19/2010 1/21/2008 1/19/2004 1/21/2008</i>
<i>Tucson AMA</i>	<i>Dee O'Neill David Modeer John Mawhinney Jon Post Charles Sweet</i>	<i>Environmental Municipal Private Citizen Agriculture Municipal</i>	<i>1/19/2010 1/16/2006 1/16/2006 1/21/2008 1/21/2008</i>

Agricultural Water Conservation Best Management Practices Advisory Committee

Governor Hull appointed the Agricultural Water Conservation Best Management Practices (BMP) Advisory Committee in September 2002, to advise the Director on the development of a BMP Program for agriculture. 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 F. Ronald Rayner Scott Riggins Ron Wong</i>
<i>Irrigation Districts</i>	<i>Stanley Ashby Grant Ward</i>
<i>Salt River Project</i>	<i>John Sullivan</i>
<i>Municipal</i>	<i>vacant</i>
<i>Ex Officio</i>	<i>Bert Clemmons (USDA Water Conservation Lab) Donald Butler (Department of Agriculture) Herb Guenther (Department of Water Resources)</i>

AGENCY ORGANIZATION

Office of the Director

The Office of the Director is comprised of the Director, Deputy Director, Public Information Officer, and Legislative Liaison. The Office oversees the day-to-day operations, of ADWR as well as the planning efforts and policy development that secure Arizona's water supplies. Water Engineering, Water Management and Statewide Planning are responsible for the planning and development of water policy. The Hydrology, Information Technology and Legal Divisions provide technical and administrative support.

Legal Division

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 Legal Division also includes adjudication technical staff and the ADWR Docket Supervisor.

Legal Division Responsibilities

- Respond to and participate in lawsuits
- Prepare for and participate in administrative hearings
- Review contracts (grants, intergovernmental agreements, leases, etc.)
- Advise the Director and staff on all ADWR programs in addition to statewide and national water issues
- Facilitate and negotiate Indian water rights settlements
- Draft and adopt administrative rules
- Draft legislation
- Assist in the drafting, adoption and implementation of Management Plans
- Prepare Code, Rule and Management Plan compliance cases
- Provide technical support to the 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
- Provide legal advice to the Arizona Water Banking Authority
- Provide legal advice to the Arizona Water Protection Fund

Office of Information Technology

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

Application Development Unit Responsibilities

- Develop custom enterprise business applications that support ADWR activities
- Develop custom web-enabled business applications
- 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 websites for ADWR, as well as for groups directly related to ADWR
- Respond to users with web-related issues and improve the use of web-based technology

Network Support/Customer Support Unit Responsibilities

- Provide technical support for ADWR's computer, network and telecommunications systems, hardware and software
- Provide end user support of all desktop hardware and software
- Provide comprehensive network security
- Provide resolution of all Customer Support calls

Hydrology Division

The Hydrology Division provides technical hydrologic support to the Water Management, Water Engineering and Statewide Water Planning Divisions. 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, subdivision approvals, 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

Coordinates statewide data collection efforts by ADWR; serves as ADWR's Monitoring Coordinator to ensure efficiency, eliminate redundancy and increase the level of service.

Basic Data Unit Responsibilities

- Conduct water level surveys statewide
- Measure wells in statewide water level index lines
- Monitor a statewide network of about 100 water level pressure transducers, chart recorders, and bubbler devices on a quarterly basis
- Install water level transducers
- Sample water quality index wells
- Prepare Hydrologic Map Series reports for CD publication
- Conduct quarterly hydrologic monitoring in Santa Cruz
- Conduct semi-annual monitoring in Big Chino sub-basin and Coconino Plateau
- Support WQARF site investigations
- Provide Rural Watershed Partnerships with hydrologic support
- Measure well discharges on as-needed basis statewide
- Conduct crop surveys to aid in water budget preparation

GPS/Gravity Survey Unit Responsibilities

- Conduct GPS surveys for land subsidence
- Establish absolute gravity stations established in Phoenix AMA
- Perform interferogram studies (Phoenix, Pinal and Tucson AMAs) to determine areas of land subsidence
- Perform depth to bedrock and aquifer storage analyses (Mohave County groundwater basins, East Salt River Valley sub-basin of the Phoenix AMA)
- Conduct GPS studies at WQARF sites

- Coordinate with local agencies in support of subsidence-related programs and studies

Water Resources Section

Assured and Adequate Water Supply Responsibilities

- Review Certificates of Assured Water Supply
- 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
- Perform well impact analyses
- Review hydrologic models
- Provide hydrologic support for AWS rules for SB 1575 and the Santa Cruz AMA

Surface Water and Recharge Responsibilities

- Review 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

Modeling Unit Responsibilities

- Develop, update or enhance AMA hydrologic models
- Prepare water budgets for AMA support and other purposes
- Review groundwater flow models submitted to ADWR for the AWS Section, the Colorado River Management Section, and Recharge Section
- Work with Phoenix AMA and OAWS on redesignations of Phoenix AMA municipalities
- Work with Phoenix AMA and IT Division on Decision Support System Development
- Support community water management efforts with modeling expertise
- Provide outreach and education on groundwater modeling principles and requirements

Water Quality Assurance Revolving Fund Unit Responsibilities

- Coordinate with ADEQ regarding WQARF programs, including rule making and site specific investigations as prioritized by ADEQ
- Review WQARF Notice of Intent (NOI) to drill and abandon wells to prevent vertical cross-contamination
- Review NOIs 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 Comprehensive Environmental Response Compensation and Liability Act (CERCLA) sites
- Produce the annual WQARF Advisory Board report

Statewide Conservation and Strategic Planning Division

This Division is responsible for interstate and international negotiations related to the Colorado River, statewide conservation and drought programs support for the Arizona Water Banking Authority, Adjudication and Water rights technical support, support for Indian water rights settlement activities; administration of the Arizona Water Protection Fund Program, regional watershed planning, environmental planning and development of the statewide water data inventory project (Arizona Water Atlas).

Adjudications and Technical Support Section

The primary role of the Adjudications and Planning Support Section of Statewide Planning is to provide technical assistance to the Adjudication Court. This assistance includes, but is not limited to, research and field investigation of claimants in the Gila River and Little Colorado River Adjudications, technical assessments of Indian water rights settlements, development and implementation of methodology to identify wells pumping appropriable water, and preparation of various technical reports and court filings. The Section also provides technical support on various projects within Statewide Planning. Currently, this support includes preparation of a water atlas for Arizona and identification of irrigated lands in the Upper Gila River Basin as part of the Arizona Water Rights Settlement.

Colorado River Management Office

The Colorado River provides one-third of Arizona's water supplies through mainstream entitlements and CAP allocations. Its waters comprise the largest renewable, dependable water supply for Arizona water users. The Secretary of the Interior, in consultation with the Seven Basin States (Arizona, California, Colorado, Nevada, New Mexico, Utah, Wyoming), 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 BOR regarding annual reservoir and River operations for the delivery of water, and regarding the Annual Operating Plan and the Long Range Operating Criteria for the Colorado River
- Coordinate with BOR, CAWCD and major Arizona Colorado River water users to forecast and manage annual water use within Arizona's 2.8 million acre-feet apportionment
- Oversee implementation of 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 ESA and National Environmental Policy Act issues, such as response to draft recovery plans, comments on Biological Opinions and Environmental Impact Statements
- Provide technical support and analysis of future shortage impacts to Arizona Colorado River users.

Community Water Planning Section

Statewide Water Conservation and Statewide Drought Program

The primary focus of the *Statewide Water Conservation Strategy* is to promote a statewide conservation ethic for all water users throughout the State of Arizona. The Statewide Water Conservation Office and Statewide Drought Program, in coordination with the newly created Conservation Program, are responsible for implementing these programs. The focus of the Statewide Water Conservation Strategy is to expand existing conservation programs at both the state and federal levels, explore, create and promote new conservation tools, promote water conservation education throughout the state, create guidelines for more efficient use of water at the local level, and provide suggestions for funding and implementing conservation programs. The overall goal of the Statewide Water Conservation effort is to achieve greater water use efficiency for the state resulting in measurable water savings.

The purpose of the Statewide Drought Program is to implement the *Arizona Drought Preparedness Plan* and to better prepare the citizens of the State of Arizona to cope with drought impacts. The drought plan not only provides guidance for addressing drought impacts, but also provides cooperative mechanisms and approaches for reducing vulnerability to drought. Implementation of the *Arizona Drought Preparedness Plan* requires Statewide Drought Program staff to coordinate the activities of the Monitoring Technical Committee and the Interagency Coordinating Group. In addition, Statewide Drought Program staff work collaboratively with other state and federal entities to establish Local Drought Impact Groups across the state and provide technical support to these groups.

The Statewide Drought Program will provide the most current information and technology not only to prepare for drought at the State and local levels, but to provide management approaches to reduce impacts from drought. The Statewide Drought Program will provide support to State leaders, in cooperation with water users, planners, and resource managers, to prepare for and respond to current and future drought conditions in Arizona.

Water Resource Assessment Planning Section

The focus of this section is to provide water supply and demand information for Arizona communities, primarily outside of AMAs, to be published as the "Arizona Water Atlas." This publication will provide a broad overview of water supply and demand conditions, water resource information for planning and resource development purposes, and to help identify the issues and needs of the community. The goal is to develop an on-going, systematic data collection and data management process to assist rural communities. Several chapter drafts of the Atlas were published in FY 2007 on the ADWR Web site, including the Introduction -State-wide Overview, Eastern Plateau Planning Area, Southeastern Planning Area, Upper Colorado River Planning Area and the Central Highlands Planning Area.

In FY 2007, this section provided coordination on border region water issues in conjunction with the Arizona Water Institute including representing Arizona on the Border Governor's Conference Water Committee, support to the Border 2012 Water Task Force and the Arizona Mexico Commission.

Regional Water Planning Section

Rural Watershed Initiative

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 attends meetings throughout the State to facilitate planning objectives, provide data and hydrologic input, and inform partnerships of ADWR 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 Partnership
- Middle San Pedro Partnership
- Lower San Pedro Partnership
- Coconino Advisory Committee and Technical Subcommittee
- Eagle Creek: Partnership
- Upper Gila: Partnership
- Upper Little Colorado River: Partnership and Technical Subcommittee
- Upper Little Colorado River Multi-Objective Management: Partnership
- Upper Bill Williams: Partnership and Technical Subcommittee
- Upper Hassayampa: Partnership
- Yavapai County Water Advisory Committee: Technical and Planning Committee
- Silver Creek: Partnership and Technical Subcommittee
- Show Low Creek: Partnership
- Northwest Alliance: Partnership
- Upper Agua Fria: Partnership
- Arizona Strip: Partnership
- Mogollon Highlands: 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
- Northern Arizona University's Verde Watershed Research and Education Advisory Board
- Verde Watershed and Natural Resources Association

Statewide Water Advisory Group

Building upon the Rural Watershed Initiative, ADWR in conjunction with rural legislative leadership and the Governor's office began a series of discussions with a group of representatives from county, city, Indian Tribes, private non-governmental organizations about the most immediate water resources problems facing the rural areas. The Statewide Water Resources Advisory Group (SWAG) consisted of 52 representatives plus alternates. The SWAG members found that the disconnect between growth and water supply planning is creating problems for rural areas in many parts of the state. The degree of the problem varies considerably from county to county. In general, the SWAG members found that the northeastern counties have adequate water supplies for current growth and existing communities. Other areas of the state, including parts of Mohave County, Coconino County, Yavapai County, Cochise County, and Gila County have short and long-term water supply deficits.

After eight months of discussions and 14 public meetings throughout the state, ADWR introduced three bills for legislative action. A fourth bill was introduced by the San Pedro Partnership and supported by ADWR. All of the bills passed into law in FY2007. The first law allows counties and cities to adopt requirements for a 100-year water supply before lands may be approved for subdivision. The second law provides for a water resources revolving fund and grants to plan and build water projects. The third law prohibits the drilling of a well if it causes poor quality water to be drawn into another well. The fourth law provides for the formation of the Upper San Pedro Water District, charged with conserving, reusing, recharging and augmenting the water supplies of the district to protect the flows of the San Pedro River and assist in meeting the water supply needs of Fort Huachuca and the surrounding communities.

Office of Water Engineering

This Office is responsible for the safety of all nonfederal dams in Arizona; management of the statewide flood warning system; assisting communities that participate in the National Flood Insurance Program (NFIP); assisting community Flood Insurance Rate Map (FIRM) modernization efforts; and establishing State Standards for Floodplain Management.

Dam Safety Section

The Dam Safety Section's objective is to maximize protection of the public against loss of life and property by reducing the likelihood of catastrophic failure of more than 250 nonfederal dams in Arizona through the following activities:

- Conducting technical reviews of permit applications for new dam construction and the removal, repair, or alteration of operating dams
- Monitoring and overseeing construction activities to ensure adherence to approved plans and specifications
- Issuing Licenses of Approval to Operate dams and establish safe storage levels for operating dams
- Assisting dam owners in preparing Emergency Action Plans for operating dams
- Performing safety inspections and identifying deficiencies at operating dams
- Evaluating the safety of operating dams and maintaining list of deficient and Unsafe Dams
- Pursuing rehabilitation of deficient and Unsafe Dams including negotiation of grants from Dam Repair Fund to assist in repairs or removal of Unsafe Dams
- Contacting owners of unregistered dams to assure that those dams become registered and meet current dam safety standards.

Flood Mitigation Section

The Flood Mitigation Section's objective is to reduce the loss of lives, property, and water resources in Arizona by assisting in the planning, design and construction of flood warning systems; providing assistance for communities that participate in the National Flood Insurance Program; providing map modernization assistance to counties and communities; setting state standards for floodplain management; and also coordinating with local, state and federal agencies during times of flood emergencies.

Flood Warning Program

The Flood Warning Program has responsibility to:

- Ensure that state owned flood-warning gauges and repeaters are maintained and operational.
- Establish contractual agreements providing for equipment cost-sharing and technical assistance to cities and counties to acquire and install gauges for fuller statewide flood warning coverage.
- 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.

Floodplain Administration Program

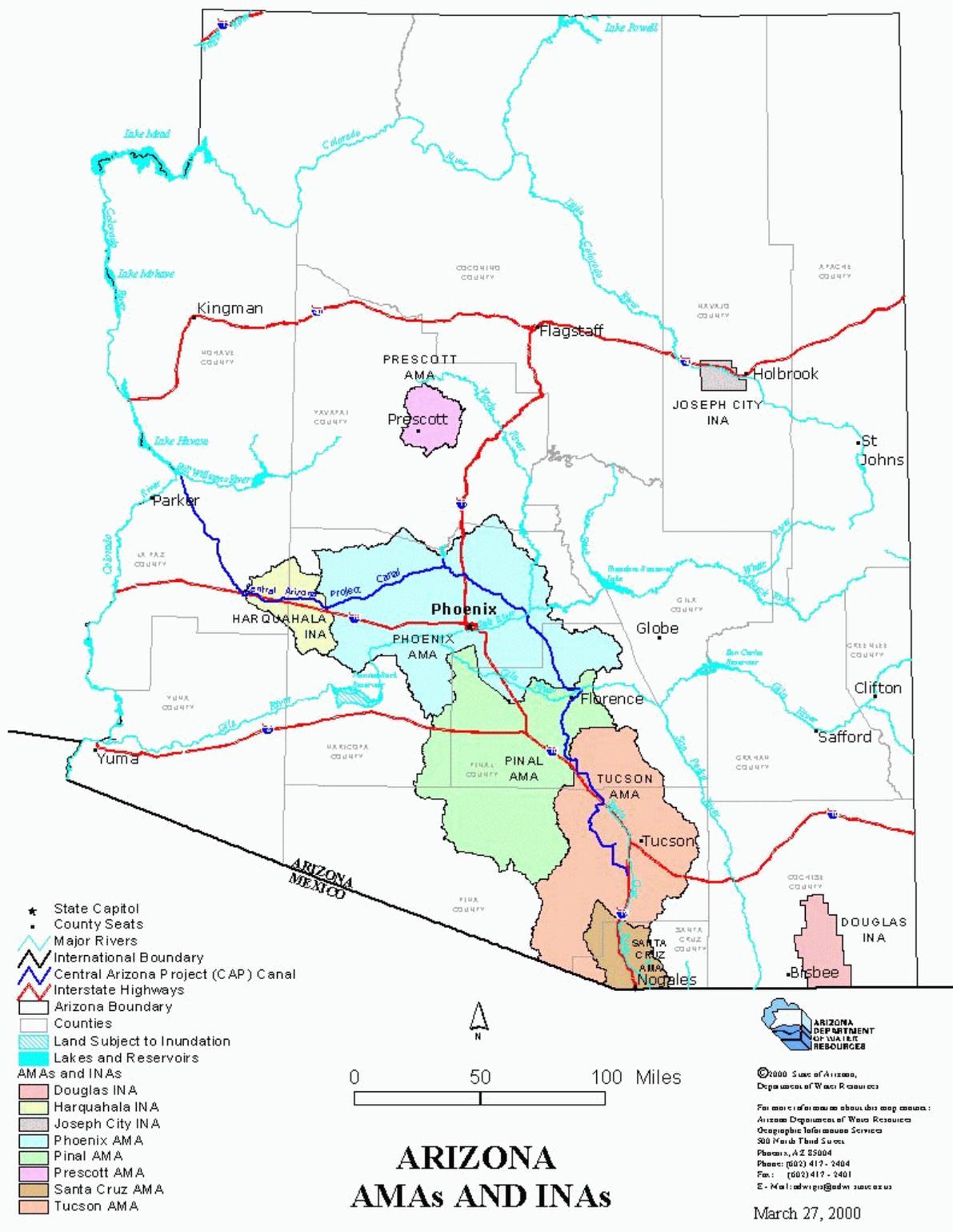
ADWR is the state coordinating agency for the National Flood Insurance Program. The agency has responsibility to:

- Provide training on floodplain management to local, state and private sector employees.
- Establish technical standards for floodplain management for use by local government floodplain managers.
- Evaluate the floodplain management program of each NFIP-participating Arizona community.
- Provide general technical assistance regarding floodplain management to the general public.
- Coordinate with FEMA on NFIP and map modernization activities.
- Develop and adopt criteria for establishing the 100-year flood and delineating floodplains (State Standards for Floodplain Management).

Water Management Division

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 serves as the main point of contact for members of the public and the regulated community. The AMA staff develops and enforces mandatory conservation requirements for each water use sector, processes annual water use reports and coordinates with the Office of Assured and Adequate Water Supply and the Recharge Program on the review of applications for underground storage and recovery and AWS. 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 provides 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 INAs.



ARIZONA AMAs AND INAs

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 a 100-year supply of water (primarily renewable) of adequate quality and quantity is available for new subdivisions inside AMAs and that consumers purchasing land in new subdivisions located outside of AMAs are aware of water supply availability. Applications for Assured and Adequate Water Supply continue to rise.

Office of Assured and Adequate Water Supply Responsibilities

- Process Certificates of AWS/Adequacy
- Process Designations of AWS/Adequacy
- Review applications for membership in the Central Arizona Groundwater Replenishment District
- Process amendments to Certificates/Designations
- Process exemptions
- Issue reliance letters
- Process annual reports from designees

Water Management Support Section

The Water Management Support Section consists of the Surface Water Rights Unit, the Notice of Intent Unit, and, the Groundwater Right Conveyance Unit. The goal of this section is to provide the public and ADWR staff with information, applications, public records, and permits and certificates in an efficient and timely manner.

Surface Water Rights Unit

The Surface Water Rights Unit is responsible for ensuring a long-term, sufficient and secure water supply for the State by promoting, allocating and comprehensively managing in an environmentally and economically sound manner the rights and interests of the State's surface water resources for the citizens of Arizona. The Surface Water Rights Unit receives, reviews and processes surface water rights applications and claims, issues permits, certificates, and claims for the right to use surface water, processes ownership transfers for surface water rights and claims, develops policies, procedures and rules, performs field investigations, maintains an accurate and complete surface water right registry database, maintains the integrity of ADWR records, and provides customer service to ADWR and the public.

Notice of Intent Unit

The Notice of Intent Unit is responsible for the administration and enforcement of well regulations for the construction, replacement, deepening and abandonment of wells to ensure public safety and compliance with State statutes, rules and policies, to give well driller exams and licenses to qualified entities, to provide and maintain an accurate and complete database that is used in state water planning efforts, to maintain the integrity of ADWR records, and to provide customer service to ADWR staff and the public.

Groundwater Rights Conveyance Unit

The Groundwater Rights Conveyance Unit receives, reviews and processes ownership transfers (conveyances) of Irrigation Grandfathered Rights and Type I and Type II Non-irrigation Grandfathered Rights for the Phoenix Active Management Area, Harquahala Valley Irrigation Non-expansion Area and Joseph City Irrigation Non-expansion Area. This includes database entry and maintaining the integrity of public records.

Recharge Program

ADWR issues permits under and administers the Underground Water Storage, Savings and Replenishment Program (Recharge Program). The AMAs, and the Hydrology and Legal Divisions also provide support to this program. The goals of the recharge program are to promote the use of renewable supplies, to augment the water supply, to extend conjunctive management to reduce overdraft, to provide recharge recovery for transportation of water and to accommodate seasonal demand for water through recharge.

The 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 State statute, govern recharge activities in Arizona.

Once a permit is 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 that are submitted by every permit holder on at least an annual basis. Staff examines each report for accuracy and completeness as well as for 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. There are currently 81 facility permits (62 Underground Storage Facilities and 19 Groundwater Savings Facilities), 192 associated storage permits and 93 recovery well permits containing 112 individual wells, primarily in AMAs. To date, in excess of 5.25 million acre feet of renewable water supplies have been stored, including over 4.6 million acre feet of CAP water.

Data Management

Data management, coordination, and dissemination have become a major focus of ADWR's efforts over the last year. A new section was created to focus on this in 2006 and it has led to a more integrated approach for inputting and using data supplied by water users in the Active Management Areas. ADWR will be focusing on an Agency-wide effort to utilize its data across the agency in a consistent way and will also be developing tools for public access to data that has not been available electronically before.

CRITICAL CHALLENGES AND OPPORTUNITIES

Short-Term Challenges and Opportunities

Drought/Rural Water Supply

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 and recreation areas.

Colorado River Operational Framework

In 2008 runoff conditions in the Colorado River Basin have improved so that additional water releases from Lake Powell to Lake Mead will occur. This may delay the onset of shortage operations, but is not solely sufficient to conclude that the drought has ended. Although the new Interim Guidelines provide increased operational certainty and ability to plan for future drought conditions, there is no agreement for sharing

shortage reductions with Mexico. ADWR continues to work with the other Basin States and Reclamation through the IBWC to reach an agreement for sharing shortages. Shortage sharing is one part of a cooperative process that includes identifying measures to increase system efficiencies in both countries and to develop water augmentation opportunities.

High Priority Unsafe Dams

Statewide, four dams are identified as being in an "Unsafe, Elevated Risk" condition. These dams have confirmed safety deficiencies for which there is concern they could fail during a 100-year or smaller flood event. There is an urgent need to repair or remove these dams.

- Fredonia Dam in Coconino County provides flood protection to the Town of Fredonia. The National Resource Conservation Service is funding a rehabilitation planning project in FY08. Fredonia must secure further funding for rehabilitation design (est. \$300K) and construction (est. \$5 to \$7M). ADWR is working with Fredonia and the National Weather Service to develop an early-warning emergency action plan.
- Magma Dam in Pinal County provides flood protection to agricultural lands and homes. Construction of the needed repairs is scheduled to begin in February 2009.
- Cook Reservoir Dam in Graham County was constructed in violation of Arizona dam safety regulations and is a non-engineered structure. Removal of the dam is scheduled to occur in FY2009.
- Powerline Dam in Pinal County provides flood protection to homes in Maricopa County. An earth fissure has been identified at the dam. The dam is operated and maintained by Maricopa County Flood Control District and is located on State lands. Maricopa County is performing studies to identify interim safety measures for mitigating the immediate risk to the dam.

National Flood Insurance Program (NFIP) and Community Assistance Visits

ADWR is the state agency responsible for the coordination of the NFIP by a periodic Community Assistance Visit (CAV) to over 100 Arizona NFIP participating communities. The CAV process assesses the need for coordination and to provide technical assistance regarding floodplain management. The goal of the flood mitigation staff is to close each CAV process within a short term of one year. It is a constant challenge to meet this goal because communities that have violations, such as structures not elevated in accordance with state and federal regulations, often do not have the resources to mitigate the flood risk.

FIRM Modernization

Many of our communities' Flood Insurance Rate Maps (FIRMs) are over 20 years old and do not accurately reflect current flood risks due to recent growth and development. FEMA instituted a Map Modernization Program several years ago to update FIRMs across the nation. Flood Mitigation supports this program by working with AZ communities during the map adoption process, sponsoring workshops and outreach meetings, and building partnerships between local communities and FEMA to promote good floodplain management. All communities will have new FIRMs by the end of 2009.

Long-Term Challenges and Opportunities

Long-Term Issues Affecting all AMAs

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. To

date, substantial progress has been made 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 and drought impacts.
- 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 and the AWS statute to reflect the AMA's water management goal.

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. 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 especially for water users who are not subject to Assured Water Supply requirements. 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 rights-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. The continued pumping by these water users may have a depreciable effect on the ability to achieve the management goals of the Active Management Area.

Goal Refinement for the Santa Cruz AMA

The management goal of the Santa Cruz AMA is unique and requires refinement. The Santa Cruz AMA goal requires management of local water levels, as well as maintenance of the safe-yield condition. This goal adds complexity and some ambiguity to the administration of ADWR's programs in the AMA, including recharge and recovery, and most pressingly, the AWS Rules. The Department has not yet adopted specific AWS Rules and well-spacing criteria related to consistency with the management goal for the Santa Cruz AMA. The development of AWS Rules that reflect the unique goal of the Santa Cruz AMA will be a priority for the coming year.

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

Currently, there are portions of the Phoenix AMA, such as the Carefree Sub-Basin, which do not have sufficient groundwater supplies to demonstrate a 100-year AWS. 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 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 1950s. Preventive measures, including use of renewable supplies, conservation, monitoring, 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.

Water Logging

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 water logging in the vicinity of the Buckeye, Arlington and Saint Johns Irrigation Districts. Though there are statutory provisions designed to mitigate the problem, water logging 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 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 occasional conflicting policy objectives. As the regional representatives of ADWR, AMA staff is 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.

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 proved helpful in bringing together disparate interests. The AMAs are involved in a broad range of cooperative efforts dealing with policy, planning and outreach.

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 CAWCD, the Central Arizona Groundwater Replenishment District (CAGR), the AWBA, ADEQ, the Arizona Corporation Commission, the Environmental Protection Agency, the International Boundary Water Commission (IBWC), the BOR and ADWR.

Bi-National

Water use and population growth in Nogales, Sonora, directly affect the Santa Cruz AMA, which relies heavily on the effluent water generated within Sonora and on surface water inflows in the Santa Cruz River. Mexico retains a legal treaty right to its effluent. This supply, which is treated at the International 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 IBWC 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, notably water budget information for the Phoenix and Prescott AMAs. 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. Some 3 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 long-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.

Data Collection, Tracking and Dissemination

The AMAs bear primary responsibility to collect and analyze annual groundwater use data. Over time, the size and complexity of these activities have grown considerably. 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. 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 (for example, using internet applications).

Colorado River Issues

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 approximately 2.75 million acre-feet of Colorado River water in 2007. 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

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 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 manage and monitor well drilling activities along the River more closely. 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 million acre-feet apportionment. ADWR consults with BOR regarding 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 that 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.
- 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 (MSCP) is a multi-state and federal environmental compliance program. The Program goal is to offset the impacts of the diversion of Arizona's 2.8 million acre foot allocation, and other specific actions through the implementation of a Habitat Conservation Plan (HCP).

Two events led to the formation of the 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.

The program provides National Environmental Policy Act and Federal Endangered Species Act compliance for Arizona "covered actions" including water diversions 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 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 MSCP will provide a framework for ESA compliance that supports the State's continued economic growth and development. Federal authorizing legislation is being pursued.

Indian Water Rights Settlements

The U. S. Supreme Court in the *Winters* case bases tribal claims on the federal reserved rights doctrine outlined 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 will benefit private and public parties by providing certainty with regard to available water supplies for long-term economic development. Arizona is currently conducting two massive stream adjudications -- the

Gila River (26,500 litigants) and the Little Colorado River (3,211 litigants). Settlements are likely to be less expensive, less contentious and more equitable than litigation.

The Arizona Water Settlements Act, signed into law on December 8, 2004, as Public Law 108-451, contains several titles, and is of great importance to the State of Arizona. The Act became effective on December 13, 2007. ADWR is involved in the implementation process.

Title I confirms the stipulated settlement between the United States and the CAP about the total amount of repayment by the State for the building of the CAP. Among many provisions of the settlement it provides mechanisms for acquiring water and funding for present and future tribal water settlements.

Title II confirms the Gila River Indian Community Water Rights Settlement Agreement. The settlement confirms a tribal water budget of 653,500 AF of water annually from many sources, including CAP, groundwater, and surface water from the Gila, Salt and Verde rivers. Among its many provisions it provide funding and authorization for tribal water use systems. During the 2006 session, legislation passed to authorize the Arizona Water Banking Authority to act as the agent of the State to firm water to meet Arizona's firming obligations pursuant to the Settlement Agreement.

Title III confirms the settlement agreement for the members of the Tohono O'odham Nation near Tucson. It confirms a water budget of 76,000 AF of CAP water and groundwater, and provides authorization and funding for tribal water use systems. Congress originally enacted SAWRSA in 1982. The amendments here provide necessary changes to implement the settlement.

Zuni Indian Tribe Settlement Implementation

The Zuni Indian Tribe Water Rights Settlement Act was signed into law on June 23, 2003 as Public Law 108-34. Implementation has begun toward meeting the enforceability date. The Department drafted state legislation, which was enacted in 2004, to assist the tribal acquisition of water rights on a willing seller basis. Additionally, the Department worked on amendments to the settlement agreement to conform it to the federal legislation. The parties filed an application with the Adjudication Court in March 2006 for confirmation of the Settlement. The Adjudication Court approved the settlement on December 2, 2006.

Ongoing Tribal Settlement Issues

The Department is involved, either as a participant or in a leading role, in the following settlement negotiations: the Navajo Nation, the Hopi Tribe and the White Mountain Apache Tribe. The Navajo Nation negotiations are for both main stem Colorado River claims and Little Colorado River claims, as a direct result of federal litigation over management of the Colorado River. However, the Nation does have an extensive history of settlement negotiations in the Little Colorado River basin.

Adjudications Issues

There are two general stream adjudications within the state. One involves water right claims filed in the Gila River watershed and the other involves water right claims filed in the Little Colorado River watershed. Progress in the adjudication of surface water rights within Arizona has been affected by setbacks in the legal process and lack of resources. Recently, the adjudication Court has requested additional assistance from ADWR regarding claims waiting to be adjudicated. As a general matter, the Court is adjudicating Indian and federal non-Indian claims first, and then intends to move to individual claims of which there are approximately 100,000 in the Gila and Little Colorado River adjudications combined. The adjudications are described further in the Appendix (current litigation).

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, although this will be a major focus for the Department in the upcoming year.

Flood Control Structures

Due to the availability of federal funds, many entities throughout the State want to build 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's efforts to educate the public and other agencies about surface water.

Border Water Issues

Long-term water supply availability issues in the U.S.- Mexico border region are receiving increased attention as conditions become more critical. Water using activities, population growth and drought 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. ADWR has been an active participant in the Border 2012 Arizona-Sonora Water Task Force, which includes the border regions outside of the Colorado River area. The Task Force has identified issues and shared information about Arizona's Drought Plan and the Upper San Pedro Basin. The Task Force has also been successful at re-initiating groundwater quality monitoring in the Santa Cruz Basin. ADWR also represents Arizona on the Border Governor's Conference Water Committee. In 2006, each member of the 10-state Committee shared information on water administration and issues in their state for posting on a website and contributed information to a water resources map of the border region. In 2007, the first meeting of the Water Committee of the Arizona Mexico Commission met in Tucson to discuss water supply management issues in Sonora and Arizona. The Committee took action to organize an extended field trip to the Yuma and Sonora regions of the Colorado River in the fall of 2007 for the purposes of better understanding the water supply issues facing both countries.

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 of Colorado River water in normal years to Mexico, and 1.7 million acre feet 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. The Colorado River Delta region includes riparian and tidal wetland habitats that support many species of plants and animals. Fishing is an important part of the economy for the communities of El Golfo de Santa Clara, San Filipe and Puerto Penasco. Non-governmental organizations have identified additional water needs to support habitat and species in the Mexican Delta region. These organizations have crafted proposals to supply more water from the United States to supply these environmental needs.

In the year 2000, Mexico and the U.S. signed Minute 306 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.

Dam Safety

Non-Emergency Unsafe Dams

- *Eight dams are classified as “Unsafe Dams Requiring Rehabilitation or Removal”.* These dams have confirmed safety deficiencies and require either repair or removal. Failure is not considered imminent and time exists to schedule funding and make needed repairs.
- *Two dams are classified as “Unsafe Dams with Uncertain Stability during Extreme Events (Requiring Study).”* These dams have been reclassified to high hazard potential due to increased downstream development. They lack necessary documentation demonstrating that they meet or exceed standard safety criteria for high hazard dams. They are classified as unsafe pending the results of required studies.
- *Seven dams are classified as “Unsafe Dams Pending Evaluation of Flood-Passing Capacity (Requiring Study).”* Prior studies for these dams predict they cannot safely pass the minimum required inflow design flood for high hazard dams. Recent studies both statewide and nationwide have indicated that these prior studies commonly overestimate the rainfall-runoff for a given watershed. These dams should be re-evaluated using updated methods to confirm their safety status.

Development and Population Growth

Continued development and population growth is resulting in many dams once classified as having a “Low” downstream hazard potential to be reclassified as “Significant” or “High” hazard due to risk of property damage or loss of life in the unlikely event of failure. These dams often do not meet the requirements for higher hazard potential dams and require alteration or removal at the owner’s expense.

Floodplain Management

Technical assistance by training workshops such as the FEMA Elevation Certificate and Substantial Damage or Substantial Improvement educate communities to reduce compliance deficiencies that improves long-term NFIP compliance. The periodic CAV to NFIP communities is necessary for them to remain in good standing so they are eligible for FEMA disaster funds. ADWR coordinates with the Arizona Division of Emergency Management (ADEM) who distributes the FEMA funds. The coordination with ADEM is very important to ensure that FEMA funds go to deserving communities who practice good floodplain management with the purpose to reduce flood disaster loss of life and damage to property.

Development and Population Growth

Continued development and population growth is resulting in encroachment into areas not currently identified as flood-prone on flood maps. Long-term challenges include allocating resources to identify the flood risk before development occurs and the opportunity to assist local entities in the endeavor.

Levee Certification

FEMA has recently begun enforcing a policy which requires that levees must be certified and accredited if they are shown as providing protection from the base (1% chance) flood on a Flood Insurance Rate Map (FIRM). Meeting the regulatory requirements for accrediting levees is a lengthy and expensive process. If the Army Corps of Engineers or communities cannot certify the levees (due to lack of funds), the FIRMs will be redrawn showing the levees as failed. The consequence will be new, large floodplains with possibly hundreds of property owners in the floodplain, most of whom will be required to purchase mandatory flood insurance.

CONCLUSION

In the upcoming fiscal year, the Arizona Department of Water Resources will continue to make substantial progress toward improving water management in the state and maximizing available resources. ADWR looks forward to enhancing its drought mitigation and conservation efforts, and enhancing water management programs that will assure that Arizona's citizens will continue to enjoy a secure, future water supply.

APPENDIX

Current Litigation

Gravel Resources of Arizona v. ADWR, Maricopa Superior Court, No. LC2008-000029-001 DT

Problem Description: Appeal of the Director's decision to grant an Underground Storage Facility Permit and Water Storage Permit ("Permits") to the Central Arizona Water Conservation District over the objection of Gravel Resources of Arizona, the owner of a nearby sand and gravel operation.

Relevant Facts: Gravel Resources objected to the issuance of the Permits on the ground that its operation would be unreasonably harmed by the rising groundwater level that will result from water storage at the proposed underground storage facility. Following a two-day administrative hearing, the Administrative Law Judge issued a decision recommending denial of the objection and issuance of the Permits. On December 11, 2007, the Director issued a Decision and Order accepting the Administrative Law Judge's recommended decision and ordering that the Permits be issued with certain modifications. The parties are currently briefing the issues and the superior court is expected to issue a ruling by the end of 2008.

In re the General Adjudication of all Rights to Use Water in the Gila River System and Source, Maricopa County Superior Court, Nos. W-1, W-2, W-3, W-4 (consolidated).

Problem Description. The Gila adjudication covers more than half of the state, including Phoenix and Tucson, and numerous Indian and other federal reservations located in the central and southern areas. ADWR provides technical and administrative assistance to the adjudication court on issues relating to the nature, extent and relative priority of federal and state-based water rights within the adjudication.

Relevant Facts. On July 16, 2004, the Special Master entered a report that adopted and modified in part the *Subflow Technical Report, San Pedro River Watershed*, prepared by ADWR in March 2002. On September 25, 2005, the Gila River Adjudication Court entered an order, which approved ADWR's report in large part. Several parties filed Petitions for Interlocutory Review with the Arizona Supreme Courts, which denied the petitions on May 22, 2007. Pursuant to the Adjudication Court's September 25, 2005 order, ADWR is in the process of mapping the subflow zone for the San Pedro River watershed.

On August 23, 2006, ADWR filed a technical assessment of the Gila River Indian Community Water Rights Settlement. On October 24, 2006, ADWR also filed a technical assessment of the Tohono O'odham Water Rights Settlement. These Indian settlements were authorized by the Arizona Settlements Act, which was signed into law on December 10, 2004.

On April 12, 2007, ADWR filed a technical report concerning the settlement of federal claims to certain small springs. The BLM filed these claims in the San Pedro River watershed. On August 28, 2007, the court filed an order approving 14 abstracts of water rights stipulated by the parties.

The court commenced proceedings involving claims by the Arizona State Land Department for federal reserved water rights on state trust lands. On September 28, 2007, the Special Master issued a report denying the legal basis for the claim. The matter is before the adjudication court for a ruling.

The court commenced proceedings involving claims filed by the Federal Government for Fort Huachuca. On April 5, 2008, the Special Master issued a report upholding the legal basis for most of the claims. The report will be reviewed by the court after objections are filed.

The court commenced proceedings involving claims filed by the Federal Government for the San Pedro Riparian National Conservation Area. The Special Master identified six legal issues which will be briefed. The parties are currently engaged in discovery.

The court commenced proceedings involving claims filed by the Federal Government for the Coconino National Forest Powers Garden Administrative Site. On April 28, 2008, the Federal Government filed amended claims together with a list of lessees.

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 Little Colorado River adjudication covers the northeastern part of the state, including Show Low, Flagstaff, and the Hopi and Navajo Indian Reservations. ADWR provides technical and administrative assistance to the adjudication court on issues relating to the nature, extent and relative priority of federal and state-based water rights within the adjudication.

Relevant Facts. On May 15, 2006, ADWR filed a technical assessment of the Zuni Indian Tribe Water Rights Settlement. This settlement was authorized by the Zuni Settlement Act, which was signed into law on June 23, 2003.

As requested by the court, ADWR has completed most of its field investigations related to claims filed by the Hopi Tribe and the United States on its behalf for water uses on the Hopi Reservation. The claims involve nearly 50,000 acres of irrigated land, and several hundred springs, stock ponds and wells. Field work began in 2005 and continued through 2006. A draft Hopi HSR is expected to be completed and submitted to the court before the end of 2008.

The court has commenced proceedings to determine two legal issues regarding the Hopi claims. The legal issues involve using sources of water which do not traverse the reservation and the priority date of the claims.

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.

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 in federal district court involving the interpretation of the Globe Equity Decree, which was entered in 1935 and established relative rights to surface water involving approximately 3,000 diversions from the Upper Gila River.

Relevant Facts. ADWR monitors the case for issues of statewide importance and has participated as *amicus curiae* on some issues. In 2006, the Arizona Supreme Court affirmed the Gila River Adjudication Court's decision that the Globe Equity Decree has a preclusive effect on the federal reserved water rights claims of the Gila River Indian Community and the San Carlos Apache Tribe.

Ongoing Proceedings before the Office of Administrative Hearings

Problem Description: All ADWR permits are subject to appeal by the applicant and, in most cases, by protestants to the issuance of the permit. If an appeal is filed, a hearing must be held at the Office of Administrative Hearings (OAH). For certain applications, an administrative hearing at OAH is required before ADWR can issue a decision on the application. ADWR also pursues civil violations of the Code through hearings at OAH.

Relevant Facts: The number of ADWR permit challenges before OAH has increased significantly in the last five years and there has been a resulting increase in the number of those administrative actions that parties have appealed to Superior Court. The most recent challenge occurred in the underground water storage program, where Gravel Resources of Arizona objected to the Central Arizona Water Conservation District's application for an Underground Storage Facility Permit and Water Storage Permit on the basis of concerns for its nearby sand and gravel operation. Following an administrative hearing, the Administrative Law Judge recommended denial of the objection and issuance of the permits. On December 11, 2007, the Director issued a decision accepting the Administrative Law Judge's recommended decision with certain modifications. Gravel Resources appealed the Director's decision to superior court, where the case is currently pending.

Another significant matter heard by OAH was the application by Wind River Resources, LLC to transport water from Arizona to Nevada pursuant to A.R.S. § 45-292. OAH conducted a hearing in Beaver Dam, Arizona on March 2, 3 and 4, 2007. ADWR staff participated in the hearing.. On November 28, 2007, the Director issued a decision denying Wind River's application consistent with an earlier recommendation from the Administrative Law Judge issued on October 30, 2007. Wind River did not appeal the Director's decision to Superior Court.

Adjudications

Upon the court's request, the Statewide Planning Division provides technical and administrative assistance to the Court and the Special Master "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 Legal Division represents ADWR during court proceedings, 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 the State, where most of the Indian reservations and federal land is located. To date, over 78,000 water right claims have been filed in the Gila River Adjudication, and over 13,000 water right claims have been filed in the LCR Adjudication. On behalf of federal non-Indian lands alone, the United States has filed over 15,000 claims.

Pursuant to statute and as requested by the Court and the Special Master, ADWR 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 ADWR, including detailed information regarding land ownership, hydrology, the factual basis for each Statement of Claimant (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 to three 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 and water user throughout the affected adjudication area. ADWR also prepares and publishes supplements to HSRs after the HSRs have been finalized. Technical and legal staff coordinates and prepare HSRs as requested by the adjudication court. |
| 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, and the determination of subflow. As requested or necessary, ADWR also files comments on factual/legal issues and status reports with the adjudication court. |
| Data Bases | ADWR maintains and updates SOC information in databases, including names and addresses of the parties to the adjudications, 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 or amended due to other changes. |
| Summons | As required by A.R.S. § 45-253, ADWR sends summonses by certified mail to known potential claimants. Thousands of SOCs were filed in response to the summonses that were issued at the beginning of the adjudications. Additional SOCs are filed as summonses for new uses are issued. In 2006, over 6,500 new SOCs were processed, and over 2,800 new use summonses were sent to potential claimants. |
| Central | ADWR maintains a Central Information Repository for all data, reports and other information related to the adjudications. This Repository contains thousands of documents and is available to the public and to the parties. |
| Court | The Legal Division represents ADWR before the Adjudication Court and the Special Master. Legal counsel directs testimony by technical staff and prepares exhibits for hearings before the Court, and responds to questions concerning reports and comments filed by ADWR. |