

State of Arizona

**Department  
of  
Water Resources**

[www.azwater.gov](http://www.azwater.gov)



**ANNUAL REPORT**

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**Executive Summary**

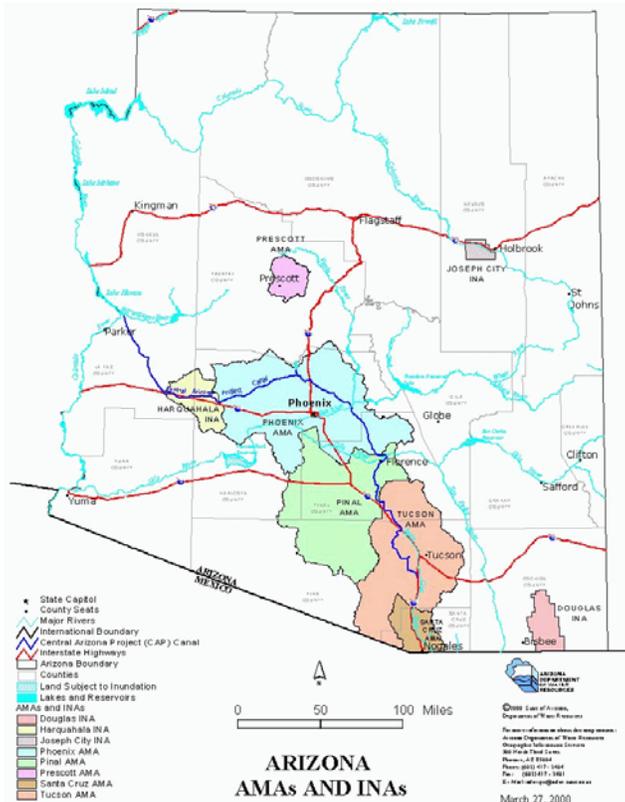
The Arizona Department of Water Resources (ADWR) manages the State's water supply. Water management includes a wide variety of activities that are intended to protect and preserve the water supplies. Examples of these activities include licensing well drillers, assuring the safety of dams and developing mandatory conservation requirements for all water use sectors in Active Management Areas (AMAs), to protecting the State's Colorado River allocation and facilitating Indian water rights negotiations among tribal representatives, local interests, federal and state officials and members of Congress. This wide range of responsibilities, in combination with the evolving and complex nature of the legal and political arena in which water management is conducted, has created a challenging environment for ADWR. For the last 25 years, 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 25 years ago 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, 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 in an AMA can be approved by the platting entity.

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

The water needs of Arizona's rural areas, where few renewable supply options exist, are becoming urgent. The persistent drought has caused several small communities, where wells have gone dry, to import water by truck. Drought will continue as a key concern in this desert State. With the likelihood of increased climatic variability, floodplain management and dam safety activities may become even more critical than they are today. ADWR published a statewide drought and conservation plan for the Governor's Drought Task Force to address the growing concerns about water shortages. ADWR also held five workshops on Colorado River shortages to discuss the impacts of potential shortages to Arizona's Colorado River supply. The Governor held four "Water Listening Sessions" to give the public an opportunity to voice their concerns about Arizona water issues. The heightened concerns about Arizona's water resources led to the passage of legislation that requires all community water systems to annually report water uses, prepare water system plans



to ensure continuously available water supplies and prepare water conservation plans. ADWR is required to assist the communities with the reporting and plans to ensure that the water supplies for all of Arizona are monitored and managed.

Substantial progress has been made within central Arizona in moving toward a sustainable water future, particularly in transitioning the urban demand from a primarily non-renewable groundwater-based supply to increasing dependence on the Colorado River and effluent. ADWR's long-term view of water management needs has served the State well.

## **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 loss of life and damage to property

## **ACCOMPLISHMENTS FY 2006**

### **Drought Management and Planning**

- Established several Local Area Impact Assessment Groups to report on local drought conditions and made recommendations for appropriate mitigation measures in their area.
- Established a Statewide Monitoring Technical Committee to collect and analyze short and long-range climate and water resource data and make recommendations to the Interagency Coordinating Group.
- Initiated legislation and policy requiring water providers outside the Active Management Areas to prepare drought plans and conservation plans for their service areas, the first step in long-range water supply planning.

### **Colorado River**

- Negotiated a preliminary agreement among the Seven Colorado River Basin States regarding modification of the operational framework for the Colorado River. All seven states signed a letter to the Secretary of Interior supporting a preferred alternative for conjunctive operation of Lakes Powell and Mead and shortage criteria for the Lower Division States and Mexico. This is the first time in 84 years all seven states have all agreed on major Colorado River issues.
- Secured statewide consensus among Arizona water users on how to share future Colorado River water shortages.
- Created the Colorado River Advisory Council (CRAC), involving major Arizona water users with significant interests in Colorado River water, to advise the Governor, and the ADWR Director and staff on Colorado River issues.

## Rural Arizona

- Reestablished the Statewide Planning Division within ADWR which includes Drought Planning, Statewide Water Conservation, Environmental Planning, Regional Strategic Planning and Resources Assessment Planning to assist rural Arizona in assessing existing water resources and developing realistic plans for future needs.
- Created the Statewide Water Advisory Group (SWAG) to investigate the potential for establishing special water management areas in rural Arizona watersheds. These management areas would be locally designed and implemented with oversight provided by ADWR. This inclusive group of more than 50 stakeholders will be meeting over the next 7 months to try to design a template and legislation for consideration.

## Statewide Conservation

- Greatly intensified statewide conservation teaching efforts in the K–12 school programs by developing education materials to increase Arizona's school children's knowledge of and involvement in water conservation practices. "*Discovering the Waters of Arizona*", an interactive workbook, was distributed to all Arizona 4<sup>th</sup> graders in 2005 and 2006. Teacher workshops are currently underway to enhance the workbook's role in 4th grade science lessons. In partnership with Project WET, developed a new curriculum "*Arizona Conserves*" which teaches water conservation to grades K–12 and meets Arizona's science standards.
- Created the **Arizona Rinse Smart**® program, a water conservation technology program for restaurants and cafeterias, a typically hard to reach sector. Initially started in Flagstaff and Payson, it will be expanded to include Sedona, Sierra Vista and metropolitan Phoenix by year-end 2006. Use of the Rinse Smart devices has saved small restaurants as much as 50,000 gallons of water a year. By replacing an old, inefficient spray valve with the new efficient spray valve, a savings of 36% is anticipated.
- Initiated the Community Water Planning Assistance Program to assist rural communities and water providers prepare drought and conservation plans as required by the Arizona Revised Statutes. This Assistance Program will help rural providers prepare for shortages and stretch their existing water supplies.

## Dam Safety

- In partnership with Apache County and the Arizona Game and Fish Department, repaired the most hazardous dam in the state in 2005, River Reservoir #3 near Greer. This hazardous structure was subject to catastrophic failure and threatened both life and property downstream.
- Working with the City of Williams, prepared an emergency operation plan for City Dam, the most hazardous dam in the state for 2006. City Dam is located less than ½ mile upstream of downtown Williams, leaving virtually no warning time in case of catastrophic failure. In partnership with Williams and the U.S. Bureau of Reclamation, ADWR has arranged to repair City Dam this summer. Failure of City Dam posed a serious threat to life and severe property damage in the City of Williams.

## Water Management

- Supported implementation of the Arizona Water Settlements Act, the largest water rights settlement in United States history, by establishing the Indian Firming Commission (IFC) to prepare a plan that would provide for Arizona's contribution to the Settlement by firming low priority water to an Indian priority. The IFC prepared a consensus plan for firming with an estimated cost of \$40 to \$60 million.

- With the assistance of the development community and other stakeholders, ADWR redesigned the assured and adequate water supply certificate process to make it simpler and more efficient, while strengthening the 100-year water supply consumer protection program. This process culminated in a set of proposed Assured and Adequate Water Supply Rules currently pending review by the Governor's Regulatory Review Council (GRCC). This stakeholder process also established a fee schedule for applicants that will eventually make the program self funding and allow for an expanded staff to make the process more responsive.
- Developed a permanent set of Well Spacing and Well Impact Rules with the assistance of stakeholders for submission to the Governor's Regulatory Review Council (GRCC). This updated set of rules will be the first permanent rules for this important component of a shared groundwater resource.

## **AGENCY PRIORITIES**

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

In April 2005, the Secretary of the Interior (Secretary) signed the Record of Decision implementing the Lower Colorado River Multi-Species Conservation Program (MSCP). ADWR spearhead development of the MSCP, a program that provides 50 years of Endangered Species Act (ESA) compliance for diversions of Arizona's 2.8 million acre-foot entitlement of Colorado River water. Although the Bureau of Reclamation is the implementing entity, ADWR will continue to be involved in implementation and management of the Program.

Drought conditions have increased the probability of future reductions in Colorado River water supplies for Arizona. In 2005, ADWR began working with Arizona stakeholders including municipalities, tribes, universities, agricultural water users and environmental organizations to develop recommendations regarding shortage implementation criteria. The Arizona Shortage Workgroup developed a recommendation regarding the appropriate volume and implementation strategy for future shortage reductions. If these recommendations are adopted in the Secretary's final Record of Decision in 2007, Arizona water users will be better able to plan and manage future reductions in Colorado River water supplies.

The three programs that have the greatest effect on increasing the use of Colorado River water are the Recharge Program, the AWBA and the AWS Program. The Recharge Program, established in 1986, encourages Colorado River water and effluent to be stored underground for future use. This Program regulates the development of storage and recovery facilities, protects the ownership of stored water and provides technical assistance in developing recharge facilities. Over three million acre-feet of water have been stored since 1986. Three major units within ADWR, Hydrology, Legal Division and Water Management, support the Recharge Program.

ADWR provides staffing and technical support to the AWBA. Since 1996, the AWBA has worked to store excess Central Arizona Project (CAP) water to benefit communities along the Colorado River, water users within the AMAs, Indian tribes and other states (with full protection of Arizona's water rights).

The AWS Program requires that all new subdivisions within AMAs demonstrate that they have a 100-year supply of water, of adequate quality and quantity, prior to plat approval (or be served by a water provider that has already made a similar demonstration). The AWS Rules, adopted by ADWR in 1995, require that the water used in this demonstration be primarily renewable. A major source of water for this demonstration is CAP water. The AWS Rules have been the primary driving force behind substantial investments in the use of CAP and effluent water for municipal supply. In addition, ADWR administers programs that encourage the use of CAP in lieu of groundwater. The pricing policies of the CAP have also expanded agricultural CAP water use. The Colorado River Office monitors all intra/inter-state activity related to the River, represents the State in technical and policy matters and ensures that Arizona's interests are protected.

### **To decrease mining of groundwater within the 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.

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

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

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

ADWR has management responsibilities for both groundwater and surface water. The Water Management Support Unit processes surface water rights claims, other than those along the Colorado River, and the AMAs manage the majority of the groundwater rights. Most water resource reports and assessments contain a hydrologic data component and the Hydrology Division collects, analyzes and reports on the majority of the surface 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 resources for the Courts 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 CAP, 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 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 requirements. ADWR conducts testing for well drilling licenses and issues authorizations to drill for any well drilling and construction that occurs in the State. ADWR enforces groundwater transportation restrictions throughout the State and maintains the provisions of the water adequacy program outside of AMAs.

## **Irrigation 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. 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 for underground storage and recovery permits, file notice of intent to drill wells and obtain notices of irrigation authority to irrigate eligible lands. 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, include 80 percent of Arizona's population and account for 70 percent of the groundwater overdraft. In 1994, a southern portion of the Tucson AMA was separately designated as the Santa Cruz AMA. Each AMA has a regional office and an AMA director.

The Phoenix, Prescott and Tucson AMAs are directed to achieve safe-yield by 2025. Safe-yield is defined as a 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 naturally recharged to the aquifer, through either rainfall or runoff percolating into the aquifer or artificially through recharge projects. The management goal of the Pinal AMA calls for allowing the area's predominantly agricultural economy to continue for as long as feasible, 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 Patricia Turpin John Williams, Jr. F. Ronald Rayner Frank Fairbanks</i>	<i>Municipal General Public Salt River Project Agriculture Municipal</i>	<i>1/16/2012 1/18/2010 1/16/2012 1/21/2008 1/21/2008</i>
<i>Pinal AMA</i>	<i>Oliver Anderson David Snider Scott Riggins Steve Pretzer</i>	<i>Agriculture Municipal Agriculture Agriculture</i>	<i>1/21/2008 1/16/2012 1/16/2012 1/21/2008</i>
<i>Prescott AMA</i>	<i>Marvin Larson James Neal John Olson Larry Tarkowski Carol Johnson</i>	<i>Developer Private Citizen Agriculture Municipal Municipal</i>	<i>1/21/2008 1/21/2008 1/16/2012 1/16/2012 1/06/2011</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>Homebuilder's Assoc. 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 and support staff. 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.

The Office of the Director also coordinates and oversees the development and implementation of the legislative agenda. For information on key water-related legislation, please refer to the *Arizona Department of Water Resources Legislation Implementation Plan* which is available on the ADWR website at [www.azwater.gov](http://www.azwater.gov).

### **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 Maricopa and Apache County Superior Courts in the Gila and Little Colorado River Adjudications
- Assist in writing and implementation of policies for all ADWR programs
- Serve as the Director's designee on the State Power Plant and Transmission Line Siting Committee and assist in preparing conditions on Certificates of Environmental Compatibility
- 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*

- Develops custom Enterprise business applications that support ADWR activities
- Develops 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.

### *Water Resources Investigations Section*

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

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**Basic Data Unit Responsibilities**

- Measure wells in statewide water level index lines
- Monitor water level chart recorders on a quarterly basis
- Install water level transducers
- Sample water quality index wells
- Monitor index wells in Prescott AMA
- Sample wells in Phoenix AMA for Total Dissolved Solids data
- Conduct water level surveys statewide
- Prepare Hydrologic Map Series reports for CD publication
- Support WQARF site investigations
- Provide Rural Watershed Partnerships with hydrologic support
- Measure well discharges on as-needed basis in AMAs
- Conduct crop surveys to aid in water budget preparation

**GPS/Gravity Survey Unit Responsibilities**

- Conduct GPS surveys for land subsidence
- Conduct microgravity and GPS surveys
- Establish absolute gravity stations established in Phoenix AMA
- Provide support for interferogram studies (Phoenix and Tucson AMAs)
- Perform depth to bedrock and aquifer storage analyses (Mohave County groundwater basins, Hassayampa 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

**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*

#### **Geographic Information Unit Responsibilities**

- Provide GIS training sessions
- Maintain databases in support of statewide planning, water management, hydrology, dam safety and adjudication programs
- Produce new GIS maps in support of agency programs
- Provide training to agency staff for use of GIS software

#### **Modeling Unit Responsibilities**

- Update or enhance AMA hydrologic models
- Publish Annual Monitoring Reports
- 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 contaminant transport models submitted to Arizona Department of Environmental Quality
- Support community water management efforts with modeling expertise

#### **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
- 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
- Inspect sites for vertical cross-contamination
- Prepare the groundwater monitoring report for Prescott

### **Statewide Planning Division**

Newly created in January 2005, 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 (Rural 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, review and summary 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 single largest amount of 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 five year 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.

### *Drought, Conservation and Riparian Planning Section*

#### **Statewide Water Conservation and Drought Planning 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 is 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 Preparedness 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 Area Impact Assessment 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 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.

This section also provides coordination on border region water issues including representing Arizona on the Border Governor’s Conference Water Committee and support to the Border 2012 Water Task Force.

### *Regional Water Planning Section*

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

## **Office of Water Engineering**

This Office is responsible for the safety of all nonfederal dams in Arizona, field investigations of water rights, supporting adjudication activities, administering community assistance programs, and assisting community map modernization efforts and flood mitigation programs, which help to minimize the risk for loss of life and property damage.

- Reduce likelihood of catastrophic dam failure
- Mitigate flood damage through floodplain management
- Provide support in adjudication activities, surface water investigations, planning studies and hydrologic analyses

### *Dam Safety Section*

The statutory authority for the safety of dams activities is found in A.R.S. § 45-105 et seq. and 45-1201 et seq. The Dam Safety Section is responsible for the safety of all nonfederal dams in Arizona through the following activities:

- Perform safety inspections and identify safety deficiencies at operating dams.
- Evaluate the safety of operating dams and maintain list of Unsafe Dams.
- Negotiate grants from Dam Repair Fund to secure engineering services for repairs to the highest priority Unsafe Dams in Arizona.
- Conduct detailed reviews of applications for dam construction and repair.
- Contact owners of unregistered dams to assure that those dams become registered and meet current dam safety standards.

### *Flood Mitigation Section*

Statutory authorities for the Flood Warning activities are found in A.R.S. § 45-105, 45-1441 et seq., 45-1471 et seq., 45-1491, 45-1501 et seq., and 48-3601 et seq. The Flood Mitigation Section is responsible for assisting in the planning, design and construction of flood warning systems; provides assistance for communities that participate in the National Flood Insurance Program; provides map modernization assistance to counties and communities; setting state standards for floodplain management; and also coordinates with local, state and federal agencies during times of flood emergencies.

- 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 the Federal Emergency Management Agency on NFIP and map modernization activities.
- Ensure that state owned flood-warning gauges and repeaters are maintained and operational.
- Through ISAs/IGAs provide 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.

### *Engineering Technical Support Section*

Authority for these activities is found in A.R.S. § 45-105, 45-112, 45-141, 45-151 et seq., 45-171 et seq., 45-181 et seq., 45-251 et seq., 45-271 et seq. and 45-1201 et seq. Engineering Technical Support's primary responsibility is to assist the entire agency by collecting water supply and water use data in support of planning studies, hydrologic analyses, dam

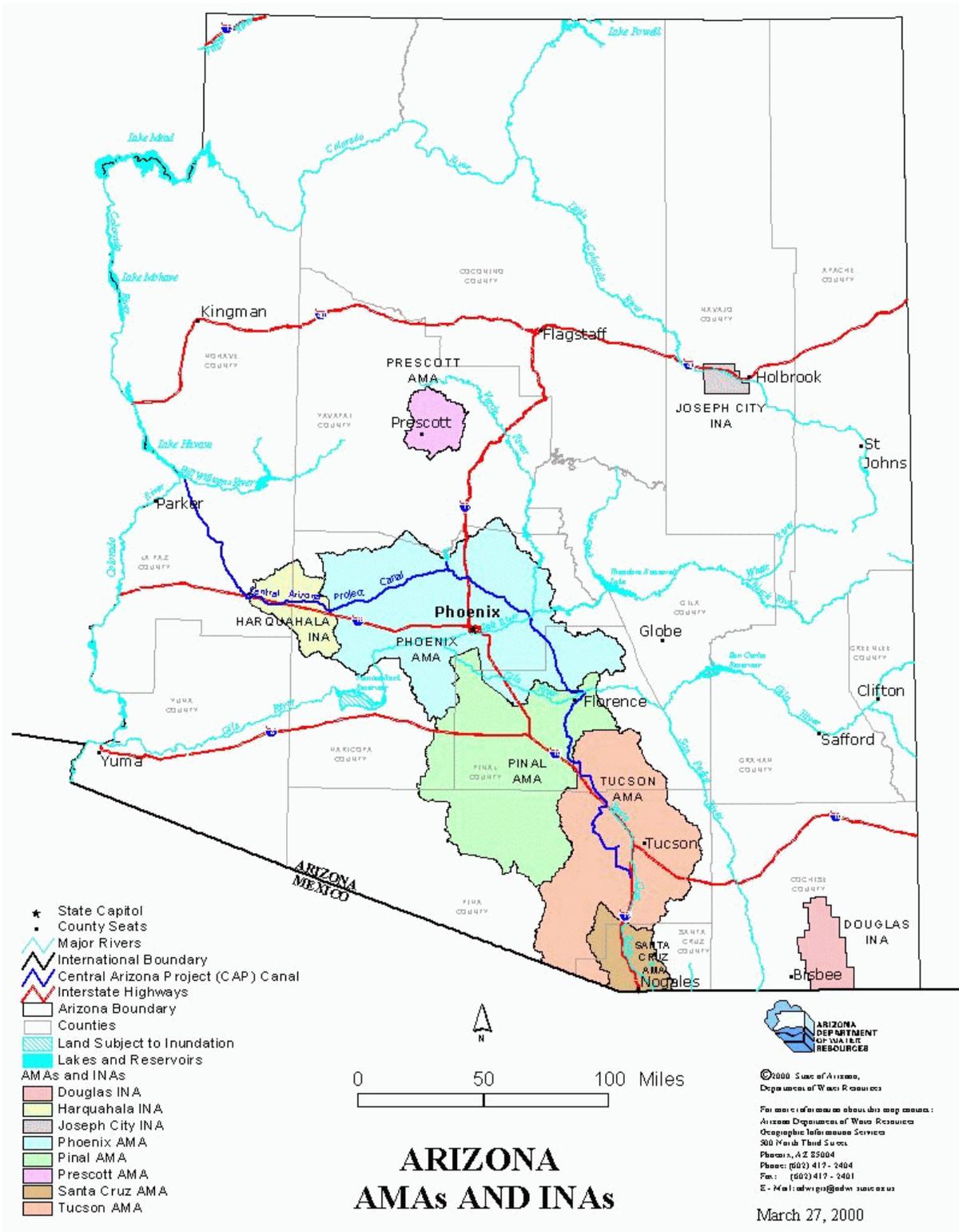
safety, flood mitigation, water rights and adjudication activities. A variety of office and field investigation techniques are used to gather this information. This section also provides support in the preparation of required technical reports for other sections within the agency.

- Perform safety inspections and identify safety deficiencies at operating dams.
- Ensuring a long-term sufficient and secure water supply for the State by investigating, allocating and comprehensively managing in a sound manner the rights and interests of the State's water resources for the citizens of Arizona.
- Contact owner of unregistered dams to assure that those dams become registered and meet current dam safety standards.

## **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 serve as the main point of contact for members of the public and the regulated community. The AMA staff develop and enforce mandatory conservation requirements for each water use sector, process annual water use reports and coordinate 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.



### *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**

- Processes Certificates of AWS/Adequacy
- Processes Designations of AWS/Adequacy
- Reviews applications for membership in the Central Arizona Groundwater Replenishment District
- Processes amendments to Certificates/Designations
- Processes exemptions
- Issues reliance letters
- Processes annual reports from Designations

### *Water Management Support Section*

The Water Management Support Section consists of the Surface Water Rights Unit, the Notice of Intent Unit, the Information Management Unit, the Groundwater Right Conveyance Unit, the Arizona Department of Water Resources Bookstore, the Imaging Unit and the Library 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.

#### **Information Management Unit**

The Information Management Unit is responsible for providing customer support services to ADWR by assisting the public with water rights information, inputting well data into a database that is used in state water planning efforts and processing all filing fees.

#### **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.

### **Water Resources Bookstore**

The Water Resources Bookstore assists the public and the Department by providing publications, reports, maps and other public information regarding water rights in the State of Arizona. The Unit also maintains a web site and bookstore catalog that allows the public easy access to download or purchase documents, maps books and merchandise.

### **Imaging Unit**

The Imaging Unit is responsible for imaging, storing, archiving, and retrieving Department records, and providing the Department and the public with easy access to all public records on-line. The Unit ensures that the imaging database is maintained, that the Department complies with the Department's retention schedule and follows state regulations pertaining to public documents and that the integrity of the images/microfilm and documents is maintained.

### **Library Unit**

The Library Unit is responsible for researching, locating, obtaining, cataloging, and maintaining a library of important documents and publications that are used for informational purposes by the Department.

### *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 82 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.

## **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*

The on-going drought and continued population growth in the Colorado River Basin states, particularly in the Lower Basin states, have raised significant questions regarding how to manage the Colorado River to best accommodate the needs of Colorado River water users. The three key issues are listed below:

- **Shortage Sharing Criteria.** Arizona Colorado River water users came together and developed framework to determine when and how shortages on the Colorado River would be managed.
- **Seven Basin States Conceptual Framework.** The Seven Basin States developed a conceptual agreement regarding the conjunctive management of Lake Powell and Lake Mead to balance the water demands of the Upper and Lower Basin states.
- **Lower Basin States Coordinated Drought Management.** The Lower Basin States are coordinating drought management efforts in the Lower Basin to help to mitigate drought impacts in the area.

## **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, drought provisions and the need to modify the AWS criteria to ensure sustainable supplies for municipal growth
- In the Prescott AMA, current uses and commitments to serve new subdivisions will result in groundwater demands that are more than double the long-term sustainable supply of groundwater
- In the Santa Cruz AMA, the goal of maintaining a safe-yield condition and local water levels is hampered by complex hydrology (inability to distinguish between surface water and groundwater), lack of adjudication of surface water rights, uncertainty of continued delivery of effluent from Mexico and the need to amend the AWS Rules

Achievement of the AMAs statutory goals and ensuring adequate, dependable water supplies will require continued development of both regulatory and non-regulatory programs and policies. Cooperative efforts with regional entities and technically sophisticated long-term planning will be critical to achieving the AMAs water management goals.

#### **Use of Renewable and Alternative Supplies**

Conversion to non-groundwater sources is the single most important means of achieving the management goals within the AMAs. The AWS requirements are the major tool ensuring that new subdivisions in the AMAs use renewable water

supplies. To continue recent positive trends, additional opportunities must be pursued to substitute renewable or imported supplies in place of mined groundwater. Expanding the types of users with mandatory replenishment obligations is an approach that has been considered in all the AMAs and by the Governor's Water Management Commission. In both the Santa Cruz and Prescott AMAs, where access to renewable supplies is very limited, local communities have expressed interest in forming water management authorities to facilitate the importation, transfer and allocation of regional supplies.

### **Allowable Pumping**

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

### **Goal Refinement**

The management goals of the Pinal and Santa Cruz AMAs are unique and require refinement. The Pinal AMA goal has two components: preserving the agricultural economy for as long as feasible and ensuring that municipal and industrial uses have a reliable and sustainable water supply in the future. The Santa Cruz AMA management goal requires management of local water levels, as well as maintenance of the safe-yield condition. These goals add complexity and some ambiguity to the administration of ADWR's programs, including recharge and recovery, and most pressingly, the AWS Rules. The Pinal AMAs existing AWS Rules over-allocate groundwater supplies, and the Santa Cruz AMA has not yet adopted AMA-specific AWS Rules and well-spacing criteria related to consistency with the management goal. The development of AWS Rules that reflect the unique goals of these AMAs will be a primary focus 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 that are facing similar problems will increase. Over-allocation of existing supplies could also result in supply constraints and disruptions in areas that are not growing.

### **Land Subsidence**

Land subsidence and fissuring are two of the most serious consequences of overdraft. The Phoenix, Pinal and Tucson AMAs all have measurable and ongoing levels of subsidence, and there are well-documented cases of damage to transportation, water, sewer and flood-control infrastructure. A notable example is the greater than 15 feet of land subsidence which has occurred in the vicinity of Luke Air Force Base since the 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 lends themselves to regional solutions. ADWRs 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 (CAGRD), 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 affects 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 Water Wastewater Treatment Plant in Nogales, Arizona, is discharged in the Santa Cruz AMA. Long-range planning and supply reliability are compromised by the uncertainty of that supply. Coordination with water users and federal, state and local agencies regarding conservation, supply planning for drought and growth is necessary. Other international activities, including those of the IBWC can significantly impact Arizona and requires 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 three million acre-feet have been stored in the central AMAs, and there are issues related to how that stored water will be recovered and the 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. The Hydrology Division now produces annual monitoring reports for the Prescott and Santa Cruz AMAs. In addition to increasing the accuracy of the data, efforts are underway to ensure that data can be disseminated in ways that are accessible to both technical and general audiences.

## *Colorado River Issues*

### **Interstate Colorado River Issues**

#### *Mexico*

Increasing water demands in Mexico are creating political pressures to increase water deliveries to Mexico, impacting the amount and dependability of Colorado River water supplies available to Arizona. The 1944 Treaty with Mexico apportions 1.5 million acre-feet 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.

## **Intrastate Colorado River Issues**

### *Water Allocations*

ADWR is responsible for making recommendations to the U.S. Secretary of the Interior regarding the allocation of Colorado River water to mainstream water users and to customers of the CAP. ADWR also makes recommendations on the transfers of CAP water allocations based on substantive policy statements. Arizona used its entire 2.8 million acre-feet allocation of Colorado River water in FY 2006. 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 Department had many roles in negotiation of the various settlements, and will have many responsibilities in implementing the various settlements, both by agreement and by changes in State law. The Act is a culmination of many negotiations, and these settlements bring additional certainty about the current and future uses of water within the State. Title I is the Central Arizona Project Settlement Act, Title II is the Gila River Indian Community Water Rights Settlement Act, and Title III is the Southern Arizona Water Rights Settlement Act Amendments. Full enforceability of each of the titles is dependent upon meeting a number of issues and milestones for all the titles as outlined in the Act by December 31, 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 Legislative Session, legislation 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 passed.

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.

### **Quechan Tribal Settlement**

The last tribal claim of *Arizona v. California* was on behalf of the Quechan Tribe of California/Arizona. Negotiations were completed in 2004 in which Arizona will recognize the Tribe's reservation in Arizona, and the Tribe will be allocated 6350 AF of first priority Colorado River water. It is expected that the U.S. Supreme Court confirmed the settlement as part of a final consolidated decree in the matter in 2005.

### **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 adopted 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. Under the public law, this must be completed by December 31, 2006.

### **Ongoing Tribal Settlement Issues**

The Department is involved, either as a participant or in a leading role, in the following settlement negotiations: San Carlos Apache Tribe, the Navajo Nation, the Hopi Tribe and the Yavapai-Apache Nation. 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. New settlement negotiations are expected to begin in late 2006 with the White Mountain Apache Tribe.

### ***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 slow in recent years due to 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 95,000 in the Gila and Little Colorado River adjudications combined. The adjudications are described further in the Legal Division section.

## *Surface Water Issues*

### **Water Rights Located on Federal and State Land**

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

### **Flood Control Structures**

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

## *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 ten-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.

## **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*

*Arizona State Land Dept. et al., v. Western Regional Director, Interior Board of Indian Appeal, B.A. Docket No. IBA 04-133-A, Consolidated.*

**Problem Description:** Appeal of the Bureau of Indian Affairs' decision to take 1,168.9 acres in Yavapai County into trust for the Yavapai-Apache Nation.

**Relevant Facts:** ADWR appealed the BIA's decision on the ground that the Environmental Assessment is inadequate and that 25 U.S.C. § 211 prohibits the Secretary of Interior from taking lands into trust without Congressional approval. ADWR filed its opening brief on October 29, 2004. A hearing before the board is scheduled for November 2006. ADWR and the Yavapai-Apache Nation are in negotiations over the EA issue, primarily regarding water planning and regulation.

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

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

**Relevant Facts:** Both suits challenge the total gallons per capita per day conservation program in the Third Management Plan. The superior court has placed both suits on the inactive calendar until December 1, 2006 to give the parties additional time to attempt to resolve the Plaintiffs' applications for administrative adjustments to their conservation requirements. Resolution of those applications could result in a dismissal of the lawsuits.

*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 has not yet acted on the petitions.

As requested by the Special Master, in November 2005, ADWR developed and now maintains an electronic index and database that is available on the Internet for documents in two contested cases. These cases involve the federal reserved water right claims for Fort Huachuca and State Trust Lands.

In December 2005, ADWR provided technical information and comments to the Special Master concerning procedures for the summary adjudication of certain *de minimis* uses, or small uses,

including agricultural and municipal uses, among others. The Special Master deferred further proceedings on this matter until there is a final ruling on the subflow issues.

On December 10, 2004, the Arizona Water Settlements Act was signed into law. This Act satisfies the federal reserved water rights claims of the Gila River Indian Community and the Tohono O'odham Nation.

In May of 2006, the parties to the Gila River Indian Community Settlement filed in the Gila River General Stream Adjudication Court for approval of the Settlement, *In re Proposed Gila River Indian Community Water Rights Settlement* Contested Case No. W1-207. ADWR was ordered to prepare a technical assessment of the settlement, which is due on August 23, 2006. The assessment will be distributed to the Court approved mailing list, and posted on ADWR's website.

It is expected that the parties to the Southern Arizona Water Rights Settlement Act Settlement will file in the Gila River General Stream Adjudication Court for approval of the Settlement in July of 2006. ADWR will be ordered to prepare a technical assessment of the Settlement.

*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 January 30, 2005, ADWR filed a supplemental contested case hydrographic survey report concerning the claims filed by Phelps Dodge to divert water from Show Low Lake in exchange for water diverted from the Salt River system for use at the Morenci copper mine. ADWR mailed over 5,000 notices of the filing of the report together with objection packets. Before the deadline for filing objections, Phelps Dodge withdrew its adjudication claim for water rights to Show Low Lake and abandoned its certificate of water right. On the same date, the Show Low/Pinetop-Woodland Irrigation Company and the City of Show Low both filed applications for permits to appropriate water from Show Low Lake.

As requested by the court, ADWR commenced field investigations to evaluate 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. Technical field and GIS work began in 2005 and continues in 2006.

On June 23, 2003, the Zuni Settlement Act was signed into law. This Act satisfies the federal reserved water rights claims of the Zuni Tribe. In March of 2006, the parties to the ZUNI settlement filed in the Little Colorado Adjudication Court for approval of the settlement, *In re Proposed Zuni Indian Tribe Water Rights Settlement*, Contested Case No. CV 6417-200. ADWR was ordered to prepare a technical assessment of the settlement, which was completed on May 15, 2006, distributed to the Court approved mailing list, and posted on ADWR's website.

*Phelps Dodge Corp. v. ADWR, U.S. Forest Service, Tonto National Forest, SRP, et al.*, No. 1CA-CV 04-0491 (Arizona Court of Appeals).

Problem Description. In 2003, Phelps Dodge filed an objection to a permit application filed by Tonto National Forest for instream flows in Cherry Creek. Phelps Dodge claimed that ADWR lacks legal authority to grant permits to appropriate water for instream flows, and that ADWR's Instream Flow Guide is invalid.

Relevant Facts. Both the Office of Administrative Hearings and the Maricopa County Superior Court ruled in ADWR's favor on the issues raised by Phelps Dodge. Phelps Dodge appealed to the Arizona Court of Appeals, which also upheld ADWR's Instream Flow Program. Phelps Dodge filed a Petition for Review, which was denied by the Arizona Supreme Court in March 2006.

*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). 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 a landowner near a proposed underground storage facility objected on the basis of concerns for its sand and gravel operation. During that same five-year period, ADWR had actions at OAH for civil violations of the Code.

#### *Adjudications*

Upon request, ADWR 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 oversees ADWR's role in the adjudication, represents ADWR in front of the Court and the Special Master, and assists with the preparation of reports and comments requested by the Court and the Special Master.

There are two general stream adjudications in the State, the Gila River System and Source (Gila Adjudication) and the Little Colorado River System and Source (LCR Adjudication). The exterior boundaries of these two

adjudications include more than half the State, where most of the Indian reservations and federal land is located. There are over 40,000 parties in the Gila Adjudication and nearly 5,000 parties in the LCR Adjudication. A party is a person or entity that has filed one or more claims to water rights in the adjudication (Statement of Claimant or SOC). On behalf of federal 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, the Legal Division 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 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 HSR's after the HSR's have been finalized. Technical and legal staff within the Legal Division coordinates and prepare HSRs for the Court with assistance from other technical staff within ADWR.
- Reports** As requested by the Court or the Special Master, ADWR prepares and publishes technical reports on specific issues or factual matters within the adjudications, such as Indian water rights settlements, the Globe Equity 59 Decree, *de minimis* uses, inventory of uses within the Santa Cruz River watershed, the determination of subflow, comments on legal issues and status reports. Technical and legal staff within the Legal Division coordinates and prepares these reports with other technical staff within ADWR.
- Data Bases** ADWR maintains and updates SOC information, including names and addresses of the parties to the 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. These databases are maintained and updated by staff within the Legal Division.
- 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. Through the end of calendar year, approximately 80,000 SOC's have been filed in the Gila, and approximately 14,000 SOC's have been filed in the LCR 2005.
- Central** The Legal Division 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** Legal counsel within the Legal Division appears in front of the Adjudication Court and the Special Master to respond to questions regarding reports and for comments that ADWR has filed. Legal counsel also directs testimony by technical staff and prepares exhibits for hearings before the Court.