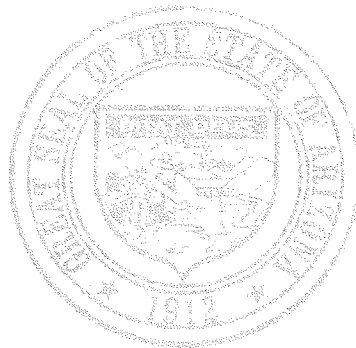


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STATE OF ARIZONA

**DEPARTMENT
OF
WATER RESOURCES**

www.water.az.gov

ANNUAL REPORT

FISCAL YEAR 2001

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ARIZONA DEPARTMENT OF WATER RESOURCES

The Arizona Department of Water Resources (ADWR) was created in 1980 and entrusted with the responsibility for securing long-term water supplies for communities within the State of Arizona. Principal duties of ADWR include implementing the Groundwater Management Code (Code), registering all surface water and groundwater rights, supporting the adjudication of water rights within the state, ensuring the safety of non-federal dams, assisting local entities to manage floodplains, providing technical assistance to the state's water users and representing Arizona in interstate water discussions.

Mission Statement

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 and economically sound manner, and to promote the management of floodplains and dams to reduce loss of life and damage to property.

Goals

To help assure that ADWR continues to carry out its mission, ADWR has adopted the following goals:

- To maximize usage of Arizona's Colorado River entitlement.
- To decrease mining of groundwater within the Active Management Areas (AMAs).
- To assure that dam design, construction, operations and maintenance are in compliance with state laws and current dam safety guidelines.

Each goal has specific key performance measures associated with it to ensure that ADWR can monitor its progress toward meeting those goals and, consequently, fulfilling its mission.

ORGANIZATIONAL STRUCTURE

ADWR is organized into six divisions, each with distinct responsibilities that support ADWR's mission. The divisions are as follows:

Legal Division

Information Technology Division

Statewide Water Planning Division

Hydrology Division

Groundwater Management Division

Surface Water Management Division

Supporting each division is the Office of the Director, which provides policy direction and management services, and the Office of Finance and Administration, which provides centralized general support to ADWR.

Office of the Director

ADWR was involved in a variety of activities and events during FY 2000-2001. One of the most notable events was the departure of Director Rita Pearson Maguire, who served Arizona citizens in this capacity for eight years. Because of the significant contributions that Director Pearson Maguire made to assure that our state would continue to enjoy a secure, high-quality water supply, a brief summary of ADWR accomplishment during her tenure is included in this report.

Managing Water for the 21st Century and Beyond -- Major Accomplishments at ADWR 1993 to Present

The final years of the 20th Century and the first years of the 21st have brought great change to Arizona and to the entire Lower Colorado River Basin. Population boomed, as did the demand for a stable, secure source of water. Against this backdrop, officials in Arizona, Nevada and California faced a daunting challenge. They could continue to pursue the timeworn strategy of confrontation and litigation, or they could choose creative cooperation. The one undeniable fact of the water business is that there is a finite water supply. The job of water manager is to conserve this supply, to save water in times of surplus for times of drought and to serve increasing populations with the same amount of water. The water managers of Arizona, Nevada and California deserve credit for choosing to work more intelligently with their internal water sources, and to form close partnerships with their neighbors to tackle common problems. The result is a more harmonious relationship in the Lower Colorado River Basin that will benefit the five million people in Arizona, and the nearly 26 million people of the Lower Basin.

Creation of the Arizona Water Banking Authority

The Arizona Water Banking Authority (AWBA) helps to secure Arizona's water supply in future years. By 2050, deliveries of Colorado River water in the Lower Basin will be reduced as much as 50 percent. Under the U. S. Bureau of Reclamation (BOR) Priority System on the Colorado River, the Central Arizona Project (CAP) has a junior right and, in years of below-normal runoff, all other Colorado River users receive water prior to the CAP.

The AWBA was created to capture temporarily under-utilized Colorado River water, and store it underground through direct and in-lieu recharge projects in the CAP service area. By banking its unused Colorado River allocation, Arizona can take full advantage of its 2.8 million acre-feet (maf) annual allocation of Colorado River water. Without a mechanism like the AWBA, Arizona would have lost as much as 14 maf by the time it was fully using its CAP allocation, probably around 2030. Southern California would have used most of that water. Since its creation, the AWBA has stored more than 1.3 maf.

The AWBA represents a sound water management policy that will guide Arizona water planning into the next century. By storing substantial amounts of water in central and southern Arizona, the AWBA will help safeguard against future shortages on the CAP system, assist in meeting the goals of the Code, aid neighboring states in achieving their water management goals without threatening Arizona's water supply, replenish depleted groundwater aquifers with CAP water and assist in the settlement of Indian water rights claims. The AWBA will create a "water savings account," helping to ensure that a legacy of efficient and effective water use will be passed to future generations.

Colorado River Interim Surplus Criteria

The agreement reached among the Seven Basin States is the result of several years of intensive discussion concerning southern California's dependence upon Colorado River water. It is significant that the terms of the agreement were dictated by the states themselves and then approved by the U. S. Department of the Interior (DOI) once the states had reached an agreement. There is a side agreement between the State of Arizona and the Metropolitan Water District of Southern California (MWD), in which Arizona agrees to forego its share of certain surplus water during a 15-year period ending in 2016. This agreement calls for MWD to guarantee that

California will reduce its demand for Colorado River water in accordance with the Federal Interim Surplus Guidelines, and make reparations of up to 1 maf to Arizona should shortages result from the surplus releases. The Arizona Legislature and the MWD Board of Directors have ratified this agreement.

The main purpose of the Interim Surplus Guidelines is to assist California in reducing its consumption of Colorado River water to 4.4 maf per year. In recent years, California has been taking as much as 5.2 maf. This use was possible because Arizona and Nevada have not been using their full entitlements.

Central Arizona Project/Gila River Indian Community Federal Settlement

United States Senator Jon Kyl introduced S. 3231 in October 2000. This legislation provides for settlement of the repayment of the CAP costs by the Central Arizona Water Conservation District (CAWCD) and the Indian Water Rights Claims of the Gila River Indian Community (GRIC). It also completes the Southern Arizona Water Rights Settlement Act (SAWRSA) process.

The CAWCD settlement provides for repayment of the cost of construction of the CAP to BOR in the amount of \$1.65 billion. The CAWCD Board already has approved the repayment. Under the settlement agreement, the United States will acquire a total of 665,224 acre-feet (af) of CAP water for federal purposes (including CAP water for the GRIC settlement, SAWRSA settlement and for the settlement of any remaining Indian claims in Arizona). The GRIC negotiations are still in process. Completion of the SAWRSA agreement is pending congressional approval of the legislation.

In addition to implementing the CAWCD/BOR stipulated settlement, it provides for water management changes that include:

- The "reallocation" of 65,600 af of Municipal and Industrial (M&I) CAP water to non-Indian cities, towns and water companies.
- A ban on interstate marketing by tribes.
- A permanent federal/state split of the CAP supplies.
- Amendments to CAP M&I subcontracts to provide "permanent service" within the meaning of Section 5 of the Boulder Canyon Project Act, with a 100-year delivery term.
- Limited federal environmental review of future transfers of CAP water among state water users.

Multiple Species Conservation Program

The Multiple Species Conservation Program (MSCP) is the chosen alternative for the three states in the Lower Colorado River Basin to address endangered species habitat issues that involve the Colorado River below Lee's Ferry. The MSCP is a cooperative effort between the Lower Basin States, the federal government, the tribes and environmental interests. These states are working to satisfy Endangered Species Act (ESA) concerns while meeting agricultural, municipal and industrial water and power needs.

The Surface Water Management Division, Colorado River Section, administers the MSCP. The purpose of the Program is to develop and implement a proactive, long-term endangered species conservation and compliance program for the lower Colorado River. Its specific goals are to:

- Conserve habitat, help the recovery of endangered species and reduce the likelihood of additional species listings under the ESA.
- Accommodate current water diversions and power production and optimize future opportunities for water and power development.
- Provide the basis for federal and California ESA compliance through incidental take authorizations.

The MSCP was created in response to the Secretary of the Interior (Secretary) designating critical habitat along the mainstream of the Colorado River. This designation forced the states in the Lower Basin to modify

assumptions about the availability of Colorado River water. The Basin States recognized that environmental needs would become a large part of future water resource management.

The lower Colorado River MSCP will provide conservation measures to benefit more than 50 endangered and other at-risk species and their associated aquatic, riparian and upland habitats. The MSCP is intended to serve as a comprehensive conservation approach for the lower Colorado River below Glen Canyon Dam to the Mexican border. The goal of the MSCP is to create a 50-year program to mitigate the effects of water and power use on the species and habitat along a 700-mile stretch of the lower Colorado River.

Interstate Water Banking

Following issuance by the DOI of the offstream storage rule, Arizona and Nevada began discussions that led to an agreement under which Nevada will pay Arizona to store unneeded Colorado River water in Arizona. The first step was the creation of the AWBA in 1996. Implementation of interstate banking will "firm up" water supplies in the Lower Basin to the benefit of Arizona and the other states.

Nevada will pay the full costs associated with storage. When Nevada decides to withdraw some of its water from storage, it will decrease its diversions from Lake Mead. The water in storage in Arizona's aquifers will remain in storage until needed by Arizona users. Interstate water banking will enable Arizona to manage the water that comes down the Colorado River more efficiently for the benefit of its citizens and, if they choose, other Lower Basin States.

Arizona Water Protection Fund and Commission

The Legislature created the Arizona Water Protection Fund (AWPF) and Commission in 1994 to provide grants for development and implementation of measures to protect water of sufficient quality and quantity to maintain, enhance and restore rivers and streams. Funds come from State General Fund appropriations. Grantees must acquire CAP water or effluent for protection or restoration of rivers and streams, and develop and implement conservation programs outside the five AMAs.

Prescott Declaration

Hydrologic monitoring showed precipitous decline in groundwater tables in the Prescott AMA. The Declaration, issued in January 1999, found that "groundwater mining" was occurring. Groundwater can no longer be used as a source of an Assured Water Supply (AWS).

Governor's Water Management Commission

After 20 years with the Code, the Governor determined that a review of water management policies within the AMAs was appropriate. Toward that end, she established the Governor's Water Management Commission (Commission) by Executive Order 2000-7 in May 2000. The purpose of the Commission is to evaluate water management regulations and practices in the AMAs, and to make recommendations regarding changes to statutes or rules to assure that Arizona's management practices will help to achieve a long-term, reliable water supply. The Governor appointed members of the Commission to represent a cross-section of water, business, government and environmental interests. The Commission report is due December 2001.

The ADWR Director appointed the Commission's Technical Advisory Committee (TAC) to provide technical support and expertise to the Commission. The charge to the TAC was to evaluate the recommendations developed by the AMA Safe Yield Task Forces. These recommendations will be reviewed and consolidated by the TAC, and forwarded to the Commission with suggested changes to laws, rules or policies. The AMA Directors appointed the Task Force members. The AMA Safe Yield Task Forces review water management issues within their respective AMAs. These Task Forces met for approximately one year and prepared recommendations in anticipation of the appointment of the Commission. Approximately 175 local community members participated in these discussions. The membership and size of the Task Forces varied by AMA, but

generally the membership consisted of representatives of agricultural, environmental and development interests, county and municipal representatives, and a variety of other community members with an interest in water issues.

Rural Watershed Initiatives

This program provides assistance to local water users who want to implement local solutions to their unique challenges. It was created at the request of Governor Jane Dee Hull in 2000. The program is funded by General Fund appropriations and by fiscal and in-kind contributions from other state, local and federal entities. Approximately 20 partnerships have been formed to date.

Technology

ADWR recognized that technology would be the key to providing more customer service for the tax dollar. Innovations in technology enabled the Department to:

- Create www.water.az.gov, ADWR's website facilitating public access to information, databases and publications.
- Create the ADWR Bookstore that allows citizens statewide to order ADWR publications over the Internet.
- Move forward with its imaging initiative to cut costs and facilitate the flow of information to internal and external constituencies.

Basic Data Innovations

ADWR leadership recognized that answers to fiscal limitations would be found in technology. FY 1994-1995 saw the beginning of a major transition to upgrade computer capabilities. Following an intensive study, ADWR began a three-year transition to:

- Develop relational database/client-server technology.
- Enhance mapmaking capabilities through its Geographic Information Service (GIS).
- Use Global Positioning Systems (GPS) to locate wells, surface water sites and dams to improve map accuracy.

Assured and Adequate Water Supply Rules

ADWR adopted rules, effective February 7, 1995, implementing the AWS statute. The rules contain criteria for the approval of applications for Designations and Certificates of AWS inside the AMAs. ADWR also adopted rules governing Adequate Water Supply Reports and Designations outside AMAs.

Flood Warning System

In 1994, the Legislature authorized ADWR to develop flood warning systems throughout the State. The Surface Water Management Division administers the program. A base station at ADWR in Phoenix was set up to monitor real-time precipitation and water level data from more than 400 gauges statewide. The computerized real-time Arizona Flood Warning System (AFWS) was operational in 2000 and received almost unanimous performance approval during a statewide emergency exercise in fall 2000.

Arizona Water Resources Assessment

This 1994 assessment was the first comprehensive assessment of the state's water resources since 1975.

Upper San Pedro Groundwater Basin

ADWR developed groundwater modeling for a portion of the Basin. ADWR also prepared draft water management legislation for the area, however, the proposal was withdrawn due to a lack of community support. Currently, ADWR is conducting a review of the area as part of a periodic examination and to address requests that the Upper San Pedro be declared an AMA.

Creation of the Santa Cruz AMA

In 1994, the Arizona Legislature determined that 716 square miles of the southern portion of the upper Santa Cruz Subbasin, initially part of the Tucson AMA, should be a separate AMA. ADWR assisted in drafting the legislation for the Santa Cruz AMA, including the establishment of a unique management goal that includes a safe-yield component, while protecting against declines in local groundwater tables.

2000 Legislation

The First Regular Session of the 45th Arizona State Legislature adjourned on May 10, 2001. The following summary of key bills provides an overview of the legislative enactments that affect ADWR. Unless otherwise noted, the effective date of these bills is August 9, 2001.

Water Laws

HB 2020 Groundwater (Laws 2001, Chapter 38). Extends exemptions from irrigation water duties and conservation requirements for distribution of groundwater in three irrigation districts (Arlington Canal, Buckeye Water Conservation and St. John's Irrigation) in a waterlogged section of the Phoenix AMA for ten years from 2010 to 2020 and extends the deadline for reviewing the exemptions to 2015 from 2005.

SB 1275 Non-navigable Streams (Laws 2001, Chapter 166). Includes an "intent" section that states that the Legislature intends to repeal provisions of an act on stream non-navigability held unconstitutional by the Arizona Court of Appeals and to provide for a full, fair and efficient adjudication and determination of the state's "public trust" and "equal footing" claims to ownership of lands beneath Arizona's watercourses; modifies provisions for the Arizona Navigable Stream Adjudication Commission to include language promoting the determination of streams as navigable and strikes language designating streams as navigable; adds a new section providing for judicial review of Commission findings.

SJR 1001 Colorado River Surplus Guidelines. Ratifies a proposal by representatives of the governors of the Seven Colorado River Basin States on Interim Surplus Guidelines and authorizes an Interim Surplus Guideline Agreement between Arizona and MWD of Southern California; notes that Arizona rights were recognized by a 1944 contract with the federal government, and a 1964 U. S. Supreme Court ruling that gave Arizona the right to a specific allocation of Colorado River water.

Water Quality Laws

HB 2408 Water Infrastructure Finance Authority (Laws 2001, Chapter 250). Changes "water treatment facilities financing" to "financial assistance from the water infrastructure finance authority [(WIFA)] of Arizona," which leads to a number of changes including authority for a city, town, county or district to borrow additional monies; eliminates the requirement for a two-year lapse between elections for loan repayment agreements and the provision for the use of a "technical assistance loan repayment agreement" for loans of \$500,000 for up to three years; allows certain loans to be secured by a pledge of state revenue that is shared with the political subdivisions to which the loan is made and extends the loan term to 30 years from 20 years.

HB 2426 Water Quality (Laws 2001, Chapter 357). Adds an "Arizona pollutant discharge elimination system program" to Title 49 requiring permits to discharge any pollutant from any source into "navigable waters;" requires consistency with the federal Clean Water Act; prohibits Arizona requirements from conflicting with

federal law or establishing more rigorous standards than federal law; requires special pretreatment and sewage sludge programs; prescribes conditions to consider when imposing penalties for violations; makes a provision for transition to state permits from federal permits; includes an "intent" section that states that the Legislature believes that locally controlled programs are in the public interest and that it seeks Environmental Protection Agency approval of the new program.

SB 1104 Underground Storage Tanks; Appropriation (Laws 2001, Chapter 272). Appropriates to the Arizona Department of Environmental Quality (ADEQ), in FY 2002-2003, \$500,000 to pay claims for partial coverage of repairing leaking underground storage tanks.

SB 1365 Water Monitoring Assistance Program (Laws 2001, Chapter 178). Continues the water monitoring assistance program for public water systems to January 1, 2005 (previously 2002); deletes the requirement to monitor for asbestos and nitrites and adds radio-chemicals; limits allowable administrative costs to the lesser of 15 percent of the monies in the fund (previously 10 percent) or \$184,000 (no previous dollar limit); repeals authority for a qualifying water system to opt out of the monitoring program after 2001.

SB 1465 Underground Storage Tank Study (Laws 2001, Chapter 293). Requires ADEQ to contract for an actuarial study of the Underground Storage Tank Assurance Account (that pays claims related to leaks, etc.); requires ADEQ and the Tank Commission to consider using revenue bonds or private insurance to pay claims on the account, and the reduction or elimination of the tank tax; requires recommendations by December 1, 2001; appropriates \$100,000 for the actuarial study.

Land/Species Conservation Laws

SB 1120 Agricultural Preservation Districts (Laws 2001, Chapter 318). Expands authority for an agriculture preservation district to acquire development rights for five years to 25 years, with a five-year public review; appropriates \$2 million to the Arizona Department of Agriculture to support preservation districts and \$1 million to the Arizona Department of Commerce to develop land-use plans in zones around military airports.

Fiscal and Administrative Laws

HB 2043 State Web Site Privacy (Laws 2001, Chapter 269). Requires state agency web sites to carry statements on the agency's policies regarding information gathering and dissemination and the safeguards to protect a person's information if the person transacts business with the agency on the Internet.

HB 2111 Retirement; State Service Credits; Transfer (Laws 2001, Chapter 123). Expands the statute governing transfer of state retirement service credits to one system or plan from another to apply to active or inactive members of a system or plan.

HB 2164 Retirees; Health Insurance Subsidy (Laws 2001, Chapter 383). Increases state subsidies for state retiree insurance premiums (for example, to \$150 per month from \$96 for Arizona State Retirement System (ASRS) retirees with 10-plus years of credited service); appropriates \$524,000, retroactive to midnight, June 30, 2001.

HB 2166 State Employee Travel (Laws 2001, Chapter 93). Amends statutes governing reimbursement of state employees traveling out-of-state on official business by eliminating "subsistence allowance" and replacing it with "reimbursement;" adds "long-term subsistence" (not defined); requires meal claims to be submitted on approved forms and expands agency heads' authority to approve out-of-state travel.

HB 2337 State Credit Card Payment Fees (Laws 2001, Chapter 354). Allows state agencies that contract with private companies to process credit card payments for agency charges to allow these agents to charge convenience fees to the cardholders except in payments for occupational, business or motor vehicle fees and licensing; exempts the Department of Revenue from the requirement for state agencies that accept credit cards to deduct discount fees before depositing the net amount in the appropriate fund for tax payments; allows an

agency to deduct the convenience fee; requires an agency that conducts 30 percent or more of its transactions electronically to report cost benefits to the Joint Legislative Budget Committee.

HB 2631 General Appropriations (Laws 2001, Chapter 236). Spends, in the general appropriations bill for FY 2001-2002 and 2002-2003, a total for the two years of \$16.4 billion (\$12.88 billion from the General Fund and \$3.5 billion from other funds); appropriates for FY 2001-2002, \$6.2 billion from the General Fund and \$1.7 billion from other funds; appropriates for FY 2002-2003 \$6.7 billion and \$1.8 billion, respectively; the Governor vetoes \$158.5 million in General Fund appropriations and \$197.4 million in appropriations from other funds, including the first year of the AWPf appropriation, saying her estimates of available state tax revenue were more conservative than the Legislature's and she wanted to err on the side of caution.

HB 2636 Public Finance; Omnibus Reconciliation (Laws 2001, Chapter 238). Contains two provisions that relate to the AWPf that require the appropriation to the AWPf be controlled by the general appropriations bill instead of by the statute that provides for \$5 million per year be transferred to the AWPf and requires that interstate water banking revenues go to the General Fund instead of to the AWPf.

HB 2637 Budget Triggers; Tax Revenue; Appropriations (Laws 2001, Chapter 235). Prescribes additional appropriations and income tax reduction depending on whether tax revenue is sufficient to trigger the events.

SB 1117 Retirement; ASRS Omnibus (Laws 2001, Chapter 136). Specifies that leased employees are excluded from participation; adds mortgage-backed securities and agency debentures insured by federal agencies as types of securities in which more than five percent of system assets may be invested in any one entity; provides that payment for rent, actuarial consulting fees and retiree payroll are continuously appropriated, with limits determined by the Board, no longer by the Legislature; allows a retiree receiving benefits to purchase credited service in the system for active military service and allows members or retirees to purchase credited service even if that credited service is on account with any other retirement system.

SB 1286 Public Employee Health Insurance (Laws 2001, Chapter 288). Increases the monthly maximums the state can spend for health insurance premiums to cover state employees and dependents to \$500 from \$215 for individual coverage and to \$1,200 from \$460 for married couples and family coverage.

SB 1295 Retirement; State (Laws 2001, Chapter 380). Replaces a chapter providing an optional defined-contribution retirement plan for state employees with a chapter offering a supplemental defined-contribution plan that is in addition to an employee's existing defined-benefit plan; allows a government agency to offer increased retirement credit to encourage members to work past normal retirement age; increases some retirement benefits; eliminates a pilot program for deferred annuity; appropriates \$2,613,700 to ASRS from its Administration Account.

SB 1320 Sunset Audit; Agency Information (Laws 2001, Chapter 204). Requires a state agency facing a legislative sunset audit to provide the sunset review committee with a presentation addressing elements of the written statement the committee must prepare, including identifying agency problems and needs, and assessing the consequence of consolidating the agency with another agency, or eliminating it altogether.

Miscellaneous

HB 2040 Power Transmission Lines (Laws 2001, Chapter 104). Defines "current Arizona electric transmission system" as the system serving Arizona and all transmission lines on file with the Corporation Commission as of January 31 of the previous year; compensates members of the Power Plant and Line Siting Committee \$200 a day for attending Committee meetings; requires filing a plan for power plant construction with the Corporation Commission 90 days prior to applying for a Certificate of Environmental Compatibility; expands information required on the plan and application to include power output, fuel type, power-flow and stability analysis; plan information is confidential and not open to the public if disclosure "could give a material advantage to competitors."

SB 1342 Navajo Nation Study Committee (Laws 2001, Chapter 24). Establishes a Committee of four House members, four Senate members and three tribal representatives to study the relationship of the State of Arizona and the Navajo Nation, including the history of the Navajo Nation, legal implications of Navajo citizenship, Navajo Nation sovereignty, state and county services and taxation, conflicts between state and Navajo Nation laws and the impact of making the Navajo Nation a separate county; requires a report by December 15, 2002.

SB 1360 Mobile Home Parks; Water (Laws 2001, Chapter 352). Establishes a legislative committee to study water service in mobile home parks and make a report by December 15, 2002.

Arizona Water Resources Advisory Board Recommendations

State statute requires that the Arizona Water Resources Advisory Board (AWRAB) recommendations for legislative changes be included in ADWR's Annual Report. This year, the AWRAB did not make any recommendations.

Legal Division

The ADWR Legal Division litigates a variety of actions that affect ADWR. It also participates in administrative hearings related to surface water applications, underground water storage permit applications, AWS applications and the enforcement of groundwater laws. Additionally, ADWR's legal staff is actively involved in general stream adjudications, drafts administrative rules and administers federal grants and contracts.

Litigation

ADWR's Legal Division prosecutes and defends all court actions where departmental interests are at stake, except tort actions against ADWR. The Risk Management Division of the Arizona Department of Administration accepts this defense. During FY 2000-2001, the following cases were active:

Arizona Water Company v. Arizona Department of Water Resources, No. CV 90-01840, Superior Court of Maricopa County, Arizona

The Arizona Water Company (AWC) appealed the Director's decision to adopt the Second Management Plan (SMP) for the Phoenix, Tucson and Pinal AMAs. AWC challenged the procedures followed by ADWR in adopting the SMP and certain substantive provisions of the municipal conservation program. The parties filed briefs in July of 2000. In September of 2000, the Superior Court issued a minute entry finding that the SMP is unenforceable because it fails to address water utilization by end users. It is expected that the Superior Court will issue a formal judgement incorporating that finding in the second half of 2001. ADWR will likely appeal that judgement to the Arizona Court of Appeals.

West Maricopa Combine, Inc. v. Arizona Department of Water Resources, 10K, L.L.C., et al., No. 1CA-CV 00-0086, Arizona Court of Appeals

After a hearing before the Office of Administrative Hearings, the Director rescinded a West Maricopa Combine, Inc. (WMC) managed underground storage facility permit to store CAP water underground in the streambed of the Hassayampa River on the basis that WMC lacked access to the facility site because it is located partially on the private streambed property of objector 10K, L.L.C. (10K). WMC sought judicial review of the denial of its permit in *WMC v. Arizona Department of Water Resources, 10K, et al., No. CV99-08176, Superior Court of Maricopa County, Arizona*. The permit denial was affirmed by the Superior Court. Upon WMC's appeal, the Arizona Court of Appeals reversed the Superior Court decision and held that A.R.S. § 45-173(A) allows WMC to locate its managed underground storage facility upon the private streambed property of 10K without the landowner's consent.

10K, L.L.C. v. Arizona Department of Water Resources, West Maricopa Combine, et al., No. CV2001-008089, Superior Court of Maricopa County, Arizona

In a second application by WMC for a managed underground storage facility in the Hassayampa River streambed, downstream from the facility in the above WMC case, 10K objected and a hearing was held before the Office of Administrative Hearings prior to the Director's decision. The Director granted the Underground Storage Facility Permit and 10K filed the above-numbered complaint for judicial review, based on the following allegations: procedural errors, WMC's lack of financial capability and water quality effects of the facility. Answers have been filed and a briefing schedule is forthcoming.

Defenders of Wildlife v. Babbitt

Environmental groups brought suit against the United States over compliance by DOI with the ESA in its operation of the lower Colorado River. ADWR filed a Motion to Intervene in order to represent interests of the state in this case in the United States District Court for the District of Columbia. The District Court denied the

Motion to Intervene. This decision is currently on appeal to the D.C. Circuit Court. ADWR continues to participate at the District Court level as amicus curiae.

Administrative Hearings

ADWR uses quasi-judicial administrative hearings, conducted by the Office of Administrative Hearings, to resolve disputes over licenses, permits and alleged violations of Arizona water laws. The most frequent hearings are cases involving applications to appropriate surface water, applications for underground water storage permits, applications for Certificates of AWS and cases relating to the enforcement of Arizona's groundwater laws.

Surface Water Applications

Two administrative hearings were scheduled, but all were settled before the hearings occurred.

Certificate of Assured Water Supply Applications

During FY 2000-2001, four administrative hearings were scheduled on applications for Certificates of AWS. Two hearings were held and two cases were settled prior to hearing.

Underground Water Storage Applications

During FY 2000-2001, one administrative hearing was held on an application for a Managed Underground Storage Permit.

Enforcement of Groundwater Laws

During FY 2000-2001, ADWR investigated several suspected violations of groundwater law, issued 11 citations and entered into five stipulated agreements for violations of the Code. At the end of FY 2000-2001, ADWR has four stipulated agreements under negotiation. Two enforcement hearings were scheduled and both went to hearing. The Legal Division closed 18 cases and has one case under review.

General Stream Adjudications

There are two ongoing general stream adjudications in Arizona. These large court actions attempt to quantify and prioritize the rights of all competing water claimants in both the Little Colorado and Gila River systems. The Gila River General Stream Adjudication is currently assigned to the Honorable Edward Ballinger of the Maricopa County Superior Court. The Little Colorado River General Stream Adjudication is being conducted in Apache County Superior Court under the Honorable Ed Dawson. Special Master John Thorson assisted both courts until his resignation. ADWR provides both administrative and technical support through its Legal and Surface Water Management Divisions to the courts as directed by statute.

Little Colorado River Adjudication

Since 1994, formal legal action has been stayed in the Little Colorado Adjudication to allow the parties time to negotiate a settlement of the major claimants including the United States, Indian tribes and non-Indian users. The non-Indian uses the United States and the tribes will recognize, and the amount and characteristics of the water the tribes will receive in return, are key issues under discussion. Significant staff time was devoted in FY 2000-2001 to attending settlement discussions and assisting in drafting a settlement agreement and proposed federal legislation for the Zuni Tribe. Several issues remain unresolved and ADWR anticipates that significant staff time will continue to be devoted in the upcoming fiscal year to further pursue settlement of this highly complex and contentious case. ADWR also supported the negotiations by analyzing filings on lands managed by the Bureau of Land Management and water right abstracts prepared by the National Park Service. Finally, ADWR prepares technical analyses of sever and transfer requests of Norviel Rights.

Gila River Adjudication

The Gila River Adjudication is much larger than the Little Colorado Adjudication and attention has accordingly been focused on certain claimants or groups of claimants instead of attempting to resolve the entire dispute. In FY 2000-2001, the Maricopa County Superior Court has focused almost exclusive attention on the water rights claims of the GRIC. ADWR is finalizing the Hydrographic Survey Report for the GRIC's claim and is preparing to issue a summons for new water uses initiated since 1992. ADWR has also been assisting a group of water users in the Upper Santa Cruz River watershed in their efforts to settle their water rights.

Administrative Rule Making

ADWR continuously reviews and improves its set of administrative rules. The Legal Division is responsible for drafting formal rule language to accomplish the goals set forth in policy concept papers prepared by ADWR, in cooperation with local communities, and is responsible for seeing the rules through the formal adoption process.

Assured Water Supply Rules

During FY 2000-2001, ADWR initiated two separate rulemaking proceedings involving its AWS Rules. The first proceeding was initiated to adopt a rule specifying how an applicant for an AWS may establish and maintain legal availability of Colorado River water or CAP water leased from an Arizona Indian community. ADWR proposed the Governor's Regulatory Review Council approved rule in June of 2001.

The second rulemaking proceeding was initiated to amend the AWS Rule that sets forth criteria that applicants for a Designation of AWS in the Prescott AMA must meet to demonstrate that the proposed water use will be consistent with the management goal of the AMA. The amendments will conform the Rule to legislation enacted in 1998. ADWR anticipates that it will adopt the amendments by the end of 2001.

Financial Grant Programs and Contracts

ADWR administers the Conservation Assistance and Augmentation and AWPf grants programs. The Legal Division provides legal assistance to both these programs. The Legal Division also reviews all contracts entered into on behalf of the ADWR.

Conservation Assistance and Augmentation Grants

ADWR administers a grant program for funds collected under the Code and disbursed for promotion of water conservation and augmentation. The Legal Division provides support to this program in the form of document review, terms and contract negotiations, and general legal advice to ADWR staff responsible for administering the program. During FY 2000-2001, the staff participated in reviewing approximately 16 conservation assistance and augmentation grants. Eight grants were finalized during this fiscal year.

Arizona Water Protection Fund Grants

The AWPf awards grants for the protection and restoration of stream systems and associated riparian habitat. The Legal Division provides legal assistance to the AWPf in accordance with statute, including document review, terms and contract negotiations, and legal advice to members of the AWPf Commission concerning their official duties. In addition, significant staff time is devoted to working with the public and the AWPf in preparing grant application procedures and criteria. In FY 2000-2001, the AWPf funded 17 new projects, granting a total of approximately \$2.5 million.

Contracts

The Legal Division oversees all ADWR contracts to ensure compliance with Arizona water law. In FY 2000-2001, staff approved 23 of the 29 contracts reviewed. The Legal Division also reviewed and approved one lease and reviewed two Memoranda of Understanding (MOUs). The Legal Division provides legal assistance to the AWBA in accordance with statute. In FY 2000-2001, staff assisted in negotiating and drafting five contracts for the AWBA.

Information Technology Division

The Information Technology Division (ITD) provides technical assistance, along with technology and programming services to ADWR staff and the public to help them to make informed decisions and manage programs. ITD provides system operations, systems development, technical support and help desk support for all ADWR information systems including mainframe, work stations, Local Area Network and Wide Area Network.

ITD operates on a three-year plan, which meets the requirements for an Information Resources Management Three-Year Plan mandated in state statute and the Arizona Administrative Code. This plan is submitted to Government Information Technology Agency for approval. Every effort has been made to present an all-inclusive three-year plan. As with any planning effort, there are changes due to legislative mandates, new federal programs, new technology introductions and unanticipated circumstances. This plan provides a framework for ADWR to manage data and information technology in accordance with its mission, goals and vision. To maximize technological resources and share data, strategies in the approved plan comply with statewide standards wherever possible.

Significant Accomplishments

To meet the increasing demands on Arizona's water supplies, ADWR relies heavily on the use of data to meet its responsibilities to our state's citizens. This data must be readily available to management and staff to allow complex research and analysis to be performed in a timely manner. In FY 2000-2001, ADWR continued to refine its relational database environment in support of ADWR objectives. It has implemented a state-of-the-art imaging system so ADWR can reduce the use and handling of paper documents. With the addition of document management tools we have been able to see improvements in workflow processes. ADWR has also implemented a fully secure e-commerce system that allows us to make maps, books and other information available to the public over the Internet.

ADWR continues to expand the use of technology during FY 2000-2001, building on the strategic directions established during the last five years to become more focused, streamlined and mission-specific. ADWR senior management continues to emphasize the importance of technology in the accomplishment of ADWR's mission. ADWR has started or completed the following projects during this fiscal year:

- Replaced a number of slow data connections from outlying offices to the Statewide Wide Area Network with T1 connections, greatly improving response time of remote electronic data requests; provided state-of-the-art equipment to the remote offices to help reduce support requirements.
- Continued to maintain upgrades of its Novell network in an effort to keep technologically current and provide ADWR with expanded use of the Internet and Intranet.
- Completed the installation of imaging systems to facilitate the transfer of information.
- Continues to move spatial data into an Oracle relational database by using the Spatial Database Engine that will eventually allow ADWR to integrate business and spatial data into its client/server applications.

New Planning Initiatives

ADWR has made significant progress migrating to advanced computer technology. The following list includes several of the more notable achievements whereby ADWR:

- Continues to seek initiatives to reduce operating costs while continuing to stay current in technology.
- Plans to change voice and data communication providers, thereby improving data performance while holding down and reducing costs.

Statewide Water Resources Planning

Though most of ADWR's regulatory focus is on the five AMAs, ADWR assists with water resource planning statewide. In FY 2000-2001, ADWR provided planning assistance to areas that have expanding populations, limited groundwater resources and unique environmental features. ADWR assisted citizen organizations and local governments by providing technical information and analysis, and administrative support on water issues. This Division worked with rural watersheds to implement the Arizona Rural Watershed Initiative. The Arizona Legislature provided \$1.2 million to fund the initiative in FY 1999-2000 and an additional \$500,000 in FY 2000-2001. The Division also performs water quality related functions for ADWR, including water management policy implementation for federal and State Superfund sites, evaluation of new wells in areas of poor quality groundwater and implementation of other mandated water quality programs. Staff also works cooperatively with ADEQ with such activities as rule and program development.

Watershed Partnership Activities

In FY 2000-2001, seven watershed groups and two AMAs benefited from Initiative funding. Six additional watershed groups participated in the program. ADWR staff continued to participate on a number of committees that address issues of interest to rural Arizona, such as the University of Arizona (U of A) School of Renewable and Natural Resources Advisory Board, the Oak Creek Canyon Task Force, the Navajo Nation Water Planning Task Force, the Population Technical Advisory Committee and the Rural Infrastructure Committee.

Upper San Pedro Partnership

The Upper San Pedro Partnership (USPP) awarded two contracts in FY 2000-2001: one for a stormwater recharge pilot study and one for a water conservation/reclaimed water reuse study. Earlier, the USPP formalized an organizational structure that includes a Political Advisory Commission, Staff Coordinating Committee and an Administrative Subcommittee. FY 2000-2001 funding was used for a study by Arizona State University (ASU) to determine the spatial and temporal patterns of water needed to maintain the ecological integrity of the San Pedro National Riparian Conservation Area through characterization of current riparian plant community conditions and correlation of those conditions with hydrologic conditions.

Northern Gila County

Federal, state and local participants continued to fund a United States Geological Survey (USGS) project to study the surface and subsurface geology in Northern Gila County. In cooperation with the Arizona Department of Transportation and the U.S. Forest Service, they developed recommendations to monitor spring flows.

Upper Little Colorado River Watershed Partnership

Northern Arizona University (NAU) completed a conceptual plan to enhance the Upper Little Colorado River from Greer through Round Valley. The plan provides technical assistance and opportunities to private landowners in restoring their stretch of River and obtaining the necessary permits. Researchers from the U of A completed an analysis of the watershed conditions and precipitation patterns to determine the feasibility of water augmentation. Aerial surveys and photos, and contour maps of the area to support restoration efforts were completed.

Coconino Plateau Advisory Council

In FY 1999-2000, the Coconino Plateau Advisory Council completed the North Central Arizona Regional Water Study Phase I Report. This Report outlined stakeholder interests, future water demands, supply alternatives and recommendations for the Phase II Study. In FY 2000-2001, NAU and ASU both began projects outlined in the Phase I Report. The USGS continued the geohydrologic study of the Coconino Plateau.

Upper and Middle Verde Studies

The USGS has developed a scope of work for a long-term hydrologic study for this area. The study addresses the middle and upper parts of the Verde Basin and the East Verde-Tonto Creek-Fossil Creek Basins. The investigation involves the collection and compilation of available and new geologic and hydrologic data. The data will be qualified and analyzed to support development of a regional geohydrologic framework.

Northwest Arizona Watershed Council

In FY 2000-2001, the Watershed Council, using rural watershed funding, contracted with the U of A to perform a reconnaissance groundwater assessment within Mohave County including: Sacramento Valley, Hualapai Valley, Big Sandy Valley, Detrital Valley and the Meadview Watershed. This project involves gathering and cataloging existing data describing the quantity and quality of groundwater resources for the watersheds.

Arizona Strip Regional Planning Task Force

The Watershed Partnership, in consultation with the USGS, will identify issues, concerns and questions to develop a work plan for the Arizona Strip. This work plan will contain the requisite tasks to develop a proposal for a multi-year investigation that will allow more informed decision-making for the regional hydrogeology of the Arizona Strip.

Upper Agua Fria Watershed Partnership

The U of A is preparing a resource assessment for the Partnership. The assessment shall include geomorphically-based watershed descriptions and characterization along with information on soils, biota, and historical and current land uses. Hydrologic analysis shall include temporal and spatial variety of precipitation and runoff, flood characteristics, notable water quality issues and storage facilities, as necessary to define the controlling watershed processes and to illuminate the general scale of water resources and opportunities for addressing identified issues.

San Carlos/Safford/Duncan Watershed Group

The San Carlos/Safford/Duncan mission is to improve watershed health and water quality of the Upper Gila River through locally led efforts. The Watershed Group has been doing a variety of studies in their area including a fluvial geomorphology study with BOR. To further this work, rural watershed funding developed and processed aerial photogrammetry along the San Simon River from Interstate 10 to the Gila River.

Show Low Creek Watershed Enhancement Partnership

The Watershed Partnership has increased its knowledge of the watershed through an ADWR well inventory of the area. Competing demand for water among user groups creates a great need for data.

Silver Creek Watershed Advisory Committee

The Watershed Advisory Committee has been working with NAU. Some of the issues and concerns in the area include dam safety, restoration of stream channels and recharge capabilities in the area.

Eagle Creek Watershed Citizens Group

The Citizens Group, with U of A assistance, wants to improve its understanding of the current ecological conditions of the watershed. By collecting natural resource information and summarizing the data into a regional database, the U of A will develop a comprehensive water plan for the Eagle Creek Watershed.

Hydrology Division

The Hydrology Division is responsible for the collection of surface water and groundwater data statewide. This Division analyzes and disseminates information in the form of technical documents, report publications and special studies of critical areas. The Hydrology Division provides technical assistance and hydrologic reviews to all divisions of ADWR, local water users, state agencies and the federal government. The Hydrology Division is comprised of five sections: Groundwater Modeling, Technical Support, Recharge/Surface Water, Field Services and Water Resources.

Groundwater Modeling Section

The Groundwater Modeling Section develops numerical groundwater flow models that approximate regional groundwater movement for various areas in the state. Most of the modeling studies have been concentrated in the AMAs, however, models have also been constructed for other sensitive areas in the state. Models for the Phoenix, Pinal and Prescott AMAs have been completed. A model for the Santa Cruz AMA is currently under development and the Tucson AMA model is nearing completion.

After successful calibration and peer review, a groundwater flow model can be used as a planning tool by water resource managers. Working with water resource planners, Groundwater Modeling Section hydrologists can develop model data sets that reflect future conditions that planners believe may exist. Future urban growth patterns, pumping stresses, recharge projects and changing water use patterns can be included in these data sets. The results of future scenario runs can be viewed and management decisions evaluated as to their potential impacts on the modeled area.

During FY 2000-2001, Groundwater Modeling Section hydrologists completed several major projects and assisted other ADWR staff on a number of projects. Modeling hydrologists:

- Completed the transient calibration of the Tucson AMA Groundwater Flow Model.
- Updated the Prescott AMA model with the latest well data and water levels.
- Worked with the Pinal AMA staff on a modeling study to determine the 100-year effect of water development in the Pinal AMA.
- Developed "Wet" Water Budgets for the Phoenix AMA at the request of the Commission.
- Participated in reviews of groundwater flow models submitted to ADWR for the AWS Section, the Colorado River Management Section and in the review of a contaminant transport model submitted to ADEQ.
- Reviewed hydrologic reports on the potential effect of power plants on local water resources submitted to the Power Plant and Transmission Line Siting Committee of the Arizona Corporation Commission.

Technical Support Section

The Technical Support Section is composed of two units: the Water Quality Assurance Revolving Fund (WQARF) Support Unit and the Notice of Intent to Drill (NOID), Permits and Hydrologic Support Unit. The on-going projects and accomplishments of each unit during FY 2000-2001 are listed below:

The Water Quality Assurance Revolving Fund Support Unit

The WQARF Support Unit provides hydrologic and technical support for many water quality-related activities that involve ADWR. The WQARF Support Unit reviews NOIDs and Notices of Intent to Abandon (NOIAs) wells in or near areas where groundwater pollution poses a threat for vertical cross-contamination of aquifer systems. During FY 2000-2001, WQARF Support Unit staff:

- Reviewed well designs and abandonment procedures for 578 NOIDs and 193 NOIAs for water quality.

- Completed conduit well analysis for the Miracle Mile/Silverbell Jail Annex WQARF sites that identified wells that may be acting as a pathway for vertical cross-contamination between aquifer boundaries.
- Began development of well construction standards and abandonment procedures specific to the Yuma Marine Corps contaminated groundwater site.
- Continued to finalize a Substantive Policy Statement on Well Abandonment applicable to all wells within the state.
- Developed an access database to store, query and produce reports of Estes Well inventory data.
- Conducted well inventory for the Estes WQARF site.
- Conducted well verification of over 375 wells and obtained survey grade GPS measurements of well locations and elevations at the Estes WQARF site.
- Worked with ADEQ to further update well information and water quality data within ADWR databases.
- Drafted a request for proposal, reviewed proposals and selected contractors for upcoming well inspection activities.
- Presented findings of Miracle Mile conduit well analysis at Arizona Hydrological Society 13th Annual Conference and to the WQARF Advisory Board.
- Developed an access database for entry of over 3,700 well records from the U of A; completed the input of over 3,700 well construction records dating from 1908–1940s; completed the data entry of over 25,700 drillers log records, 1,600 particle size records and over 18,000 water level measurements for wells in the Tucson Basin.
- Developed an access database for entry of over 36,000 well records from the State Land Commission records; completed input of over 6,000 well construction records; completed data entry for over 53,000 drillers' logs and 1,700 particle size logs; established quality assurance procedures for data transcription errors and feedback loops.
- Wrote proposal for input of WELLS 55 drillers reports and abandonment reports by another state agency.
- Worked with ADEQ on an MOU for WQARF activities.

Notice of Intent to Drill, Permits and Hydrologic Support Unit

The Hydrology Division NOID, Permits and Hydrologic Support Unit provides support over a broad range of activities. The Unit reviews NOIDs and NOIAs in areas where water quality issues are not a concern. Additionally, the Unit reviews all groundwater withdrawal permits and provides hydrologic support for a variety of projects. During FY 2000-2001, the NOID, Permits and Hydrologic Support Unit staff:

- Reviewed 1,194 NOIDs and NOIAs.
- Reviewed 79 groundwater withdrawal permits.
- Reviewed and performed well spacing and well impact analyses for 65 groundwater withdrawal permits.
- Performed well matching and database updates and modifications on 10,704 water level and well records.
- Supplied technical support to the Commission.
- Performed well impact analysis study to examine the effects of pumping on state trust lands in the Upper Gila River.
- Provided technical support and published a report documenting the drilling of an exploration test well in the Pine-Strawberry area for the Northern Gila County Watershed Alliance.
- Provided support to the Groundwater Modeling Section, on groundwater model updates for the Phoenix, Pinal and Prescott AMAs.
- Published the FY 2000-2001 Prescott AMA Hydrologic Monitoring Report.
- Worked to obtain leases and drilling contracts on state trust lands to drill monitor wells in the Prescott AMA.

Recharge/Surface Water Section

The Recharge/Surface Water Section of the Hydrology Division is responsible for the technical review of all recharge applications, instream flow studies, groundwater/surface water appropriability investigations and AWPf projects. For FY 2000-2001, Recharge/Surface Water Section staff:

- Reviewed over 15 recharge hydrologic reports that included independent technical analysis involving modeling and hydrologic investigations.
- Drafted Underground Recharge Facility permits for both new and modified Underground Storage Facility applications.
- Participated in applicant technical recharge meetings, including field trips.
- Formulated the recharge facility site visit and compliance program.
- Reviewed over 20 recovery well applications.
- Redrafted the recharge program application packet.
- Reviewed AMA augmentation grants relating to recharge.
- Participated in the recharge policy, process and procedure committees.
- Performed a technical review of instream flow applications and reports, including field investigations and technical training.
- Provided technical support for the Arivaca instream flow hearing.
- Conducted groundwater/surface water appropriability investigations.
- Provided technical support to the AWPf application and project review process, and reviewed deliverables containing hydrologic components.

Field Services Section

The Field Services Section consists of the Basic Data Unit, the GIS Unit and the Aquifer Storage and Land Subsidence Monitoring (ASLSM) Unit. The goal of the Section is to provide more flexible and better-integrated support to ADWR for field activities and GIS support.

Basic Data Unit

The Basic Data Unit collects groundwater and surface water information across the state. The Unit provides GIS services and other database services to ADWR. The ASLSM Unit was formed to use GPS and gravity survey technology to support various ADWR programs such as subsidence monitoring, WQARF activities, dam safety programs and basic data collection.

The overall goal of the Basic Data Unit is to continue to provide ADWR, consultants and the public with high quality hydrologic data, such as groundwater levels and water quality data. The Unit also supports specific studies of various AMA and WQARF site studies. In FY 2000-2001, the Basic Data Unit staff:

- Refined statewide index lines.
- Conducted a variety of basin investigations.
- Expanded the hydrologic map series.
- Conducted a variety of special projects.

Geographic Information System Unit

The overall goal of the GIS Unit is to make the information from the core ADWR databases available to everyone. Other goals include providing the best available database tools and training, insuring GIS database compatibility, and assisting in data collection, organization and analysis. The GIS Unit intends to provide the best possible information on water supply and demand from all ADWR databases to everyone quickly, conveniently, clearly, completely and consistent with ADWR policy. In FY 2000-2001, the GIS Unit accomplished the following:

- Increased access to the GIS database by ADWR staff.
- Developed the annual update for water company service and franchise areas.
- Continued to develop a GIS interface for the Salt River Valley Ground Water Model.
- Improved the scheduling process for program support activities.
- Updated the prioritization system for current projects.
- Maintain primary points of contact in ADWR for specific AMA issues.
- Continue to integrate GIS and Basic Data activities to support current and future program needs.

Aquifer Storage and Land Subsidence Monitoring Unit

The goal of the ASLSM Unit is to provide data on land subsidence and on aquifer storage changes to enable ADWR to monitor and manage water quality problems associated with these phenomena. The ASLSM Unit developed these databases in cooperation with USGS, Maricopa County and other state agencies, and has established an extensive network of data collection points in Maricopa, Pinal, Pima and Santa Cruz Counties. In FY 2000-2001, the ASLSM Unit staff:

- Established a GPS control station network for the central Arizona region in cooperation with the National Geodetic Survey, Maricopa County and the Salt River Project.
- Performed GPS surveys at over 200 well sites located in the Tucson-Miracle Mile WQARF site, in cooperation with the Water Resources-Hydrology WQARF Support Unit.
- Performed GPS surveys in Glendale/Peoria, Scottsdale Airport and Hawk Rock subsidence areas.
- Performed GPS and micro-gravity surveys in the Pinal AMA to determine changes in groundwater storage.
- Selected and physically located benchmarks and survey monuments in the west and east Salt River Valley for possible inclusion in the Phoenix AMA monitoring network.
- Helped to establish absolute and relative gravity stations in South Mountain Park, in cooperation with the National Geodetic Survey.
- Established a gravity network in the Santa Cruz AMA to help determine specific yield for the younger alluvium of the microbasin area.
- Established over 60 gravity stations in the Portero Creek area of the Santa Cruz AMA for the purpose of shallow subsurface bedrock modeling.
- Enhanced the land subsidence-monitoring program within the Phoenix and Tucson AMAs.
- Helped the CAP establish four control stations along the Canal between Apache Junction and Florence to monitor land subsidence.
- Developed an access database to store and query aquifer storage and land subsidence data.
- Completed two GPS surveys for the Dam Safety Section: one at Tempe Town Lake and one in the Show Low area.

Water Resources Section

The Water Resources Section is responsible for providing hydrologic support to the Office of Assured and Adequate Water Supply by reviewing applications for determination of physical availability of the water supply. Under the Code, landowners proposing to subdivide property must demonstrate that sufficient water is available for new developments before the land can be subdivided and offered for sale. In addition, cities, towns and private water providers wishing to become designated or maintain an existing Designation of an Assured or Adequate Water Supply must also demonstrate the physical availability of their water supplies.

This Section provides technical assistance for implementation of the Assured and Adequate Water Supply Rules. In conformance with the *Guidelines for Hydrologic Studies*, the Section is responsible for directing private consultants and public agencies with the preparation of hydrologic studies and reports which are submitted for review in support of the various assured and adequate water supply applications. In applications

for subdivisions consisting of 20 lots or less, or if the land is unsubdivided, the Section performs that analyses for the applicant. The primary purpose of all reviews performed is to assure the hydrologic availability of the water supply for the intended uses and compliance with hydrologic criteria established by ADWR for determination of an assured or adequate water supply.

During FY 2000-2001, the Water Resources Section completed hydrologic reviews for 177 applications for the Assured and Adequate Water Supply Program which includes:

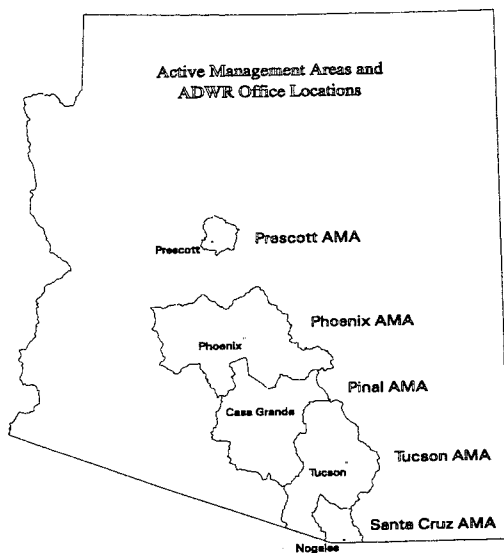
- 85 Certificates of AWS.
- 47 Water Adequacy Statements (subdivisions outside of AMAs).
- 34 Water Availability Reports for Unsubdivided Lands.
- 2 water availability letters for future certificates.
- 4 Designations for Assured or Adequate Water Supply.
- 5 analyses of water supply for future certificates.

Groundwater Management Division

The Groundwater Management Division is responsible for developing and implementing groundwater management plans, regulations and grant programs to reduce groundwater use to meet the goals of AMAs. Groundwater Users Advisory Councils (GUACs), appointed by the Governor, provide input to ADWR on the management of groundwater supplies in AMAs. Key management tools for the AMAs include conservation requirements and the AWS Program.

Active Management Areas

AMAs comprise specific groundwater basins that require focused management and regulatory programs due to excessive groundwater overdraft. There are five AMAs in the State of Arizona: Prescott, Phoenix, Pinal, Tucson and Santa Cruz. The state also designated three Irrigation Non-Expansion Areas (INAs) where groundwater depletion was also severe: Douglas, Harquahala and Joseph City. The map below shows the location of the AMAs. ADWR maintains an office in the largest city in each AMA.



The individual AMA offices are primarily responsible for carrying out, within their respective areas, the provisions of the Code, TMP and ADWR rules and policies. All efforts are designed to help achieve the water management goals in each AMA. In the Prescott, Phoenix and Tucson AMAs, the goal is to reach safe-yield by the year 2025. The goal in the Santa Cruz AMA is to maintain safe-yield and to prevent local water tables from declining over the long-term. Safe-yield is achieved when the amount of water entering the ground is equal to the amount being taken out. In the Pinal AMA, where a predominantly agricultural economy exists, the goal is to preserve the agricultural economy for as long as feasible, consistent with the necessity to preserve future water supplies for non-irrigation uses. Each AMA carries out its programs consistent with these goals, while attempting to incorporate the unique character of each AMA and water user needs. Annual activities include:

- Maintaining water user rights and databases.
- Evaluating water use to assure consistency with the Code, management plan and AWS Rule provisions.
- Implementing programs to ensure compliance with the Code, management plan and AWS Rule.
- Reviewing and evaluating the Code, management plan and AWS Rule requirements, to assure currency.
- Conducting special studies on water management issues, such as regional recharge and recovery.
- Evaluating long-range water demand and supply, and linking these projections to hydrologic models.

Groundwater Users Advisory Councils

The Code established a five-person GUAC for each AMA whose members are appointed by the Governor to serve six-year terms. GUACs meet regularly to review groundwater management programs in their AMAs and provide advice to the ADWR Director. GUAC members serving in FY 2000-2001 are listed below:

- Prescott AMA: John Olsen, Marvin Larson, Carl Tenney, Brad Huza, Larry Tarkowski.
- Phoenix AMA: Stephen Cleveland, Frank Fairbanks, Bruce Heiden, William Rodie, John Williams, Jr.
- Pinal AMA: Oliver Anderson, David Snider, Tom Isom, Paul Prechel, Henry Perales.
- Tucson AMA: Dee O'Neill, Alan Lurie, David Modeer, Chuck Sweet, Jon Post.
- Santa Cruz AMA: Simon Escalada, Duke Petty, Sherry Sass, Roy Ross, Ron Fish.

Prescott Active Management Area

The Prescott AMA is in the north central portion of the state and encompasses 485 square miles within Yavapai County. The physical environment in the AMA varies, with significant differences within the borders of the AMA in elevation, climate and precipitation. The Prescott AMA is a safe-yield AMA.

Based on disaggregated data from the Arizona Department of Economic Security (ADES), ADWR estimated that 74,633 persons resided within the Prescott AMA in 1998. Population in the AMA is projected to increase to 147,680 persons by 2025 (ADWR and ADES, 1997). Nearly 80 percent of the AMA's current population resides within four major communities: Prescott, Prescott Valley, Chino Valley and Dewey-Humboldt. A significant percentage of the Prescott AMA population resides in unincorporated areas.

Within the AMA, two large municipal water providers supply the majority of the potable water in the AMA: the City of Prescott and Prescott Valley Water District. In 1998, these two providers supplied 9,753 af of groundwater, or 83 percent of the total municipal groundwater demand. The 17 small water providers in the AMA provided five percent of the municipal water demand and private exempt wells supplied the remaining 11 percent of the total municipal water demand.

The agricultural sector within the AMA used approximately 7,175 af of water in 1998. This water use represents 35 percent of the total reported 1998 water use within the Prescott AMA. There are 85 Irrigation Grandfathered Rights (IGFR) regulated for compliance with conservation requirements in the AMA, totaling about 5,600 irrigation acres. Additionally, approximately 320 acres are irrigated solely with surface water.

In FY 2000-2001, the Prescott AMA staff were involved in a variety of programs and policies:

- Governor's Water Management Commission. The Prescott AMA staff actively supports the Commission as it develops recommendations to ensure Arizona's future water supply.
- Third Management Plan. The TMP for the Prescott AMA was adopted on December 13, 1999 and continues to refine the mandatory conservation requirements of the SMP and encourages and supports the use and storage of renewable water supplies.
- Community Assistance and Involvement. The Prescott AMA staff provides information to citizens throughout northern Arizona and participates in community activities. During FY 2000-2001, Prescott AMA staff dedicated nearly 4,000 office hours to public assistance. The AMA staff provides water resource-related information to area schools and colleges, as well as to community and business groups.
- Water Monitoring Program. This Program now includes 119 new monitoring wells, 16 of which are equipped with continuous recorders, in addition to four new surface water-gaging stations. In May 2001, a comprehensive Hydrological Monitoring Report summarized water level changes in the AMA.
- Yavapai County Water Advisory Committee. The Yavapai County Board of Supervisors established the Committee to address regional water issues and appointed 12 members from the Verde Watershed communities, Indian reservations, ADWR and the County at large. AMA staff serve on the Committee's TAC.
- Safe-Yield Status of the AMA. In January 1999, Director Rita Pearson Maguire made a final determination that the Prescott AMA was no longer in safe-yield. This action fully implemented the AWS Rules and precluded the use of groundwater as a water supply for new subdivisions. AMA staff works closely with local communities to identify sources of water available under the AWS Rules.

Phoenix Active Management Area

The Phoenix AMA encompasses approximately 5,646 square miles in central Arizona and includes seven groundwater subbasins. The AMA has an estimated Year 2000 population of 3,108,000 and contains 12 large irrigation districts, 24 small irrigation districts, 32 large municipal providers and 96 small municipal providers. During FY 2000-2001, water use in the AMA totaled approximately 2.25 maf.

Staff administered more than 9,000 groundwater users in the Phoenix AMA, Harquahala INA and Joseph City INA. Approximately 8,227 are grandfathered right holders, 282 are INA users, 38 are irrigation districts, 109 are municipal water providers, 213 are withdrawal permit holders and approximately 200 are individual users.

During FY 2000-2001, the AMA completed 14 water right extinguishments and 16 Type 1 conversion requests. The Phoenix AMA staff also reviewed one application by a large municipal provider for a Designation of AWS and 68 subdivision applications for Certificates of AWS to ensure consistency with the AMA management plan and goal. The staff conducted a total of 40 field investigations of various types.

Phoenix AMA staff processed approximately 4,300 Annual Withdrawal and Use Reports and 179 Recharge and Recovery Annual Reports, resulting in the collection of over \$2.99 million in Groundwater Withdrawal Fees and other related fees. The AWBA will receive \$2.52 million of this amount; the Conservation Assistance and Augmentation Program will receive \$252,000, while \$187,000 will be deposited in WQARF. The remainder of the collections consisted primarily of recovery well fees and late fees. AWBA fees will help to finance the purchase and storage of excess CAP water.

In FY 2000-2001, Phoenix AMA staff were involved in a variety of activities:

- Governor's Water Management Commission. The Phoenix AMA staff actively support the Commission as it develops recommendations to ensure Arizona's future water supply.
- Conservation Assistance and Augmentation Program. In the FY 2000-2001 grant cycle, the Phoenix AMA negotiated contracts for eight new conservation assistance, augmentation and monitoring projects totaling over \$540,000 of grant funding. Projects approved for funding during the 2000-2001 grant cycle include: a conservation media campaign; a mobile irrigation lab providing on-site technical assistance; a water use analysis for the Cave Creek area and subsidence monitoring of the Phoenix area using satellite imagery. The AMA staff administers 17 grants representing \$2,204,390 in awards.
- Third Management Plan Implementation. The Phoenix AMA staff reviewed Annual Withdrawal and Use Reports data and calculated associated flexibility account balances. The Phoenix AMA Compliance Team continues its efforts to reduce the number of right holders who failed to file annual reports through an intensive "failure to file". Illegal well drilling and groundwater withdrawals were investigated and compliance action is in process. The Industrial Team noticed two new industrial users of their TMP conservation requirements.
- Second Management Plan Implementation. Three municipal total Gallons Per Capita Per Day (GPCD) administrative reviews, as well as one violation, were resolved.
- Storage Facility Permits. Within the Phoenix AMA, six Storage Facility Permits with permitted storage capacity of 49,428 af and two outside of the AMA were issued, for a total storage capacity of 100,150 af. Currently, there are 43 Storage Facility Permits, 91 Water Storage Permits and 42 Recovery Well Permits in the Phoenix AMA. About 1.3 maf of long-term storage credits are accrued in the AMA.
- Community Assistance and Involvement. Staff works closely with AMA cities, irrigation districts, Maricopa Association of Governments, Agri-Business Council, BOR, CAWCD, the Central Arizona Groundwater Replenishment District (CAGR) and the AWBA to develop effective water policies.

Pinal Active Management Area

The Pinal AMA encompasses approximately 4,000 square miles in south central Arizona and includes five groundwater subbasins. Based on 2000 Census data, the AMA's population is just over 110,000 people. The AMA contains four incorporated municipalities, with Casa Grande the most populous. In addition, there are four large irrigation districts, together encompassing nearly 250,000 acres of irrigable farmland. Farming is still the largest and most vital industry in the AMA, with cotton and wheat the principal crops. Other important industries include tourism, light manufacturing and food processing.

Total water use in the Pinal AMA in 2000 (not including effluent) was over 700,000 af, 48 percent of which was groundwater, 49 percent was CAP water (including in-lieu recharge) and three percent was water diverted from the Gila River. Agricultural water use accounted for 96 percent of total demand; municipal use, three percent; and industrial use, one percent.

In addition to over 1,150 non-exempt irrigation rights (generally defined as farms that are 10 or more acres), 10 irrigation districts and 33 municipal water providers, the Pinal AMA administers approximately 200 other groundwater rights and withdrawal permits. During FY 2000-2001, AMA staff processed 30 groundwater right conveyances and notified all non-exempt irrigation right holders and municipal providers of their flexibility account balances.

The AMA distributed a total of 1,414 annual withdrawal and use reports for calendar year 2000, and 1,325 were filed for a response rate of nearly 94 percent. Staff reviewed all of the annual reports for completeness and accuracy, and nearly all right holders were in compliance with the Code and the SMP.

In FY 2000-2001, Pinal AMA staff were actively involved in a variety of activities:

- Governor's Water Management Commission. Pinal AMA staff worked throughout the fiscal year on efforts related to the Commission, particularly on issue papers regarding the development of an alternative agricultural conservation program based on best management practices and refining the AMA's water management goal. The latter involved developing concepts for a managed groundwater use program to help preserve the agricultural economies for as long as feasible, and a water management program for requiring sustainable water supplies for M&I uses.
- Cooperative Efforts. Pinal AMA staff continuously advocates sound water conservation and management practices and has facilitated the development of cooperative conservation and supply augmentation programs within its jurisdiction. Cooperative activities during the fiscal year included:
 - Irrigation Management Service (IMS). The Pinal AMA funded IMS for the 14th consecutive year. Since its inception in 1987, the IMS program has received nearly \$1,100,000 in funds from the AMA. IMS provides on-farm training to irrigators within the AMA to improve their management of irrigation water. During FY 2000-2001, IMS provided season-long services to 12 growers and provided technical assistance to 13 others. The program is a cooperative effort involving the AMA, the three local Natural Resources Conservation Districts (NRCs), the United States Natural Resources Conservation Service and BOR.
 - Pinal County Water Augmentation Authority (PCWAA). The Pinal AMA assisted the PCWAA with the development of water augmentation and recharge projects for the AMA. In FY 2000-2001, PCWAA stored about 3,500 af of municipal CAP supplies for two of the municipalities through groundwater savings arrangements with the irrigation districts. PCWAA continues to investigate the feasibility of constructing a storage facility to recharge CAP water directly to the aquifer. In FY 2000-2001, PCWAA received approximately \$65,000 from the AMA. The amount that may be requested is limited to \$200,000 of the AMA's groundwater withdrawal fees collected annually.

Tucson Active Management Area

The Tucson AMA covers 3,866 square miles in southeast Arizona and includes the Avra Valley Subbasin and the northern part of the Upper Santa Cruz Subbasin. The Tucson AMA covers portions of Pima, Santa Cruz and Pinal Counties. Incorporated communities include Tucson, South Tucson, Marana and Sahuarita. Groundwater supports almost all water demand in the AMA. About 10,000 af of demand are met with effluent supplies. Because of water quality problems with direct delivery of CAP water in 1993, and restrictions on CAP use imposed through an initiative, CAP water has not been directly delivered to municipal users since 1994. CAP water is recharged at underground storage facilities in the AMA and is directly delivered to farms in exchange for CAP water storage credits that can be recovered in the future. Total water use in FY 2000-2001 (not including effluent) was about 293,000 af. Municipal water use was 55 percent of water demand, agriculture was 25 percent and copper mining and other industrial users accounted for 20 percent.

The AMA population in FY 2000-2001 was roughly 869,600. The majority of the population, 77 percent, is served by Tucson Water, which is operated by the City of Tucson. The Tucson AMA contains one consolidated irrigation distribution system, the Cortaro-Marana Irrigation District, which serves water to over 70 IGFRs totaling about 11,000 acres.

Tucson AMA staff were actively involved in a variety of activities in FY 2000-2001:

- **Water Rights Administration.** The Tucson AMA is responsible for the regulation of 1,631 water rights and permits in the Tucson area and the Douglas INA. In FY 2000-2001, Tucson AMA staff processed 1,255 Annual Water Withdrawal and Use Reports. These Reports involved approximately 293,000 af of groundwater for the AMA, of which 27,973 af were in-lieu CAP water delivered to farms. Groundwater use in the INA was approximately 61,500 af. During FY 2000-2001, AMA staff completed approximately 102 conveyances of grandfathered water rights, four extinguishment of water rights for AWS credits and issued seven groundwater withdrawal permits.
- **Conservation, Augmentation and Monitoring Assistance Program.** The Tucson AMA staff provides technical and administrative support for this Program. Five Conservation Assistance Grants, totaling approximately \$153,600, were approved during FY 2000-2001. Augmentation Fund Fees totaled \$122,900, while funds collected for subsidence monitoring totaled \$35,500.
- **Assured Water Supply Program.** There are seven designated water providers in the AMA. In FY 2000-2001, staff reviewed 18 applications for Certificates of AWS; nine resulted in the issuance of a Certificate.
- **Recharge Program.** Tucson AMA staff held nine pre-application meetings: three for recovery well permits, one for a groundwater savings facility permit and five for underground storage facilities. Recharge-related applications reviewed included four facility permits, seven water storage permits and six recovery well permits. Permits allowing the recharge of 188,393 af of CAP water stored in Underground Storage Facilities and Groundwater Savings Facilities were granted.
- **Second Management Plan Implementation.** Tucson AMA compliance activities in FY 2000-2001 included approximately 100 file audits, 9 office audits and 33 field inspections, and the resolution of two enforcement cases through stipulated agreements.
- **Third Management Plan Development.** During FY 2000-2001 two applications for administrative review were filed.
- **Cooperative Efforts.** Tucson AMA staff are very active in the community, attempting to facilitate resolution of various water issues and participating in community discussions involving water quality and water management.

Santa Cruz Active Management Area

The Santa Cruz AMA was created by the Legislature in 1994. The AMA consists of 716 square miles of the southern portion of the Upper Santa Cruz Subbasin and is bordered to the south by Sonora, Mexico. The AMA is currently clarifying its water management goal to address the AMA's unique hydrologic, environmental and geographic characteristics. Presently, the AMA is presumed to be at safe-yield. However, regional growth, both in Arizona and Sonora, will increase pressure on local water supplies.

The AMA staff provides technical support and works with the GUAC/Task Force in identifying water management problems and recommends potential solutions. All the identified issues and recommended solutions have been sent to the Commission and its TAC.

AMA staff administers 132 water rights, 14 of which are service area providers: four are large providers and 10 are small providers.

AMA staff tracks water use in the AMA to assist in the development of water management programs. In FY 2000-2001, approximately 61 percent of all water withdrawn from wells in the Santa Cruz AMA, or 13,660 af, were used for irrigation on forage and crops. There are about 5,300 acres of land eligible for irrigation in the Santa Cruz AMA. However, a recent survey of agricultural users who actively irrigate indicates only about a 40 percent agricultural land utilization rate, excluding Rio Rico, the largest agricultural water user in the AMA.

Municipal providers served approximately 7,193 af of water in FY 2000-2001. The four large providers within the AMA are the City of Nogales, Rio Rico Utilities, Citizens-Tubac Valley and Valle Verde Water Company. The providers accounted for nearly 95 percent of the reported municipal water use in FY 2000-2001. The industrial sector accounted for six percent, or 1,442 af, of the reported water use in the AMA in FY 2000-2001. The primary industrial water users are golf courses and, to a lesser extent, sand and gravel operators. The industrial sector water use is projected to increase as more golf courses are planned and the impacts of the North American Free Trade Agreement begin to unfold.

Additionally, there are 745 exempt well registrations in the AMA. More than 450 of these registrations are for exempt domestic wells and more than 200 of these registrations are for exempt stockwater wells. The remaining exempt well registrations are for a number of different purposes. Not all of these registrations represent actively pumping wells. Some of the wells have duplicate registrations. Some may have been destroyed, capped or abandoned. Other wells may not be able to produce water. Because exempt wells are not regulated, little or no information is collected on exempt wells other than the information that is required for the registration.

Santa Cruz AMA staff was actively involved in a variety of activities in FY 2000-2001:

- Conservation and Augmentation Grants. The Santa Cruz AMA awarded nearly \$141,000 in Grants for the FY 2000-2001 cycle. These grant monies are used to assess water augmentation possibilities and provide conservation assistance to agricultural water users.
- Watershed Modeling. The AMA staff is coordinating with the Hydrology and Surface Water Divisions of ADWR to formulate computer models of the Santa Cruz River watershed. These models incorporate many variable influences on the watershed and will assist in long-range resource planning for the AMA.
- Second Management Plan Implementation. Currently, all water providers within the Santa Cruz AMA are in compliance with the SMP conservation requirements.
- Third Management Plan Implementation. In December 1999, the TMP was adopted for the Santa Cruz AMA. Previously, the area containing the Santa Cruz AMA was regulated under the Tucson AMA management plan. The Santa Cruz AMA received two requests for administrative review of the conservation requirements established by the TMP which became effective on January 1, 2002.

Assured Water Supply Program

The AWS Program requires concerted efforts throughout ADWR. In addition to AWS Program staff, staff from each of the AMAs, the Hydrology Division and the Legal Division contribute to the success of the Program. ADWR staff provides guidance to applicants and communities, evaluates filings, resolves legal questions, develops policy and maintains the operational aspects. In our desert environment, the wise allocation and use of water supplies is critical to maintaining our standard of living and a healthy economy. ADWR's AWS Program plays an important role in the long-term management of our water supplies.

The AWS Program is designed to support the state's economic health by preserving groundwater resources and promoting long-term water supply planning. The Program mandates the demonstration of available water supplies for new subdivisions in AMAs. It is the regulatory component of the Code that limits groundwater use in the AMAs. The Program also plays a consumer protection role by requiring developers to demonstrate that sufficient water supplies are available for new subdivisions.

Outside of AMAs, new subdivisions must obtain an adequacy statement from ADWR describing the availability of water. Although lots may be sold even if the water supply is inadequate, prospective buyers must be informed of the inadequacy.

Application-related activity in FY 2000-2001 remained high, with ADWR receiving 180 applications for AWS or Water Adequacy. Of the applications received this fiscal year, 92 determinations have been made with 88 applications pending at various points in the application process. In total, 140 Assured or Adequate Water Supply Program determinations were made during this fiscal year.

During FY 2000-2001, Certificates of AWS were issued for 33 developments, totaling 9,797 lots. Nineteen new subdivisions, comprising 5,627 lots, enrolled in the CAGR, bringing the total to 306 subdivisions and 55,347 lots. Fifty-two percent of the subdivisions enrolled in the CAGR this year are in the Phoenix AMA. In addition, 15 municipal providers -- seven in the Tucson AMA, six in the Phoenix AMA and two in the Pinal AMA -- have enrolled as member service areas.

There was considerable activity in the water adequacy program. Forty-nine water adequacy reports were issued. Of these, 26 developments covering 2,041 lots were determined to have an adequate water supply and 23 developments covering 1,079 lots were determined to have an inadequate water supply.

In FY 2000-2001, AWS Section staff:

- Processed applications for Certificates of AWS and Water Adequacy Reports for developers and municipal water providers seeking AWS determinations.
- Maintained an annual report and groundwater allowance accounting mechanism in cooperation with the CAGR.
- Assisted providers and municipalities outside of AMAs with AWS concerns.
- Facilitated local water supply planning issues.
- Developed and evaluated various policy, procedural, rule and legislative proposals.
- Developed a policy to guide leases of Indian CAP water to municipal water users.
- Continued compliance with the licensing timeframes; to date only a handful of applications have exceeded the timeframe.

Surface Water Management Division

The Surface Water Management Division addresses issues associated with the Colorado River. This Division also works closely with other state and local entities to mitigate flood damage through floodplain management and flood warning systems. Additionally, it oversees the design, construction, operation and maintenance of non-federal dams in Arizona, excluding mine tailing dams. The Division is responsible for the issuance of permits and certificates for rights to use surface water and provides administrative and technical support to the Arizona courts the preside over the general adjudication of water rights.

Colorado River Management

The renewable water supplies of the Colorado River serve seven states and several Indian tribes. ADWR works to promote, protect and comprehensively manage Arizona's annual entitlement of 2.8 maf of Colorado River water. This entitlement is Arizona's water supply for future.

The United States, through BOR, operates the Colorado River reservoir system to deliver water from the Colorado River to users in the Lower Basin. ADWR coordinates with the Secretary on all Colorado River issues. These matters include recommending allocations and contracts for Colorado River water, consulting with DOI regarding the Colorado River Annual Operating Plan and representing the State of Arizona in forums and work groups that address Colorado River issues. ADWR works with representatives of the other six Colorado River Basin states, various federal agencies, Indian tribes, Congress, local governments and water users within Arizona. These activities require engineering, legal, environmental and economic expertise.

To support the major activities related to the Colorado River in FY 2000-2001, ADWR staff:

- Served on, and provided technical support to, interstate and interagency committees.
- Conferred with key entities regarding contracts for mainstream Colorado River water.
- Continued to develop an inventory of water use along the Colorado River to maintain current information on the location of diversions and amounts and types of water uses.
- Continued to develop spacial and tabular databases of 9x9 aerial photos, ortho-photo-quarter quads, contract area boundaries, known well and surface diversion locations, delivery and drainage canals and water diversion and use.
- Continued to participate in the multi-state, multi-agency development of the MSCP in response to the United States Fish and Wildlife 1994 designation of critical habitat for endangered native fishes of the Colorado River, and the 1997 subsequent biological opinion for lower Colorado River operations.
- Initiated the development of ADWR policy regarding agency recommendations for priority Colorado River entitlements.
- Continued to develop policies to govern the transfer of Colorado River entitlements.
- Continued to develop transfers of four water providers' CAP entitlements and oversight of four CAP trust funds.
- Evaluated each proposed transfer in accordance with its 1996 CAP transfer policy.
- Provided comments to BOR on the EIS for the reallocation of CAP water rights to settle Indian water rights claims.
- Provided oversight and analysis of proposals to manage groundwater drainage in the Yuma area.
- Continue efforts with the Colorado River Basin Salinity Control Forum between federal and state agencies, and local communities to maintain established Colorado River salinity concentrations.
- Provided support to BOR modeling efforts for the draft Final EIS on the Interim Surplus Guidelines.
- Provided computer-modeling support to the AWBA to update the evaluation of state banking needs.
- Reviewed and submitted comments on BOR's lower Colorado River Accounting System and its 1999 Demonstration Technology report.
- Submitted comments on BOR's proposal of alternatives for a method to account for riparian consumptive use and evaporation.

Flood Mitigation

The Surface Water Division helps to mitigate flood impacts through its floodplain management and flood warning programs.

Floodplain Management

ADWR supports Arizona's communities' participation in the National Flood Insurance Program (NFIP) and assists communities with problems that may result from their participation in the NFIP. During FY 2000-2001, Division staff:

- Helped local communities to correct and update Flood Insurance Rate Maps.
- Conducted four workshops for public officials on floodplain management and the NFIP.
- Visited 15 communities to assist with floodplain management activities.
- Completed and distributed over 100 copies of the Handbook for Arizona Communities on Floodplain Management and the National Flood Insurance Program.
- Chaired and met regularly with the State Standards Work Group.
- Completed training in six locations across the state on the use of State Standard for Stormwater Detention/Retention.

Flood Warning

In 1994, the Legislature authorized ADWR to develop statewide flood warning systems. During FY 2000-2001, Surface Water Management Division staff:

- Chaired and met regularly with the AFWS – Multi-Agency Task Force to coordinate statewide efforts on flood warning.
- In conjunction with the U.S. Army Corps of Engineers, completed Phase I of the AFWS and tested the program.
- Completed the final design of Phase II of the AFWS.
- Executed a one-year agreement with the Arizona Division of Emergency Management to maintain the Clifton Flood Warning System and train the Clifton personnel who will be responsible for the future maintenance of the system.

Dam Safety

ADWR oversees the design, construction, operation and maintenance of non-federal dams in Arizona, excluding permits for mine tailing dams, for dams over 25 feet and for dams with a storage capacity of more than 50 af. At the end of FY 2000-2001, there were 271 dams under state jurisdiction. During FY 2000-2001, ADWR activities included site inspections related to applications, construction monitoring and operations for 328 dams, including the investigation of 150 unregistered dams by the Surface Water Investigations Section. Surface Water Management Division staff:

- Conducted detailed reviews of two applications to construct new dams.
- Conducted detailed reviews of one application to repair or alter existing safe dams.
- Monitored the construction of eight dams.
- Investigated 150 unregistered barriers to determine jurisdictional status.
- Negotiated a grant and loan to secure engineering services for repairs to one of the most unsafe dams in Arizona.
- Worked with several owners of unregistered dams to register their dams and ensure the dams were operating safely.

Surface Water Rights

During FY 2000-2001, ADWR received 11 new Applications for Permit to Appropriate Public Water. ADWR issued ten Permits to Appropriate Public Water based on existing applications and issued, reissued or revised 24 Certificates of Water Right. ADWR also received 416 requests for Assignment of Water Rights and completed 123 Assignments. In addition, ADWR staff received two applications for Severance and Transfer of a water right, and completed one Severance and Transfer.

During FY 2000-2001, Surface Water Management Division staff:

- Received 11 new applications for Permits to Appropriate.
- Issued nine Permits to Appropriate.
- Reviewed three amendments to an Application or Permit to Appropriate Public Water.
- Issued, reissued or revised 23 Certificates of Water Rights.
- Received 406 requests for assignment; 160 requests for assignment were completed.
- Received 35 new Statements of Claim to Right.
- Received seven amendments to Statements of Claim to Right.
- Received two new Claims for Stockpond Rights.
- Processed one amendment to Claims for Stockpond Rights.
- Issued one Certificate of Stockpond Right.

INDEPENDENT BOARDS

To help enhance Arizona's efforts to more effectively manage its water resources, the Arizona Legislature created two independent entities: the Arizona Water Banking Authority and the Arizona Water Protection Fund. These entities work closely with ADWR staff to implement programs and policies to help protect and enhance the state's water supply.

Arizona Water Banking Authority

For more than 70 years, Arizona leaders have worked to ensure that Arizona's communities have dependable long-term water supplies. In continuing with this commitment, the Arizona State Legislature created the AWBA in 1996 to ensure Arizona's full use of its 2.8 maf of Colorado River water supply.

Until the AWBA was created, Arizona did not use its full entitlement of Colorado River water. Without the AWBA, Arizona would not have used its full allocation until the year 2030. During that interim period, the accumulated amount of water left in the Colorado River would have amounted to approximately 14 maf. Most of that water would have gone to southern California.

A five-person Authority directs the activities of the AWBA. The Director of ADWR chairs the AWBA. Members include the CAWCD Board President and three persons appointed by the Governor. By law, of these appointments, one person represents CAP M&I water users, one person represents Colorado River water users along the Colorado River and one person must be knowledgeable in water resource management issues. The Arizona State Senate and House of Representatives each appoint one non-voting *ex officio* member to the AWBA. By statute, ADWR provides administrative, technical and legal support to the AWBA. The AWBA released an Annual Report to the Governor and the Arizona State Legislature on July 1, 2001.

Arizona Water Protection Fund Commission

In 1994, the Arizona State Legislature created the AWPFC Commission to provide grants for projects to maintain, enhance or restore rivers and streams and associated riparian resources, including fish and wildlife that are dependent on these resources. The primary funding source is a General Fund appropriation.

A 15-member Commission appointed by the Governor, Senate President, Speaker of the House, CAWCD and the Intertribal Council, administer the Program. Additionally, there are two non-voting, *ex-officio* Commission members: the Director of ADWR and the Arizona State Land Commissioner. Commissioners represent a variety of interests, and some have technical expertise in hydrology, biology or riparian ecology.

ADWR is directed by statute to provide legal, technical and administrative support to the Commission. Also under the statute, the State Land Department is directed to provide administrative support to the state's 31 NRCs. State law directs the Commission to give priority to projects that provide matching funds, long-term project maintenance and include broad-based public support. Funding categories include: capital projects, water acquisition and other measures; water conservation; and research and data collection.

Over the past five funding cycles, the Commission has selected 125 projects with awards totaling \$24,000,000. Grant awards to date exceed total appropriations because of interest accrued on deposits and a few projects have terminated due to unanticipated technical and administrative problems. AWPFC projects are located in every county in Arizona. Any person or organization may apply for funding. Successful applicants include municipalities, Indian tribes, state agencies, universities, NRCs, non-profit organizations and individuals. The Commission released an Annual Report to the Governor and the Arizona State Legislature on January 1, 2001.

ABBREVIATION INDEX

10K	10K, L.L.C.
ADEQ	Arizona Department of Environmental Quality
ADES	Arizona Department of Economic Security
ADWR	Arizona Department of Water Resources
af	Acre-Feet
AFWS	Arizona Flood Warning System
AMA	Active Management Area
ASLSM	Aquifer Storage and Land Subsidence Monitoring
ASRS	Arizona State Retirement System
ASU	Arizona State University
AWBA	Arizona Water Banking Authority
AWC	Arizona Water Company
AWPF	Arizona Water Protection Fund
AWRAB	Arizona Water Resources Advisory Board
AWS	Assured Water Supply
BOR	United States Bureau of Reclamation
CAGR	Central Arizona Groundwater Replenishment District
CAP	Central Arizona Project
CAWCD	Central Arizona Water Conservation District
Code	Groundwater Management Code
Commission	Governor's Water Management Commission
DOI	United States Department of the Interior
ESA	Endangered Species Act
GIS	Geographic Information Service
GPS	Global Positioning System
GRIC	Gila River Indian Community
GUAC	Groundwater Users Advisory Council
IGFR	Irrigation Grandfathered Rights
IMS	Irrigation Management Service
INA	Irrigation Non-Expansion Area
ITD	Information Technology Division
maf	Million Acre-Feet
M&I	Municipal and Industrial
MOU	Memorandum of Understanding
MSCP	Multi-Species Conservation Program
MWD	Metropolitan Water District of Southern California
NAU	Northern Arizona University
NFIP	National Flood Insurance Program
NOIA	Notice of Intent to Abandon
NOID	Notice of Intent to Drill
NRCD	Natural Resources Conservation District
PCWAA	Pinal County Water Augmentation Authority
SAWRSA	Southern Arizona Water rights Settlement Act
Secretary	Secretary of the Interior
SMP	Second Management Plan
TAC	Technical Advisory Committee
TMP	Third Management Plan
U of A	University of Arizona

USGS
USPP
WMC
WQARF

United States Geological Society
Upper San Pedro Partnership
West Maricopa Combine
Water Quality Assurance Revolving Fund

Please visit the Arizona Department of Water Resources website at www.water.az.gov

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