



STATE OF ARIZONA

**DEPARTMENT
OF
WATER RESOURCES**

**ANNUAL REPORT
For
FISCAL YEAR 2000**

ARIZONA DEPARTMENT OF WATER RESOURCES

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HONORABLE JANE DEE HULL
Governor

HONORABLE MEMBERS
Arizona State Legislature

Enclosed is the annual report of the Department of Water Resources for State Fiscal Year 2000 as required by A.R.S. § 45-111.

I am pleased to report a very successful year for the Department. We have outlined the significant achievements and activities for each of the Agency's six divisions. Our continued success is predicated on our ability to attract and retain qualified scientists, engineers, hydrologists and computer technicians. I am very concerned that we are seeing an erosion of our ability to sustain the Agency with competent talent because State salaries are slipping significantly behind the Arizona marketplace. Although we continue to be an attractive employer to applicants with professional and technical backgrounds, our turnover rates are specifically hampering our ability to perform our mission.

Thank you for taking time to review our annual report. If we can provide any additional information, please contact me directly at 417-2410.

Sincerely,

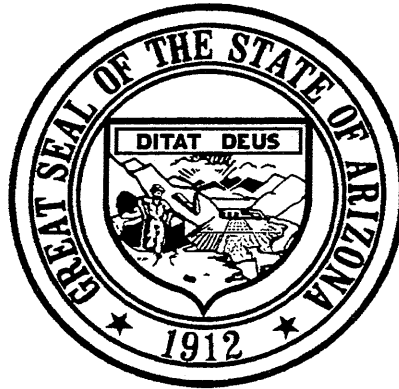
A handwritten signature in cursive script that reads "Rita Pearson Maguire".

Rita Pearson Maguire
Director

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TABLE OF CONTENTS

Arizona Department of Water Resources

Mission Statement and Agency Goals Page 3

Agency Divisions

Office of the Director Page 4

Arizona Department of Water Resources Performance Audit
Governor's Groundwater Management Commission
Arizona Water Resources Advisory Board Recommendations
2000 Legislation
Third Management Plan

Legal Division Page 11

Litigation
Administrative Hearings
Administrative Rule Making
Financial Grant Programs and Contracts

Information Technology Division Page 14

Statewide Water Planning Division Page 16

Watershed Partnership Activities

Hydrology Division Page 18

Groundwater Modeling Section
Technical Support Section
Recharge/Surface Water Section
Field Services Section

Groundwater Management Division Page 23

Active Management Areas
Groundwater Users' Advisory Councils
Assured Water Supply
Groundwater Permits

Surface Water Division Page 32

Colorado River Management
Floodplain Mitigation
Dam Safety
Surface Water Permits

Independent Boards

Arizona Water Banking Authority Page 36

Arizona Water Protection Fund Commission Page 36

Abbreviation Index Page 37

THE ARIZONA DEPARTMENT OF WATER RESOURCES

The Arizona Department of Water Resources (ADWR) was created in 1980 and entrusted with the responsibility of 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.

Agency Mission

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.

Agency Goals

To help assure that the Arizona Department of Water Resources continues to carry out its mission, the Agency 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.

AGENCY ORGANIZATIONAL STRUCTURE

The Arizona Department of Water Resources is organized into six Divisions, each with distinct responsibilities that support the Department's mission. The Divisions are as follows:

Legal Division

Statewide Water Planning Division

Information Technology Division

Groundwater Management Division

Hydrology Division

Surface Water Management Division

Supporting the Divisions 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 the Agency.

Office of the Director

The Department of Water Resources was actively involved in a variety of activities during FY 1999-2000. Department staff expended much effort on several key activities.

This year, the Auditor General completed the performance audit for ADWR. Overall, the Audit was very positive regarding the administration of the agency, but it made a number of recommendations and observations related to the statutory responsibilities of ADWR. ADWR staff worked closely with the Auditor General's staff to assure that the Auditor's staff members received pertinent information and understood the information provided by the Department.

On May 1, 2000, the Governor announced the establishment of the Groundwater Management Commission (Commission). The Commission is comprised of representatives from a variety of sectors. The Commission was charged with the task of reviewing water management policies and practices to assure that they will continue to provide Arizona's citizens with a long-term, reliable water supply.

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; however, a number of legislative proposals did pass that affect water management and the administration of ADWR.

The Third Management Plan was adopted in December 1999. However, adoption of the conservation requirements for Agriculture have been delayed for approximately one year, pending the outcome of a study by a consultant retained by ADWR, with the approval of the agricultural community.

Arizona Department of Water Resources Sunset Review

The Office of the Auditor General conducted a performance audit and sunset review of the Arizona Department of Water Resources pursuant to a May 27, 1997, resolution of the Joint Legislative Audit Committee. This Performance Audit was conducted as a part of the sunset review set forth in Arizona Revised Statutes (A.R.S.) Sections 41-2951 through 41-2957.

The purpose of the Audit was to evaluate ADWR's efforts to ensure a long-term water supply for Arizona. The Audit specifically identified barriers faced in accomplishing the safe yield goal and regulatory limitations that may impact future water supplies. The Audit contained three key findings:

- Groundwater depletion is likely to continue.
- Regulatory limitations may create water supply problems as the population increases.
- Arizona does not regulate all types of water.

Groundwater Depletion is Likely to Continue

The 1980 Groundwater Code (Code) designates the State's most severely depleted areas as Active Management Areas (AMAs) and requires ADWR to implement a series of Management Plans with conservation requirements for municipal, agricultural and industrial uses in each AMA. The Auditor General reviewed the management plans and found that they comply with the Code's mandates requiring the establishment of a water rights system and the continuing development of mandatory conservation requirements for water users. However, ADWR projects that even if the Prescott, Phoenix and Tucson AMAs meet the requirements of the Third Management Plan, they will not achieve safe yield by 2025 because the Code contains a number of statutory restrictions and exemptions that limit the AMAs ability to achieve safe yield. These restrictions and exemptions include the following:

- **Grandfathered Rights.** The Code created several types of grandfathered rights, mainly for agricultural and industrial uses. For these uses, the Code allows ADWR to make only slight reductions in annual groundwater allotments. Further, it does not give ADWR authority to require these users to eventually increase their reliance on renewable water sources, such as lakes, rivers, or treated effluent, as a means to reduce their reliance on groundwater.
- **Flexibility Account Credits.** Agricultural users with grandfathered rights can accrue credits for unused groundwater and carry the credits over for future use. These credits have created a lien against the groundwater supply that, if used, could increase groundwater depletion and hamper the AMAs ability to achieve safe yield. In 1997, credits in the Prescott,

Phoenix and Tucson AMAs totaled more than six times the total groundwater consumption of all users in these AMAs in 1995.

- **Groundwater Withdrawal Permits.** The Code created eight types of groundwater withdrawal permits that allow users without a grandfathered right to pump groundwater. For categories related to mineral extraction and industrial uses, ADWR must issue a permit if the applicant meets certain criteria and must renew it as long as the applicant continues to do so.
- **Municipal Sector Constraints.** Provisions relating to the municipal sector also contribute to continued groundwater depletion. For example, the Code's conservation requirements focus on the water provider, not on water users. However, these providers have little ability to control the amount of water used by their customers.

The Performance Audit recommended that the Legislature consider forming a study commission to address the state's ability to achieve the safe yield goal. A study commission would allow input from water resource experts, civic leaders, and other important interests, such as municipalities, agriculture and mining, that are affected by the state's water resource policies. The commission may consider the following issues:

- The advisability of purchasing and retiring grandfathered groundwater rights, and possible methods and timelines for doing so.
- The advisability of either eliminating agricultural flexibility credits or preventing additional credits from accruing.
- The advisability of limiting groundwater withdrawal permits and possible methods for doing so.
- The advisability of encouraging municipal providers to rely on renewable water sources rather than groundwater, and possible methods for doing so.

Regulatory Limitations May Create Water Supply Problems as the Population Increases

The Auditor General found that although most of the state currently has a sufficient water supply, limitations in the regulatory structure may produce water supply concerns both now and in the future. The population outside of the AMAs is projected to grow by an additional 500,000 persons by 2025. However, limited consumer protections outside AMAs provide current and future residents with less assurance about future water supplies than their counterparts in the AMAs. Specifically, the adequate water supply provision, applicable to areas outside of the AMAs requires that only the original purchaser of a new subdivision lot receive notification of the sufficiency of the water supply. The provision does not prohibit the development or sale of new subdivisions in the absence of sufficient water, and does not require that subsequent purchasers receive notification regarding the sufficiency of the water supply. To allow subsequent purchasers to receive notification of the sufficiency of water supply during a title search, the Legislature should consider amending A.R.S. Section 32-2181 (F) to require developers to record with the county recorder's office the determination regarding the sufficiency of the subdivision's water supply.

In contrast, the assured water supply provision, applicable within the AMAs, prohibits the development or sale of new subdivisions if there is insufficient water to meet the subdivision's needs for at least 100 years. To provide greater protection to areas outside of the AMAs, the Performance Audit recommended that the Legislature consider amending A.R.S. Section 45-576 to extend the assured water supply provision to these areas.

The Performance Audit also addressed the issue of well spacing in areas outside of AMAs. Outside of the AMAs, ADWR does not regulate the spacing between wells or the impact of a new well on existing wells. As growth occurs in non-AMA communities, most new residents will drill wells to obtain groundwater. If additional wells deplete the water supply, existing residents, new homeowners, municipalities and industry will be affected. The Auditor General's report said Legislature should consider amending state law to give ADWR limited authority to establish well spacing requirements in areas outside of the AMAs.

Arizona Does Not Regulate All Types of Water

Currently, Arizona's regulatory framework treats surface water, groundwater and effluent (treated wastewater) as different types of water. ADWR does not have enforcement authority over surface water or statutory authority over effluent and is therefore unable to impose conservation requirements on these types of water.

Governor's Water Management Commission

The 30-member Governor's Water Management Commission was established by Executive Order in May 2000 (Executive Order 2000-7). The purpose of the Commission is to evaluate water management regulations and practices in 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.

Governor's Groundwater Management Commission Technical Advisory Committee

The ADWR Director appointed the 34-member Governor's Groundwater Management Commission Technical Advisory Committee (TAC) to provide technical support and expertise to the Commission. The charge to the TAC is 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 at the state and local levels of government.

Active Management Area Safe Yield Task Forces

The Active Management Area Safe Yield Task Forces review water management issues within their respective AMAs. These Task Forces have been meeting during the last year and preparing recommendations in anticipation of the appointment of the Governor's Water Management Commission. Approximately 175 local community members participated in these discussions. The AMA Director appointed the Task Force members. The membership and size of these task forces varies by AMA, but generally the membership consists of representatives of agricultural, environmental and development interests, county and municipal representatives, and a variety of other community members who have an interest in water issues.

Arizona Water Resources Advisory Board

Arizona Revised Statutes Section 45-111, specifically requires ADWR to include as a part of its annual report "suggestions as to amending existing laws or enacting new legislation as the director and the Arizona Water Resources Advisory Board deem necessary." As previously noted, the AWRAB made no suggestions regarding proposed legislative changes in FY 1999-2000. A brief history will help to establish a policy-making context the role of the AWRAB.

The genesis of the Arizona Water Resources Advisory Board (AWRAB) was the restructuring of the Arizona Water Commission (Water Commission) that established state water policy prior to the 1980 Groundwater Act. The Arizona Water Commission was originally established in 1971 to replace the Interstate Stream Commission whose primary responsibility was to secure the State's rights to water from the Colorado River and other interstate streams. Its duties also included statewide water resource planning.

The Water Commission assumed the responsibilities of the Interstate Stream Commission and was also charged with supervising dam safety functions, watershed management, hydrologic data collection and licensing weather modification projects. In 1979, legislation transferred the administration of water rights from the State Land Department to the Commission and designated this entity as the technical arm of the court in water adjudications.

The 1980 Groundwater Code established the Arizona Department of Water Resources and transferred the major policy-making functions of the Water Commission to ADWR. Under the provisions of the Groundwater Act, the Arizona Water Commission became an advisory, rather than a policy-making board.

In 1989, the Auditor General conducted the first performance audit of ADWR and also addressed the performance of the Water Commission. The Auditor General found that:

"The Legislature should consider allowing the Arizona Water Commission to terminate under the provisions of the Sunset Law. As currently constituted, the Commission appears to have been relatively inactive over the last several years. However, a more representative advisory body providing input on statewide issues water policy issues should be considered."

The Legislature took action on the Auditor General's recommendation. In 1990, the Legislature enacted legislation to expand the Commission from seven to 15 members. The legislation also specified that five of the Commission members would represent non-Active Management Areas to help to alleviate the concern that the Commission's membership was too representative of the interests of AMAs. In 1992, the Legislature passed legislation that changed the name of the Arizona Water Commission to the Arizona Water Resources Advisory Board to more accurately reflect its responsibilities as an advisory board.

2000 Legislation

The Second Regular Session of the 44th Arizona State Legislature adjourned on April 18, 2000. The following summary of key bills provides an overview of the legislative enactments that affect the Department. Unless otherwise noted, the effective date of these bills is July 18, 2000.

Water Laws

HB 2149 Drought Emergency Groundwater Transfer. Allows drought emergency groundwater transfers between groundwater basins, for a period of six months, subject to Arizona Department of Water Resources approval of specified criteria. Chapter 205, 2000 Laws.

HB 2182 Stored Water; Recovery Wells. Requires persons recovering stored effluent in the service area boundaries of another city, town, private water company or irrigation district to notify that entity and allow that entity to offer recovery services. Chapter 169, 2000 Laws.

HB 2409 Appropriation; Floodway Control. Appropriates \$360,000 to the Department of Emergency and Military Affairs for distribution to Bisbee for the state matching portion of the cost of completing the Mule Gulch floodway channel and exempts that appropriation from lapsing. Chapter 381, 2000 Laws (Line-item Veto).

HB 2611 Water; Exempt Wells. Allows a person to drill a second exempt well in an Active Management Area to serve the same non-irrigation use at the same location if the notice of intent to drill includes proof of the following conditions and the Director of ADWR determines that all of the following conditions are met:

- The first exempt well cannot produce more than three gallons per minute due to its location.
- The second exempt well is on the same parcel of land as the first exempt well and the parcel is at least one acre in size.
- Combined withdrawals from both wells do not exceed five acre-feet per year.
- If the second exempt well is drilled after January 1, 2000, the local health authority has approved the location of the well based on the location of any nearby septic tanks or sewer systems.
- The use of both wells is not contrary to the health and welfare of the public.

Chapter 85, 2000 Laws.

SB 1054 Task Force On Effluent Reuse. Establishes a Blue Ribbon Task Force on effluent reuse. Chapter 192, 2000 Laws

SB 1184 Water Studies; Appropriation. Appropriates \$500,000 in FY 2000-2001 to ADWR for rural water studies, including \$170,000 to Yavapai County for a hydrologic study of the Upper and Middle Verde water basins. Chapter 244, 2000 Laws.

SB 1254 Irrigation Non-Expansion Area; Groundwater Limit. Limits the groundwater withdrawals of any commercial and industrial water users in an Irrigation Non-expansion Area where groundwater transfers are allowed to an initial AMA to:

- Eligible irrigated land.
- To a depth of 1000 feet.
- At a rate that will not cause groundwater tables to decline more than 10 feet per year.
- In an amount per acre that will not exceed 6 acre-feet per year and 30 acre-feet in any 10 consecutive years.

Chapter 129, 2000 Laws.

SB 1264 Department Of Water Resources; Continuation. Continues ADWR until July 1, 2010. Chapter 260, 2000 Laws.

SB 1267 Multi-County Water Conservation Districts; Officers. Allows Central Arizona Water Conservation District (CAWCD) to appoint peace officers to protect the property along the Central Arizona Project (CAP) canal. Chapter 142, 2000 Laws.

SB 1354 Water Exchanges. Allows a person to withdraw, divert or use water received through a water exchange if all water exchanged is groundwater and the exchange is between an irrigation district and an irrigation grandfathered right holder within that irrigation district. Chapter 224, 2000 Laws.

SB 1364 Multi-County Water Conservation District; Condemnation. Grants CAWCD limited condemnation authority to acquire land in connection with state demonstration recharge projects. Chapter 145, 2000 Laws.

SB 1508 Nonnavigable Streams; Disclaimer of Title. Ratifies the non-navigability of, and relinquishes any state claims to, the Big Sandy River, Burro Creek, the Santa Maria River, the Virgin River and the small and minor watercourses in La Paz, Mohave and Yuma counties. Chapter 71, 2000 Laws.

SB 1509 Irrigation Grandfathered Rights; Extinguishment. Calculates the Irrigation Grandfathered Right Extinguishment Credit for the Prescott AMA as follows:

- Through 2010: 1.5 acre-feet x # of irrigated acres x 25 (For farms actively irrigated in four of the last six years).
- Through 2010: 1.5 acre-feet x # of irrigated acres x 2025 minus the current year (For farms NOT actively irrigated in four of the last six years).
- After 2010 and until 2025: 1.5 acre-feet x # of irrigated acres x 2025 minus the current year (For all farms).

Specifies conditions that must be met before establishing an assured water supply credit for the extinguishment of a grandfathered groundwater right in the Prescott AMA. Chapter 391, 2000 Laws.

Water Quality Laws

HB 2049 Environmental Exposure Risk Assessment Program. Requires the Department of Health Services (DHS) to establish a risk assessment program to analyze public health risks associated with environmental exposures. Appropriates \$216,000 in FY's 2000-2001, 2001-2002 and 2002-2003 from the Water Quality Assurance Revolving Fund (WQARF) to DHS for the program. Chapter 335, 2000 Laws.

HB 2178 WQARF; Revisions. Modifies certain elements of the WQARF Program, including the procurement procedures, program eligibility and applicability criteria. Broadens the definition of "remediated water" to include all water distributed, transported or used in connection with any remediation performed under the jurisdiction of the Arizona Department of Environmental Quality (ADEQ). Allows facilities within a WQARF site to be eligible for prospective purchaser agreements. Eliminates specific remediation standards required for a person to obtain a "no further action" determination while still requiring the Director of ADEQ to find that the site does not present a significant risk to public health or welfare, or the environment. Allows the Director of ADEQ to suspend further investigation or action under the WQARF Program if the remediation of the site will be performed under any other ADEQ program. Chapter 45, 2000 Laws.

HB 2610 Water Quality; Maximum Daily Loads. Requires ADEQ to implement a Total Maximum Daily Load (TMDL) Program to address polluted bodies of water, based on Environmental Protection Agency (EPA) standards. Chapter 162, 2000 Laws.

SB 1283 Department Of Environmental Quality; Continuation. Continues ADEQ until July 1, 2005 and specifies program performance objectives for ADEQ. Requires ADEQ to conduct at least one public hearing before December 1, 2002. Chapter 389, 2000 Laws.

SB 1301 Appropriation; Underground Storage Tanks. Appropriates \$250,000 to ADEQ in FY 2000-2001 for deposit in the Area A Account of the Underground Storage Tank (UST) Revolving Fund Assurance Account. Appropriates \$500,000 in FY 1999-2000 and \$1.3 million in FY 2000-2001 to ADEQ for deposit in the UST Revolving Fund Assurance Account. Chapter 354, 2000 Laws.

SB 1321 Voluntary Environmental Performance. Establishes a Voluntary Environmental Performance (VEP) Program that allows organizations to agree to meet and maintain certain environmental performance standards in return for regulatory incentives from ADEQ. Conditions the enactment of this act on either the appropriation or donation of \$250,000 to ADEQ to administer this program by July 1, 2001. Chapter 263, 2000 Laws.

SB 1349 WQARF; No Further Action. Modifies the timelines, procedures and standards for requesting and obtaining a "no further action" determination from ADEQ for a WQARF site. Allows ADEQ to reopen an investigation of a WQARF site for which a "no further action" determination has been made, based on specified circumstances. Chapter 31, 2000 Laws.

SB 1452 Environment; Liability; Storage Tanks. Makes a number of changes to the Underground Storage Tank Program, including the continuation of the UST Technical Appeals Panel and limitations on the responsibilities of a tank owner or operator to identify and prove the contribution of other parties where there is a co-mingling of releases of regulated substances. Contains appropriations of \$20,000 from the UST Assurance Account in FY 2001-2002 for the operations of the UST Policy Commission and the UST Technical Appeals Panel. Chapter 131, 2000 Laws.

SB 1454 Voluntary Remediation Program. Establishes an agency-wide Voluntary Remediation Program under ADEQ that would allow a participant to remediate contamination at a site and receive a "no further action" determination. Chapter 225, 2000 Laws.

Land/Species Conservation Laws

HB 2060 Agricultural Preservation District Land. Grants an individual and corporate income tax credit for the transfer of agricultural land or development rights in agricultural land to an agricultural preservation district. Chapter 267, 2000 Laws.

HB 2072 State Trust Lands Management. Allows the State Land Commissioner additional discretionary authority relating to the issuance of special land use permits (short-term) and urban land closures for dust abatement or remediation purposes. Chapter 10, 2000 Laws.

HB 2416 County Redistricting. Allows counties to redistrict as often as necessary between the decennial census. Chapter 237, 2000 Laws.

HB 2706 Land Conservation Account Grants; Priorities. Requires the Board to give priority to lessees of state or federal land who are required to reduce livestock production to provide public benefits. Chapter 96, 2000 Laws.

SB 1447 Emergency Management Assistance Compact. Creates the Emergency Management Assistance Compact as an interstate mutual aid agreement that supplements state, local and federal response for natural and manmade disasters. Chapter 317, 2000 Laws.

Fiscal And Administrative Laws

HB 2069 Electronic Transactions Act. Allows, under the new Electronic Transactions Act, the use of current electronic technology for communication and filings. Chapter 268, 2000 Laws.

HB 2238 ASRS; Benefits; Increases. Permits Arizona State Retirement System (ASRS) retirees who are less than 55 years of age to receive permanent benefit increases. Moves back, by one month, the date by which a retiree must be retired to receive a permanent benefit increase (July 31). Chapter 66, 2000 Laws.

HB 2294 Lobbyist Filings; Notarization. Allows lobbyists to electronically register and file reports with the Secretary of State's Office, allows the Secretary of State to continue to require written or printed copies, and stipulates that electronic filings are not required to bear a notarized signature. Chapter 18, 2000 Laws.

HB 2340 Procurement; Professional and Construction Services. Allows alternative contracting methods to be used for procuring professional or construction services, based on specified requirements. Chapter 135, 2000 Laws.

SB 1087 State Documents. Allows the Department of Library, Archives and Public Records to enter into agreements with other county, city, regional, state, university, college, or out-of-state research libraries to establish a depository system and an exchange program. Chapter 368, 2000 Laws.

SB 1096 Risk Pool Insurance. Expands the membership of a risk retention pool to include subcontractors of the state or any political subdivision and contractors of political subdivisions and exempts certain risk retention pools from restrictions on nonprofit corporation distributions. Chapter 165, 2000 Laws.

SB 1131 Technology Account; Licensing. Allows, under the new statewide technology license agreement, state agencies to purchase products and services through the Government Information Technology Agency (GITA). Chapter 110, 2000 Laws.

SB 1259 State Agencies; Credit Card Acceptance. Allows state agencies to accept credit cards or charge cards for any payment due to the agency or the state. Chapter 311, 2000 Laws.

SB 1392 Public Meetings. Makes numerous changes to the statutes relating to the open meeting law. Chapter 358, 2000 Laws.

SB 1406 Procurement Reform. Reforms the state's procurement process. Chapter 316, 2000 Laws.

SB 1418 Regulatory Reform; Rule-Making; Review. Creates an alternative emergency rule making process. Allows for judicial review of existing agency practices or substantive policy statements to determine if such practices or statements constitute a rule. Chapter 374, 2000 Laws.

Third Management Plan Adoption

The 1980 Groundwater Code requires the Arizona Department of Water Resources to promulgate a series of five management plans for the areas of the state designated as Active Management Areas (Pinal, Phoenix, Prescott, Tucson and Santa Cruz):

- The First Management Plan (FMP), adopted in December of 1984, initiated basic water management programs through mandatory conservation requirements for major water users within the AMA.
- The Second Management Plan (SMP), adopted in December of 1989, established more comprehensive and aggressive conservation requirements, coupled with an augmentation program.
- The Third Management Plan (TMP) This plan and the period of time it covers (2000 to 2010) represents the mid-point of ADWR's efforts to achieve the goal of the Code: safe-yield by 2025 or earlier. It continues and refines the mandatory conservation requirements of the Second Management Plan, continues to encourage and support the use and storage of renewable water supplies and discusses the future direction of water management programs in the AMA.

The management plans are initially issued in draft form after extensive research and planning by ADWR, and review by the AMA Groundwater Users Advisory Councils (GUACs) and technical advisory committees. After draft plans are issued, ADWR holds hearings to provide the public an opportunity to comment orally and in writing. ADWR evaluates the public comments and issues a summary of the hearings and findings prior to issuing the first order of adoption of the plans. Regulated parties then have an opportunity to request rehearing or review. After responding to any such requests, ADWR adopts the final management plan and notifies regulated parties of their water duties and conservation requirements.

The adoption of the conservation requirements for agriculture has been delayed for two years, pending the completion of an analysis by a consultant retained by ADWR, with the approval of the agricultural community. This study will address conservation requirements for agriculture.

Legal Division

The Arizona Department of Water Resources' Legal Division litigates a variety of actions that affect ADWR. It also participates in administrative hearings related to surface water 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 the Department. The Risk Management Division of the Arizona Department of Administration accepts this defense. During FY 1999-2000, the following case was 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 for the Phoenix, Tucson and Pinal Active Management Areas. AWC challenged the procedures followed by ADWR in adopting the SMP and certain substantive provisions of the municipal conservation program. Upon stipulation by the parties, the judge entered an order on January 29, 1998, staying the case until January 16, 1999. The stay would give the parties time to proceed with an administrative hearing on AWC's applications for administrative review of the conservation requirements assigned to three of its systems in the SMP. A hearing on the applications for administrative review was scheduled for September 23, 1998 at the Office of Administrative Hearings. The Director issued an administrative order and the case was returned to the Maricopa County Superior Court for appeal of that decision. The Arizona Corporation Commission (ACC) has now intervened in the litigation. The matter was argued before the court on June 12, 2000. Post argument briefs will be filed in July.

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 two most frequent hearings are cases involving applications to appropriate surface water and cases relating to the enforcement of Arizona's groundwater laws.

Surface Water Applications

During FY 1999-2000, the Department received 18 new Applications for Permit to Appropriate Public Water. The Department issued 16 Permits to Appropriate Public Water based on existing applications and issued, reissued or revised 71 Certificates of Water Right. ADWR also received 521 requests for Assignment of Water Rights and completed 296 Assignments. In addition, ADWR staff completed three Severance and Transfers,

Three administrative hearings were scheduled, but all were settled before the hearings occurred. Staff resources have been used in preparation for two administrative hearings scheduled to occur in FY 1999-2000 and one that may occur, but has not been scheduled yet.

Enforcement of Groundwater Laws

During FY 1999-2000, ADWR investigated several suspected violations of groundwater law, issued 166 citations and entered into four stipulated agreements for violations of the Code. At the end of FY 1999-2000, ADWR has four stipulated agreements under negotiation and, following revision of internal compliance policy, may reach three more stipulated agreements. The Legal Division closed six cases and has approximately 13 case under review.

General Stream Adjudications

There are two general stream adjudications ongoing 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 Susan Bolton 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 to the courts as directed by statute.

Little Colorado 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 debate concerns what 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. Significant staff time was devoted in FY 1999-2000 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.

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 Fiscal Year 1999-2000, the Maricopa County Superior Court has focused almost exclusive attention on the water rights claims of the Gila River Indian Community. ADWR is finalizing the Hydrographic Survey Report (HSR) for the Gila River Indian Community's claim. This analysis is primarily concerned with practicably irrigable acreage on the reservation, as limited by the extent of arable lands, and the historically available water supply.

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 the Department, in cooperation with local communities, and is responsible for seeing the rules through the formal adoption process.

Interstate Banking Rules

The Arizona Water Banking Authority (AWBA) authorizes interstate banking of Colorado River water in Arizona, subject to the adoption of federal regulations. The Secretary of the Interior has developed a set of federal regulations to implement this authority. ADWR staff has expended significant effort to assist federal representatives in the preparation of these regulations, and has commented formally both on behalf of the Department and the AWBA on the preliminary draft. The final rule was published in the Federal Register on November 1, 1999.

Dam Safety Rules and Surface Water Rules

The Department has completed the Dam Safety Rules, which provide guidance on obtaining ADWR authorization to build or repair a dam.

Financial Grant Programs and Contracts

ADWR administers the Conservation Assistance and Augmentation and Arizona Water Protection Fund 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 Department.

Conservation Assistance and Augmentation Grants.

The Department 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 1999-2000, the staff participated in processing approximately 12 Conservation Assistance and Augmentation Grants, all of which were implemented during this fiscal year.

Arizona Water Protection Fund Grants

The Arizona Water Protection Fund (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 1999-2000, the AWPF funded 32 new projects, granting a total of almost \$7,000,000.

Contracts

The Legal Division oversees all ADWR contracts to ensure compliance with Arizona law. In FY 1999-2000, staff reviewed and approved 47 contracts, two leases and seven memoranda of understanding. The Legal Division also provides legal assistance to the Arizona Water Banking Authority in accordance with statute. In Fiscal Year 1999-2000, staff assisted in negotiating and drafting contracts with the Environmental Protection Agency.

Information Technology Division

The Information Technology Division provides technical assistance, technology and programming services to the Arizona Department of Water Resources staff and the public to help them to informed decisions and manage programs. This division provides system operations, systems development, technical support and help desk support for all agency information systems including mainframe, work stations, local area network and wide area networking.

Division operates on a three-year plan; approved by the Government Information Technology Agency (GITA), which provides a framework for the Agency to manage data and information technology in accordance with its Mission, Goals and Vision. In order to maximize Statewide technological resources and share data, strategies in the approved plan comply with established Statewide standards wherever possible.

This three-year plan also meets the requirements for an Information Resources Management Three-Year Plan as mandated in the Arizona Revised Statutes (A.R.S. §41-712 (C)) and the Arizona Administrative Code (AAC. R2-1-502.) This plan is submitted to GITA. 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 circumstances that are not predictable.

Significant Accomplishments

To meet the increasing demands on Arizona's water supplies, the Agency relies heavily on the use of data to meet its responsibilities to the citizens of the state. This data must be readily available to management and staff in a way that allows complex research and analysis to be performed in a timely manner.

In FY 1999, the Agency successfully completed a four-year project to migrate all of its data to a relational database environment that supports the Agency's vision of future computing needs. The implementation of this environment has allowed the Agency to streamline and automate many of its processes, enabled staff to access the Agency's data with powerful analysis tools and reduced staff dependence on technical staff that was frequently not available. The Agency is also able to more easily share data with other State agencies. This transition has also set the stage for the Agency to provide expanded public access to our data.

In addition, we have developed, from the ground up, innovative and technologically advanced applications to support the Agency's water management programs. While we have focused much of our attention on application development, we have also dramatically improved our network and desktop hardware and software and begun organizing our Geographic Information System (GIS) data in preparation of integrating a spatial component into business data. We continue to demonstrate the Agency's ability to progress when it has a focused vision and management support.

The Agency has continued to expand the use of information technology during FY 2000, building on the strategic directions established during the last five years to become more focused, streamlined and mission specific. Agency senior management continues to emphasize the importance of technology in the accomplishment of the Agency's mission. The following lists significant changes in the Department's portfolio assessment.

Human Resources

- The Agency has moved the Geographic Information System section to the Hydrology Division to increase its effectiveness and responsiveness to rapidly changing priorities and more closely align its mission with that of the Agency.

Technical Environment

- The Agency has replaced a number of its slow data connections from outlying offices to the Statewide WAN with T1 connections, drastically improving response time of remote electronic data requests.
- The Agency has continued to maintain upgrades of its Novell network in an effort to keep technologically current and provide the Agency with expanded use of the Internet and Intranet.

Agency's Major Projects

The following lists significant projects the Agency has started or completed during this fiscal year.

- The Agency has completed an upgrade from Corel Word Perfect Office for Windows 3.11 to Microsoft Office Suite 97 and has successfully trained Agency staff with its use.

- The Agency has completed a significant enhancement to disk storage that is available to all our major network systems, including our Oracle database servers, and limit the number of expensive incremental storage increases.
- The Agency has started moving our spatial data into an Oracle relational database by using the Spatial Database Engine (SDE) from ESRI. This data will eventually allow the Agency to integrate business and spatial data into its client/server applications.
- The Agency has successfully implemented a program to accept credit cards for all payments due to the agency.
- The Agency has successfully implemented an electronic commerce link, making the Agency data available on a 24/7 basis.

New Planning Initiatives

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

- The Agency continues to evaluate imaging systems capable of scanning and storing computer images of mission critical paper records and making them available to staff at their desktop.
- The Agency has begun evaluating a proposal to replace our current, costly printer/copier/scanner/fax equipment with more technologically current, network-enabled equipment that is less costly to operate and support.

Statewide Water Resource Planning

Though most of ADWR's regulatory focus is on the five AMAs, the Department assists with water resource planning statewide. In FY 1999-2000, ADWR provided substantial planning assistance to areas that have expanding populations, limited groundwater resources and unique environmental features. The Department assisted citizen organizations and local governments by providing technical information, analysis and advice on water issues.

The Water Resources Planning Section worked with rural watersheds to implement the Arizona Rural Watershed Initiative. The Arizona Legislature provided \$1,200,000 to fund the initiatives in FY 1999-2000, the first year of the FY 2000-2001 budget, and an additional \$500,000 in the second year of the biennium, FY 2001-2002.

In FY1999-2000, seven watershed groups and two AMAs benefited from the initiative funding. Seven additional watershed groups may participate in the program in FY 2000-2001. Planning staff continued their participation on a number of committees that address issues of interest to rural Arizona, such as the Population Technical Advisory Committee (PopTAC), the Rural Infrastructure Committee (RIC) and Water Infrastructure Finance Authority (WIFA). Additionally, staff worked with the United States Geological Survey (USGS) to complete digital coverage of agricultural lands.

Watershed Partnership Activities

Watershed activities in FY1999-2000 are listed below:

Upper San Pedro Partnership

The Upper San Pedro Partnership (USPP) awarded two contracts in FY1999-2000: one for a stormwater recharge pilot study and one for a water conservation/reclaimed water reuse study. Earlier this year, the USPP formalized an organization structure that includes a Political Advisory Commission, Staff Coordinating Committee, an Administrative Committee and several subcommittees, including technical, open space and outreach subcommittees. The USPP is currently developing a scope of work for a three-part water needs study of the San Pedro Riparian National Conservation Area.

Northern Gila County

Federal, state, and local participants funded a project by the USGS to study the surface and subsurface geology in the northern Gila County area. An exploratory borehole was drilled in the Strawberry area to gather information and to better understand the deep subsurface geology of the area.

Upper Little Colorado River Watershed Partnership

Northern Arizona University (NAU) has begun work on a conceptual plan to enhance the Upper Little Colorado River from Greer through Round Valley. The plan will provide assistance to private landowners in restoring their stretch of river and obtaining the necessary permits. NAU is also planning a demonstration project on a small reach of stream by Highway 60 near Springerville. The funding for this project comes from the Arizona Water Protection Fund. Researchers from the University of Arizona (U of A) are analyzing both the watershed and precipitation patterns to determine the feasibility of water augmentation. Aerial surveys and photos will help provide contour maps of the area to aid in the design of the irrigation system piping.

North Central Arizona Regional Water Study

In FY 1999-2000, the North Central Arizona Regional Water Study Phase I Report was completed. This Report outlined stakeholder interests, future water demands, water supply alternatives and recommendations for the Phase II Study. FY 1999-2000 projects included an analysis of growth issues surrounding a possible pipeline by Arizona State University's (ASU's) Morrison Institute, a Bureau of Reclamation (BOR) feasibility study and cost analysis for a pipeline, and a USGS geohydrologic study of the Coconino Plateau.

Upper and Middle Verde Studies

The Verde Watershed Association, along with assistance from the USGS, developed a scope of work for a long-term hydrologic study for this area. The study will address the middle and upper parts of the Verde Basin and the East Verde-Tonto Creek-Fossil Creek Basins. The investigation will involve 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.

Upper Gila

The Safford-Duncan-San Carlos watershed partnership used its rural watershed funding to develop a landscape water use budget for all customers served by Safford Utilities, and to provide public outreach for both the above project and general water conservation methods.

Prescott AMA

The Prescott AMA and ADWR's Basic Data Unit installed several stream gage/monitoring stations and identified index wells for continued groundwater monitoring.

Santa Cruz AMA

The Santa Cruz AMA and ADWR's Basic Data Unit installed several stream gage/monitoring stations in this basin.

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 four sections: Groundwater Modeling, Technical Support, Recharge/Surface Water and Field Services.

Groundwater Modeling

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 Active Management Areas; 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 is nearing completion.

Working cooperatively with local governments, the Groundwater Modeling Section has completed models for the Yuma area and the Sierra Vista subwatershed of the Upper San Pedro Groundwater Basin. The Yuma area groundwater flow model was developed in cooperation with the Yuma County Flood Control District and the United States Bureau of Reclamation. The purpose of the Yuma model was to study localized high water levels in parts of the Yuma Valley. The Sierra Vista model was developed to determine how future groundwater uses in the Sierra Vista–Fort Huachuca area may affect surface water flows in the San Pedro River within the San Pedro Riparian National Conservation Area.

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, for example, future urban growth patterns, pumping stresses, recharge projects and changing water use patterns. The results of future scenario runs can be viewed and management decisions evaluated as to their potential impacts on the modeled area. Predictive model simulations have been developed for the Salt River Valley (Phoenix), and for the Pinal, Yuma and Sierra Vista models.

The Salt River Valley model was used by the Phoenix AMA to predict the effects of current urbanization trends on regional water levels out to 2030 and also 2100. The Assured Water Supply staff has used this model to determine if adequate water supplies exist for future developments within the AMA. The Yuma area model was used to test the effect of increased drainage well pumpage and lining of irrigation canal would have on high water table levels in urbanized sections of Yuma Valley. The Sierra Vista model was used to simulate several different potential growth patterns and the effect of growth on the surface water flows within the San Pedro Riparian Nation Conservation Area.

During FY 1999-2000 Groundwater Modeling Section hydrologists completed several major projects and assisted other Department staff on a number of projects. Modeling hydrologists:

- Completed the transient calibration of the Tucson AMA Groundwater Flow Model. Staff hydrologists are preparing this model for peer review and drafting a modeling report. ADWR hydrologists are working with Tucson AMA staff and the Tucson GUAC to develop future water use scenarios to be simulated with the model.
- Updated the Prescott Model with the latest well data and water levels. ADWR staff is updating the model for peer review and drafting a modeling report supplement. ADWR hydrologists are working with Prescott AMA staff to develop future water use scenarios to be simulated with the updated model.
- Worked with the Pinal AMA staff on a modeling study to determine the 100-year effect of water development within the Pinal AMA.
- Worked with Santa Cruz AMA staff to develop a Memo of Understanding (MOU) with investigators from the University of Sonora in Hermosillo, Mexico on joint training and sharing of water level data. This agreement will be helpful in the development of the Santa Cruz AMA modeling effort.
- Participated in reviews of groundwater flow models submitted to ADWR for the Assured Water Supply (AWS) Section, the Colorado River Management Section, and in the review of a contaminant transport model submitted to the Arizona Department of Environmental Quality.

- 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. ADWR's representative on the Siting Committee is responsible for reviewing hydrologic reports submitted with applications for environmental compatibility of power plants. Staff hydrologists have provided technical support and review of hydrologic reports submitted with the compatibility applications.

Technical Support Section

The ADWR Hydrology Division Technical Support Section lends technical support to ADWR in a number of areas. The on-going projects and accomplishments of each unit for FY 1999-2000 are listed below.

WQARF Support Unit

The Hydrology Division WQARF Support Unit (WSU) provides hydrologic support for many of the water quality related activities that involve ADWR. The WQARF Support Unit reviews Notices of Intention to Drill (NOIDs) and Notices of Intent to Abandon (NOIAs) wells in and near areas where groundwater pollution poses a threat for vertical cross-contamination of aquifer systems. During FY 1999-2000, WQARF Support Unit staff:

- Reviewed the design plans for 295 NOIDs and 155 NOIAs.
- Developed special well construction rules for the Apache Powder WQARF site.
- Developed a draft Substantive Policy Statement on Well Abandonment that included extensive public participation and research into well abandonment procedures and materials used throughout the United States. When finalized, the policy statement will significantly aid the regulated community in planning efficient and appropriate well abandonment projects.
- Participated in a major conduit well pilot study at the Miracle Mile WQARF site in Tucson, Arizona. This study identifies, characterizes and potentially remediates any existing wells that may serve as vertical conduits that could potentially cross-contaminate the aquifer system at the site. Extensive data collection and research efforts resulted in a comprehensive database of well, water quality and hydrogeologic information. This pilot study will serve as model for future conduit well studies.
- Developed a WQARF database development and data entry team. The data entry team enters hydrogeologic data from well logs and other sources of information into a hydrogeologic database that will be used at other WQARF sites for future conduit well studies and hydrogeologic analysis purposes.
- Provided hydrologic support on a variety of projects during FY 1999-2000.

Notice of Intent, Permits and Hydrologic Support Unit

The Notice of Intent (NOI), Permits and Hydrologic Support Unit (NPH) provides hydrologic support over a broad range of activities. The NPH reviews Notices of Intent to Drill wells and Notices of Intent to Abandon wells in areas where water quality issues are not a concern to insure that new wells are constructed in accordance with ADWR Minimum Well Construction Standards. During FY 1999-2000 the NPH staff:

- Reviewed 1,310 NOIDs and 456 NOIAs.
- Developed a Substantive Policy Statement that provides expedited variances for the use of thermoplastic casing in the upper 20 feet of monitor and exploration wells that should substantially reduce NOID processing time for wells requiring this type of variance.
- Performed 50 well impact studies and reviewed 60 other groundwater withdrawal permit applications.
- Developed a hydrogeologic database of transmissivity and specific yield data from over 1000 well impact evaluations.
- Initiated a research project to collect and analyze information on well impact and groundwater-surface water laws and rules in other Western states. This information will ultimately be used to provide recommendations for developing new well impact rules for the Santa Cruz AMA, and possibly for other AMAs.

- Performed database maintenance and updated activities on the ADWR Groundwater Site Inventory (GWSI) database.
- Modified or added records to more than 5,663 sites, and performed more than 10,000 transactions on the database.
- Provided support on a number of other projects during FY 1999-2000 that included:
 - Technical support for the updates of the Pinal and Prescott AMA groundwater flow models.
 - Planning and field assistance in the establishment of the Prescott AMA groundwater monitoring program.
 - Review of a draft report on the source of the Verde River.
 - Review of a Water Protection Fund Grant proposal to study the Upper Verde River hydrologic system.
 - Technical support and review of the Upper and Middle Verde River and Gila River HSR reports.
 - Technical support and data analysis for the drilling of an exploratory borehole in the Strawberry area by the Northern Gila County Water Plan Alliance.
 - Technical support and review of the Assured Water Supply applications for the City of Nogales and the Glassford Hills projects.
 - Review and recommendations for the revision of NOI forms and NOI processing.
 - Other miscellaneous hydrologic support activities.

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 Arizona Water Protection Fund projects. For Fiscal Year 1999-2000, 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 hydrologic technical support to the Arizona Water Protection Fund application and project review process and reviewed of all deliverables containing hydrologic components.

Field Services Section

The Field Services Section was recently formed from the Basic Data Section, the Geographic Information Section (GIS) and the Aquifer Storage and Land Subsidence Monitoring (ASLSM) Section 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 GIS Unit provides Geographic Information System services and some other database services to the Department. The Aquifer Storage and Land Subsidence Monitoring Unit was formed to use Global Positioning System (GPS) and gravity survey technology to support various agency 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 AMAs and WQARF site studies. In FY 1999-2000, the Basic Data Unit staff was involved with the following projects:

- Statewide Index Lines
 - Ordered and prepared water level and QW equipment and supplies.
 - Measured statewide index wells (4100 measurements).
 - Added 40 new index wells to the Phoenix AMA.
 - Reviewed and maintained water level recorders on a quarterly basis.
 - Sampled 119 of the 149 water quality index wells.
- Basin Investigations
 - Conducted water quality sampling in Skull Valley, the Upper Hassayampa, the Agua Fria, Verde Canyon, Tonto, Gila Bend and the Lower Gila.
 - Water level measurement in the Sierra Vista Sub-Basin, the Tucson AMA, the Pinal AMA, the Prescott AMA, the Santa Cruz AMA, the Douglas Basin and the Wilcox Basin.
 - Entered the Sierra Vista Sub-Basin, the Tucson AMA, the Pinal AMA, the Prescott AMA, the Santa Cruz AMA, the Douglas Basin and the Wilcox Basin data into the Groundwater Site Inventory Database.
- Hydrologic Map Series (HMS) Preparation
 - Donnelly Wash (Text and maps complete-in review).
 - Lower Gila (Text and maps in preparation).
 - Verde Valley (Preliminary stages of map construction).
 - Phoenix AMA Water Level Contour Map (Text and maps complete-in review).
- Special Projects
 - WQARF-Tucson Miracle Mile site.
 - Rillito recharge index lines.
 - Water level and streamflow measurements in Santa Cruz AMA and Sonora, Mexico.
 - Equipment maintenance and repair.
 - Data reduction and entry.
 - Responded to several thousand public inquiries for hydrologic information.

Geographic Information System Unit

The overall goal of the Geographic Information System Unit is to make the information from the core agency databases available to everyone. The 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, and completely, consistent with agency policy. In FY 1999-2000, the Geographic Information System Unit accomplished the following:

- Increased significantly the number of people in the agency who have direct access to the GIS databases by:
 - Providing database training to ADWR staff.
 - Creating an inventory of all of GIS databases.
 - Consolidating and organized a central library of GIS databases.
 - Updating the on-line GIS catalog and atlas.
 - Creating a data encyclopedia on the ADWR Intranet to improve access to GIS databases.
 - Distributing the GIS databases on CD-ROM for public purchase.
- Completed the annual water company service and franchise area update.

- Created a surface water rights map application.
- Streamlined the public inquiry process.
- Improved the scheduling process for program support activities.
- Established a prioritization system for current projects.
- Established primary points of contact in ADWR for specific AMA issues.
- Integrated GIS and basic data activities to support current and future program needs.

Aquifer Storage and Land Subsidence Monitoring Unit

The goal of the Aquifer Storage and Land Subsidence Monitoring 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 the 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 1999-2000, the Aquifer Storage and Land Subsidence Monitoring 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 100 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 and Scottsdale Airport subsidence areas.
- Performed GPS and micro-gravity surveys in the Pinal AMA to determine changes in groundwater storage.
- Selected and physically located several hundred benchmarks and survey monuments in the west Salt River Valley for possible inclusion in the Sun City-Luke Air Force Base 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 changes in aquifer storage.
- Developed an access database to store and query aquifer storage and land subsidence data.

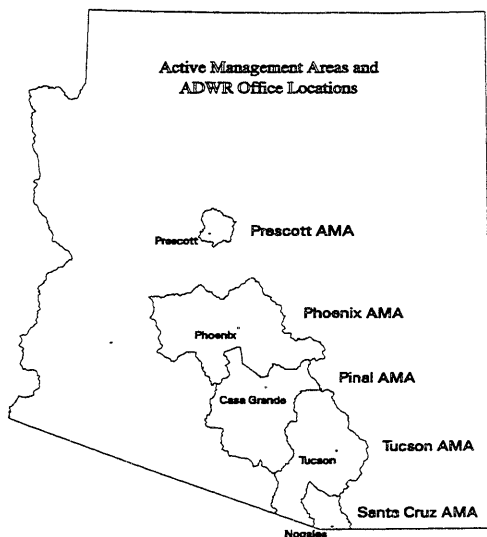
Groundwater Management Division

The Groundwater Management Division is responsible for the development and implementation of groundwater management plans, regulations and grant programs designed to reduce groundwater use to meet the goals of Active Management Areas. Groundwater Users Advisory Councils, appointed by the Governor, provide input to ADWR regarding the management of groundwater supplies in AMAs. An important management tool for the AMA's is the Assured Water Supply Program that requires new subdivisions to secure of Certificate of Assured Water Supply. A Certificate of Assured Water Supply is issued once the new subdivision has demonstrated that it has a 100-year assured water supply.

Active Management Areas

Active Management Areas are specially designated groundwater basins that require specific management and regulatory programs due to excessive groundwater overdraft. There are five AMAs in the State of Arizona, including Prescott, Phoenix, Pinal, Tucson and Santa Cruz. The state also designated three Irrigation Non-Expansion Areas (INAs) where groundwater depletion was also severe. These areas include Douglas, Harquahala and Joseph City.

The map below shows the location of the AMAs. The Department maintains an office in each AMA.



The individual AMA offices are primarily responsible for carrying out, within their respective areas, the provisions of the Code, Third Management Plan and Department rules and regulations. 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 of groundwater resources 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 being put into the ground is equal to the amount being taken out. In the Pinal AMA, where a predominantly agricultural economy exists, the goal is to manage for planned depletion.

Each AMA carries out its programs in a manner consistent with these goals, while attempting to consider and incorporate the unique character of each AMA and the many water users within. Within each AMA, numerous programs and activities are conducted on an annual basis.

These activities include:

- Keeping water user rights and databases current and accurate.
- Evaluating water use characteristics of water right holders and determining their consistency with the applicable section of the Code, management plan and rule provisions, as well as their relationship to the respective AMA goals.
- Implementing enforcement programs designed to ensure compliance with the Code, management plan and rule provisions.
- Reviewing and evaluating the soundness of the various sections of the Code, plan and rule requirements and modifying such requirements when appropriate.
- Analyzing requests for water augmentation and water conservation proposals and making recommendations to the director on the approval of such projects and, when applicable, project funding.
- Conducting special studies on water management issues or problems unique to each AMA.

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.

Based on disaggregated data from the Arizona Department of Economic Security (DES), ADWR estimated that 74,633 persons resided within the Prescott AMA in 1997. Population in the AMA is projected to increase to 147,680 persons by 2025 (ADWR and DES, 1997). Nearly 80% of the AMA's current population resides within the four major communities of Prescott, Prescott

and DES, 1997). Nearly 80% of the AMA's current population resides within the four major communities of Prescott, Prescott Valley, Chino Valley and Dewey-Humboldt. In addition, a significant percentage of Prescott AMA population resides outside of these local jurisdictions throughout portions of unincorporated Yavapai County within the AMA.

Within the Prescott AMA, two large municipal water providers supply the majority of potable water for use within the AMA: the City of Prescott and Prescott Valley Water District. In 1997, these two providers supplied 9,862 acre-feet of groundwater, or 85 percent of the total municipal groundwater demand. The 17 small water providers in the AMA provided 4% of the municipal water demand and private exempt wells supplied the remaining 11% of the total municipal water demand.

The agricultural sector within the AMA used approximately 7,572 acre-feet of water from all sources in 1997. This water use represents 37 percent of the total reported 1997 water use within the Prescott AMA. There are currently 85 Irrigation Grandfathered Rights regulated for compliance with conservation requirements in the Prescott AMA. These rights total about 5,600 irrigation acres with a Second Management Plan final annual allotment of about 19,000 acre-feet per year. Additionally, approximately 320 acres not requiring certificates of grandfathered rights are irrigated solely with surface water.

In FY 1999-2000, the Prescott AMA staff were actively involved in a variety of programs and policies:

- Governor's Water Management Commission. The Prescott AMA has, and will continue to play a major role in supporting the Governor's Water Management Commission as it develops recommendations to assure that Arizona will have a dependable, long term supply of water.
- Third Management Plan. The Third Management Plan for the Prescott AMA was adopted December 13, 1999. The TMP for Prescott Active Management Area continues to refine the mandatory conservation requirements of the Second Management Plan. It also encourages and supports the use and storage of renewable water supplies, and discusses the future direction of water management programs and strategies in the AMA.
- Community Assistance and Involvement. The Prescott AMA staff routinely provides information to citizens throughout northern Arizona and regularly participates in community activities. The general public often credits the office for its high quality of service. During FY 1999-2000, Prescott AMA staff dedicated nearly 4,000 office hours to public assistance. The AMA contributes to water and natural resource presentations in the community and in surrounding communities. Water resource related information is presented and distributed to area schools and colleges, as well as to community and business/professional groups. The AMA staff works closely with the Department of Real Estate (ADRE) to assure that the ADRE program on Arizona water law meets the continuing education efforts of the real estate community. An AMA staff member was certified by ADRE to help present the program.
- Water Monitoring Program. This program has been expanded to include 16 new monitoring wells equipped with continuous recorders and 4 new surface water-gaging stations. Data obtained through this program has enabled the Department to make the determination that the AMA is no longer at safe-yield and will enhance the decision making process for future controversial water issues.
- Yavapai County Water Advisory Committee. The Yavapai County Board of Supervisors established the committee and appointed 12 members from the Verde Watershed communities, Indian reservations, ADWR, and the county at large. The Committee addresses water issues that are regional in nature and is served by a Technical Advisory Committee and a water resource coordinator. AMA staff serves as members of the Technical Advisory Committee.
- Safe-Yield Status of the AMA. In January 1999, the Director of the Department of Water Resources made a final determination that the Prescott AMA was no longer in safe-yield. This action fully implements the Assured Water Supply Rules and precludes the use of groundwater as a source of supply for new subdivisions. AMA staff works cooperatively with the communities and developers to identify and quantify alternative sources of water available under the Assured Water Supply Rules.

Phoenix Active Management Area

The Phoenix Active Management Area (AMA) encompasses approximately 5,646 square miles in central Arizona and includes seven groundwater sub-basins. The AMA has an estimated population of 2,940,000 and contains 12 large irrigation districts, 24 small irrigation districts, 32 large municipal providers and 96 small municipal providers. During FY 1999-2000, water use in the AMA totaled approximately 2,100,000 acre-feet.

Staff administered more than 8,500 groundwater rights in the Phoenix AMA, Harquahala INA and Joseph City INA. Approximately 7,500 of these rights are Irrigation Grandfathered Rights, 600 are Type 1 and Type 2 non-irrigation rights, 160 are

rights held by municipal water providers and 38 are rights held by irrigation districts. There are also approximately 165 groundwater withdrawal authorities (permits) in the Phoenix AMA.

During FY 1999-2000, the AMA completed 12 water right extinguishments and 14 Type 1 conversion requests. The Phoenix AMA staff also reviewed one application by a large municipal provider for designation of an Assured Water Supply and 72 subdivision applications for Certificates of AWS to ensure consistency with the AMA management plan and goal. The staff conducted a total of 58 field investigations of various types.

Phoenix AMA staff processed approximately 4,200 annual withdrawal and use reports, resulting in the collection of over \$3,100,000 in groundwater withdrawal fees. Conservation Assistance and Augmentation Programs comprise approximately \$270,000 of this amount; the Arizona Water Banking Authority (AWBA) received about \$2,700,000. Fees collected for the AWBA will help to finance the purchase and storage of excess Central Arizona Project (CAP) water. ADWR also collected approximately \$171,000 for the Water Quality Assurance Revolving Fund. These fees provide a funding source to address regional water quality problems.

- **Conservation Assistance and Augmentation.** The Conservation Assistance and Augmentation Grants Team prepared a recommendation for deferral of the 1999 Grant Cycle due to staffing constraints and the reduction in grant program funding due to the assignment of the first \$2.50 per acre foot of the established \$2.75 withdrawal fee to the Arizona Water Banking Authority. Deferring the grant cycle allows for an increase in available funding that results from the collection of an additional year of withdrawal fees. In lieu of the standard grant cycle, the Conservation Assistance and Augmentation Grants Team recommended continuation funding for existing programs. The Team also recommended continuation of the Central Arizona Water Conservation Management Program for one additional year of funding. The Phoenix AMA staff recommended to the Groundwater Users Advisory Council that the withdrawal fee be raised from \$2.75 to \$3.00 in an effort to increase available funding for the Grants Program. AMA staff developed five separate funding scenarios in coordination with the recommendation to raise the withdrawal fee, which would continue support of the Grant Program in the future. Currently, the AMA staff administer 18 on going grants representing over \$2,500,000 in grant awards. Seven of these grant awards are recharge or augmentation related, four awards are industrial or turf related, four projects relate to the municipal sector, two projects involve low water use landscaping, and one project focuses on agricultural conservation. Contracts are currently under negotiation for eight new Conservation Assistance and Augmentation projects totaling over \$540,000 of grant funding. Projects approved for funding include: water conservation education programs for school children, a valley-wide water conservation media campaign, a mobile irrigation lab providing on-site technical assistance to agricultural and urban water users, a water utilization and demand analysis for the Cave Creek area and subsidence monitoring of the Phoenix area through use of satellite radar images.
- **Second Management Plan Implementation.** Phoenix AMA staff received one application from a large municipal provider for entrance into the Non-Per Capita Conservation Program (NPCCP). The cities of Chandler, Scottsdale and Tempe are currently in the NPCCP program. The Phoenix AMA staff reviewed and entered data submitted on the annual withdrawal and use reports and calculated the associated flexibility account balances where applicable. Staff also reviewed and entered information from recharge reports to ensure the accurate calculation of recharge credits. The Phoenix AMA Compliance Team has continued its efforts to reduce the number of right holders or permittees who failed to file annual reports through an intensive failure to file campaign, with a goal of maintaining a less than one percent failure to file rate. Attention has also been given to field inspections of wells, metering and suspected illegal irrigation. Five municipal total Gallons Per Capita Day (GPCD) violations were resolved.
- **Storage Facility Permits.** Within the Phoenix AMA, eight Storage Facility Permits with permitted storage capacity of 116,470 acre-feet were issued and one outside of the AMA with a total storage capacity of 10,000 acre-feet. Currently, there are 31 recharge facilities, 72 Water Storage Permits and 36 Recovery Well Permits in the Phoenix AMA. There are approximately 1,020,000 acre-feet of long-term storage credits accrued in the Phoenix AMA.
- **Groundwater Rights Administration.** The Industrial Team noticed 20 new general industrial, sand and gravel, and turf users of their respective Second Management Plan conservation requirements. All right holders and facilities were noticed of the Third Management Plan conservation requirements.
- **Community Assistance and Involvement.** Phoenix AMA staff are active throughout the AMA. Staff served on several committees including the Arizona Municipal Water Users Association's Water Conservation and Low Water Use Plant Committees, the WESTCAPS Water Resources Subcommittee and the Salt River Project Joint Planning Committee. Staff also regularly works with all major AMA cities, irrigation districts, Maricopa County, Soil Conservation Service, Maricopa Association of Governments, Agri-Business Council, United States Bureau Recreation, Central Arizona Water Conservation District, the Central Arizona Groundwater Replenishment District and the Arizona Water Banking Authority.

Pinal Active Management Area

The Pinal AMA encompasses approximately 4,000 square miles in south central Arizona and includes five groundwater sub-basins. The AMA has an estimated population of 100,000 people and 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 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 1999 (not including effluent) was over 760,000 acre-feet, of which 50% was groundwater, 44% was CAP water (including in-lieu recharge), and 6% was water diverted from the Gila River. Agricultural water use accounted for 96% of total demand; municipal use, 3%; and industrial use, 1%.

In addition to over 1,100 non-exempt irrigation rights (generally defined as farms that are 10 or more acres in size), 10 irrigation districts, and 31 municipal water providers, the Pinal AMA administers approximately 175 other groundwater rights and withdrawal permits. During FY 1999-2000, 40 groundwater right conveyances were processed by the AMA and staff notified all non-exempt irrigation right holders and municipal providers of their flexibility account balances.

AMA staff distributed a total of 1,364 annual withdrawal and use reports for FY 1999-2000 and filed 1,313 for a response rate of over 96 percent. Staff reviewed all of the annual reports for completeness and accuracy, and nearly all right holders were in compliance with the Groundwater Code and the Second Management Plan.

The 1999 annual reports generated approximately \$922,000 in Water Banking Fees and about \$212,000 in Conservation Assistance and Augmentation Fees.

- **Third Management Plan.** Pinal AMA staff worked throughout the fiscal year on the final stage of development of the Third Management Plan for the period 2000-2010. The final stage involved compiling preferred water management programs to create the Management Plan. This stage was completed on December 13, 1999, when the plan was adopted. The Pinal AMA GUAC and several local work groups assisted in these efforts by providing valuable input to the AMA staff in developing the management programs for the different water use sectors.
- **Cooperative Efforts.** Pinal AMA staff continuously advocates sound water conservation and management practices and has facilitated the development of cooperative conservation and augmentation programs within its jurisdiction. Major cooperative activities during the fiscal year included:
 - **Irrigation Management Service (IMS).** The Pinal AMA funded IMS for the 13th consecutive year. Since its inception in 1987, the IMS program has received just over \$1,000,000 in funds from the AMA. IMS provides on-farm training to irrigators within the AMA to improve their management of irrigation water. During FY 1999-2000, IMS provided season-long services to 12 growers and provided technical assistance to 15 others. The program is a cooperative effort involving the AMA, the three local Natural Resources Conservation Districts, the United States Natural Resources Conservation Service and the U.S. Bureau of Reclamation.
 - **Pinal County Water Augmentation Authority.** The Pinal AMA worked throughout the fiscal year to assist the Pinal County Water Augmentation Authority (PCWAA) with the development of water augmentation and recharge projects for the AMA. In FY 1999-2000, PCWAA stored about 3,500 acre-feet of municipal Central Arizona Project supplies for two of the municipalities through groundwater savings arrangements with the two irrigation districts. PCWAA continues to investigate the feasibility of constructing a storage facility to recharge water directly to the aquifer. PCWAA is required to justify its annual funding request to the Director. The amount that may be requested is limited to \$200,000 of the AMA's groundwater withdrawal fees collected annually. Through FY 1999-2000, PCWAA had received, on average, about \$70,000 annually from the AMA.

Tucson Active Management Area

The Tucson AMA covers 3,866 square miles in southeast Arizona and includes the Avra Valley Sub-basin and the northern part of the Upper Santa Cruz Sub-basin. The Tucson AMA covers portions of Pima, Santa Cruz and Pinal Counties. Incorporated cities and towns include Tucson, South Tucson, Mariana and Sahuarita.

Groundwater supports almost all water demand in the AMA. About 12,000 acre-feet of demand are met with effluent supplies. Because of water quality problems with direct delivery of CAP water in 1993 and subsequent restrictions on CAP use imposed through an initiative, CAP water has not been directly delivered to municipal users since 1994. Some CAP water is being

recharged at underground storage facilities in the AMA and is being directly delivered to farms in exchange for CAP water storage credits that can be recovered in the future. Total water use in FY 1999-2000 (not including effluent) was about 307,000 acre-feet. Municipal water use was 52 percent of water demand, agriculture was 30 percent, and copper mining and other industrial users accounted for 18 percent.

The AMA population in FY 1999-2000 was approximately 854,000. The majority of the population, 77 percent, is served by Tucson Water, operated by the City of Tucson. The Tucson AMA contains one consolidated irrigation distribution system which is operated by the Cortaro-Marana Irrigation District. It serves water to more than 70 IGFRs totaling about 11,000 acres.

Tucson AMA staff is actively involved in water rights administration, public assistance, conservation and augmentation assistance activities, the Assured Water Supply Program, the recharge program, Second Management Plan implementation, regional planning activities and renewable supply issues, including effluent utilization planning and regional recharge planning. Two major accomplishments in FY 1999-2000 included adoption of the Third Management Plan for the Tucson AMA and direct support to and facilitation of the Tucson AMA Safe-Yield Task Force effort.

- **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 1999-2000 Tucson AMA staff processed 1,229 Annual Water Withdrawal and Use Reports. These reports involved approximately 298,000 acre-feet of groundwater for the AMA, of which 24,289 acre-feet were in-lieu CAP water delivered to farms. Groundwater use in the INA was approximately 37,600 acre-feet. During FY 1999-2000, AMA staff completed approximately 34 conveyances of grandfathered water rights, three Type 1 conversions; one extinguishment of water rights for AWS credits and issued three groundwater withdrawal permits. In addition, staff processed 22 notices of intent to drill a non-exempt well, 19 permits to drill non-exempt wells and processed one application for substitution of irrigable acres due to limiting conditions. Staff also notified large municipal right holders of their flexibility account balances.
- **Conservation, Augmentation and Monitoring Assistance Program.** The Tucson AMA staff provides technical and administrative support for the Conservation, Augmentation and Monitoring Assistance Program. Six Conservation Assistance Grants totaling approximately \$129,500 were approved and managed by ADWR during FY 1999-2000. In addition, previously approved multi-year augmentation and monitoring assistance projects received funding during the fiscal year. These projects totaled \$308,500 for augmentation (the Rillito and Canada del Oro recharge feasibility assessments) and \$34,250 for subsidence monitoring. The Conservation Assistance Program supported water conservation education workshops and outreach programs for all age groups, reuse of cooling tower blowdown water for landscape irrigation research, and an agricultural irrigation scheduling and management assistance program. AMA staff provide classroom instruction, participate in community conservation activities and provide conservation information to the public.
- **Assured Water Supply Program.** Tucson AMA staff completed the processing of the Interchange Water Company designation application during FY 1999-2000, bringing the total number of designated water providers in the AMA to seven. During FY 1999-2000, staff reviewed 14 applications for Certificates of AWS, nine of which resulted in issuance of a certificate during the fiscal year. Staff also prepared water demand summaries for each of the water providers serving the certificated subdivisions. Staff regularly provides assistance to assured water supply applicants, answers general questions about the program and reviews AWS annual reports.
- **Recharge Program.** Recharge permitting activity in the Tucson AMA continues. Tucson AMA staff held four pre-application meetings, one for a recovery well permit and three for underground storage facilities. Recharge-related applications reviewed included three facility permits, six water storage permits and three recovery well permits. Staff issued two of the water storage permits and one recovery well permit out of the applications submitted. By the end of FY 1999-2000, permits allowing the recharge of 133,486 acre-feet of CAP water and effluent had been issued and approximately 30,300 acre-feet of CAP water were stored in Underground Storage Facilities.
- **Second Management Plan Implementation.** Tucson AMA compliance activities in FY 1999-2000 included approximately 100 file audits, 11 office audits and 30 field inspections. One enforcement case was resolved through a stipulated agreement. Approximately 140 applications for administrative review and variance were filed in the Tucson AMA following adoption of the SMP. All applications have been resolved.
- **Third Management Plan Development.** During FY 1999-2000, the Tucson AMA planning staff finalized the Third Management Plan for the AMA, including a rehearing. The Plan was adopted in December 1999. Finalizing the Plan required a considerable amount of internal coordination, responding to public comments, revising the draft plan and informing the public on changes to the plan. AMA staff made important contributions to ADWR's overall efforts. Following adoption of the TMP, 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. The staff actively participates in local community discussions involving water quality and water management. Staff expended the most effort in FY 1999-2000 providing support to the Tucson AMA Safe-Yield Task Force.
- **Tucson AMA Safe-Yield Task Force.** The Tucson AMA serves as facilitator for and provides technical support to the Tucson AMA Safe-Yield Task Force, that was established to identify AMA water management problems and recommend potential solutions. This effort began in April 1999 and is ongoing. Over 60 public meetings were held during FY 1999-2000, requiring substantial staff time, including meeting facilitation, meeting notifications to almost 200 individuals, draft and review of issue papers, and development of technical background materials. Recommendations from the Task Force will be forwarded for consideration to the Governor's Water Management Commission and the Technical Advisory Committee to the Commission. Tucson AMA staff are actively involved in supporting the Commission.
- **Regional Recharge Planning Activities.** The Regional Recharge Planning Committee, a collaborative planning effort initiated by the Tucson AMA office and the Tucson GUAC to develop a coordinated approach to recharge activities in the Tucson AMA, issued a report on the costs of implementation of Proposition 200. Proposition 200 was on the November 1999 ballot and would have extended the restrictions on the direct delivery of CAP water. The report provided an objective evaluation of the costs associated with the proposition.
- **Southern Arizona Water Rights Settlement Act.** Southern Arizona Water Rights Settlement Act (SAWRSA) is intended to resolve water rights claims of the San Xavier and Schuk Toak Districts of the Tohono O'odham Nation in the Tucson AMA. Amendments to the 1982 Act are still under negotiation. The Tucson AMA Area Director has participated in these negotiations as a representative of ADWR and the Tucson AMA.
- **Regional Effluent Planning Partnership.** Tucson AMA staff participate in this effort to resolve effluent utilization issues in the Tucson AMA with a focus on developing projects designed to increase access to and use of effluent. Participants include the City of Tucson, Pima County, BOR and the Tucson Regional Water Council.
- **Southern Arizona Regional Water Management Study.** The Bureau of Reclamation, Pima County, water providers in the northwest Tucson metropolitan area and other entities are engaged in a water management study to evaluate renewable supply use alternatives for northwest area water providers. Tucson AMA staff serve on the study committee and have provided planning assistance and document review. The draft study has been completed and public education activities will take place in the next fiscal year.
- **Tucson AMA Subsidence Monitoring Study.** Tucson AMA staff continues to facilitate and provide technical and administrative support to this cooperative subsidence and aquifer monitoring program with the USGS, Pima County and the City of Tucson. This effort also involves soliciting input from other entities in the community and developing an ongoing monitoring plan. Tucson AMA monitoring assistance monies are providing partial funding for this project.

Santa Cruz Active Management Area

The Santa Cruz AMA was created by the Legislature in 1994. The Santa Cruz 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 Santa Cruz AMA is in the process of clarifying its water management goal, to better address the AMA's unique hydrologic, environmental and geographic characteristics. Currently, the Santa Cruz AMA is presumed to be at safe-yield. However, regional growth, both in Arizona and Sonora, will increase pressure on local water supplies.

AMA staff administers 133 water rights. Service area providers hold 14 of these rights, large providers hold four of these rights and small providers hold 10 rights.

AMA staff tracks water use in the AMA to assist in the development of water management programs. In 1999, approximately 63 percent of all water withdrawn from wells in the Santa Cruz AMA, or 14,898 acre-feet, were used for irrigation on forage and crops. About 5,300 acres of land are eligible for irrigation in the Santa Cruz AMA. However, a recent survey of agricultural users who actively irrigate indicates that the rate of agricultural land utilization is only about 40 percent, not including Rio Rico, which is by far the largest agricultural water user in the AMA.

Municipal providers served approximately 7,193 acre-feet of water in 1999. 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 1999.

The industrial sector accounted for six percent, or 1,469 acre-feet, of the reported water use in the AMA in 1999. 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, or are 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.

- Conservation and Augmentation Grants. The Santa Cruz AMA awarded nearly \$141,000 in Augmentation and Conservation Grants for the FY 1999-2000 cycle. These grant monies are used to assess water augmentation possibilities and provide conservation assistance to agricultural water users.
- Second Management Plan Implementation. Currently, all water providers within the Santa Cruz AMA are in compliance with the SMP conservation requirements.
- 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 Santa Cruz AMA.
- Third Management Plan Implementation. In December 1999, the Third Management Plan was adopted for the Santa Cruz AMA. The Third Management Plan is the first statutorily mandated plan that is specific to 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 Third Management Plan. The Third Management Plan conservation requirements become effective on January 1, 2002.

Groundwater Users Advisory Councils

The Code established a five-person Groundwater Users Advisory Council (GUAC) for each AMA. GUAC members are appointed by the Governor to serve six-year terms. The GUACs meet regularly to review groundwater management programs in their respective AMAs and provide advice to the Director and comment on management plans, proposed rules and pending legislation. GUAC members serving in FY 1999-2000 are listed below.

- Prescott AMA: John Olsen, Marvin Larson, Lincoln Hathaway, Brad Huza, Larry Tarkowski.
- Phoenix AMA: Stephen S. 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: Ron Morriss, Duke Petty, Sherry Sass, Roy Ross, Ron Fish.

Assured Water Supply and Recharge Programs

The Assured Water Supply and Recharge Programs require concerted efforts throughout ADWR. In addition to four staff members dedicated to the AWS and Recharge Programs, staff from each of the Active Management Areas, the Hydrology Division and the Legal Division contributes to the success of the programs. These "supply-side" programs are somewhat inter-related because several water suppliers undertake recharge activities as a means of satisfying AWS requirements. ADWR staff provides guidance to applicants and communities, evaluates filings, resolves legal questions, develops policy and maintains the operational aspects of each program.

Assured Water Supply Program

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 Assured Water Supply 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 Active Management Areas. The program is the regulatory component of the 1980 Groundwater Management Act that limits groundwater use in the AMAs. The Program also serves 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 the Department 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.

Rules enacted in February of 1995 have increased the use of renewable supplies and required replenishment of pumped groundwater for new subdivisions. Both of these activities aid in the reduction of Arizona's reliance on mined groundwater.

Application-related activity in FY 1999-2000 remained high, with the Department receiving 222 applications for Assured Water Supply or Water Adequacy. The number of applications filed remained consistent. However, the number of lots covered by certificate of assured water supply increased by 130 lots, for a total of 30,239 lots.

During FY 1999-2000, 67 new subdivisions comprising 18,803 lots enrolled in the Central Arizona Groundwater Replenishment District (CAGR) bringing the total to 287 subdivisions and 49,720 lots. Of the subdivisions enrolled in the CAGR this year, 82% are located 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.

In FY 1999-2000, Assured Water Supply Section staff:

- Processed applications for Certificates of Assured Water Supply 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 Adequate Water Supply concerns.
- Developed and evaluated various policy, procedural, rule and legislative proposals.
- Made possible the development of a policy to guide leases of Indian CAP water to municipal water users.
- Continued compliance with the licensing timeframes; to date only one application has exceeded a timeframe.
- Assisted in the development of legislation to revise requirements for extinguishment of irrigation grandfathered rights for assured water supply credit.

Recharge Program

In 1986, the Arizona Legislature established the Underground Water Storage and Recovery Program to allow entities with surplus supplies of water to store that water underground and to recover it at a later date for the storer's use. The Recharge Program has two primary goals:

- The direct use of renewable water over the use of groundwater
- The efficient and cost-effective management of water supplies by allowing the use of underground storage facilities for filtration and distribution of surface water.

Requests for recharge applications continued throughout FY 1999-2000. A total of 35 permits were issued for the Recharge Program in the Phoenix, Pinal and Tucson AMAs. Staff in the Recharge Program:

- Processed permit applications for underground storage facilities, groundwater savings facilities, water storage and recovery wells; at the end of FY 1999-2000, there were 38 permit applications in various stages of review in all AMAs.
- Continued the refinement of policy and the development of new procedures to streamline the application process.
- Continued outreach assistance to several entities and communities interested in participating in recharge activities.
- Supported activities related to the Arizona Water Banking Authority.
- Prepared annual report forms, evaluated completed forms, and calculated long-term storage (recharge) credit balances.

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 those permits for mine tailing dams.

Colorado River

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 2,800,000 acre-feet of Colorado River water. This entitlement is Arizona's water supply for future growth and is critical to the state's progressive water management policies.

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

To support the major activities related to the Colorado River in FY 1999-2000, ADWR staff:

- Served on and provided technical support to several interstate and interagency committees, including the:
 - Colorado River Management Work Group for the Annual Operating Plan.
 - Seven Basin States / Ten Tribes Committee.
 - Yuma Area Management Group.
 - Lower Colorado River Multi-Species Conservation Program (MSCP) Steering Committee and Work Group.
 - Colorado River Basin Salinity Control Forum and Work Group.
 - Lower Colorado River Program Management Work Group.
 - The Glen Canyon Adaptive Management Work Group Federal Advisory Committee.
- Conferred with several entities regarding contracts for mainstream Colorado River water including:
 - Arizona State Land Department, for both irrigation and M&I.
 - Bureau of Land Management, for both California and Arizona.
 - Havasu Water Company.
 - Brooke Water Company LLC.
 - Yuma Proving Ground.
 - Gila Project irrigation districts.
 - Mohave Valley Irrigation and Drainage District.
- Continued to develop an inventory of water use along the Colorado River to maintain the most current information on the location of diversions and amounts and types of water uses. Staff created specially designed tables, forms, and reports to automate the data input process, the search for information and the formatting of output data. This information, together with the Geographic Information System maps showing irrigation district boundaries and municipal water service area boundaries, provides a comprehensive collection of data on the direct use of Colorado River water. The information will be used to advise the public and develop state policy with regard to future federal actions and long-term water allocation issues.
- Continued to participate in the multi-state, multi-agency development of the Lower Colorado River Multi-Species Conservation Program (MSCP) in response to the USFWS designation of critical habitat for endangered native fishes of the Colorado River in 1994, and subsequent biological opinion associated with lower Colorado River operations in 1997. Specific activities included:
 - Preparation of compliance documents for public scoping and alternatives for a draft environmental impact statement pursuant to the National Environmental Policy Act.

- Preparation of an analysis of lower Colorado River habitat restoration sites, technologies, water consumptive use needs, and engineering and construction costs.
- Consultant preparation of a draft habitat and species conservation strategy for the MSCP.
- Continued involvement in ongoing consultations with agricultural districts, local communities and mainstream tribes, including Fort Mojave, Colorado River, Chemehuevi, Cocopah and Quechan Indian Tribes, regarding potential habitat restoration activities through the MSCP.
- Continued to serve on the Glen Canyon Dam Adaptive Management Work Group Federal Advisory Committee. Based upon the Record of Decision signed by the Secretary, at the conclusion of the Glen Canyon Dam Environmental Impact Statement process, the Adaptive Management Work Group is charged with developing recommendations regarding the management of Glen Canyon Dam and the downstream resources in the Glen, Marble and Grand Canyon reaches of the Colorado River.
- Prepared and submitted final recommendations to the Secretary of the Interior regarding the reallocation of 65,647 acre-feet of CAP M&I use water. The process included the evaluation of projected populations and water demands of 26 water providers located within the CAP service area, a public notice of ADWR's draft recommendation, consideration of submitted, public comments, and development of the final recommendation.
- Continued to develop policies to govern the transfer of Colorado River entitlements. ADWR held meetings in three river communities to notify the public of the Department's intent to develop the policy and to obtain public input. Once ADWR completes its internal review of the draft policy, it will be available to the public for review and comments.
- Continued to develop the proposed transfers of four water providers' CAP entitlements and in the continued oversight of four CAP trust funds. Recent CAP transfer activity includes the transfer of the following entity's entitlements:
 - Litchfield Park Service Company.
 - New River Utility.
 - Sunrise Water Company.
 - West End Water Company.
- Evaluated each proposed transfer in accordance with its 1996 CAP transfer policy. The evaluations include the assessment of projected populations and water demand, hydrologic evaluation of projected groundwater supplies, impacts of continued groundwater pumping and projected recharge impacts, service area acquisition and groundwater replenishment obligations. The transfer process also includes a public notification component.
- Continued oversight in accordance with trust fund agreements associated with the transfer of CAP entitlements from outside CAP service area subcontractors to inside service area subcontractors. The role of overseeing the use of transfer funds was given to the Department. The Department has reviewed and approved proposed water improvement projects for Nogales, Cottonwood, Camp Verde and Mayer. It currently monitors the project expenditures for these four entities and tracks their monthly trust fund activities.
- Provided oversight and analysis of proposals to manage groundwater drainage operations in the Yuma area. Working together with the Bureau of Reclamation and local water users' associations and irrigation districts, ADWR staff made conceptual agreements to increase the efficiency of the groundwater drainage well operations and to improve and consolidate return flow accounting for the area.
- Continued cooperative efforts with the seven-state Colorado River Basin Salinity Control Forum. The Forum is a cooperative effort between Federal and state agencies, and local communities to meet the objective of maintaining salinity concentrations on the Colorado River at or below the established numeric criteria while the Colorado River Basin states continue to develop their compact-apportioned waters.

Flood Mitigation

The Surface Water Division assists in the mitigation of the effects of floods 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 arise as a result of their participation in the NFIP. During FY 1999-2000, the Surface Water Management Division staff:

- Provided assistance to the City of Sierra Vista to correct and update their Flood Insurance Rate Maps (FIRMs).
- Provided assistance to the Cochise County and the City of Willcox to correct and update their FIRMs.
- Conducted four workshops for public officials on floodplain management and the NFIP.
- Prepared and distributed four floodplain management newsletters for local officials.
- Visited 15 communities to assist with floodplain management activities and ensure their understanding of and compliance with the NFIP and Arizona Revised Statutes.
- Participated in meetings regarding the Tres Rios Project.
- Met with study contractors and communities regarding floodplain mapping issues.
- Continued the revision of the Handbook for Arizona Communities on Floodplain Management and the National Flood Insurance Program.
- Provided technical assistance to private citizens with concerns about floodplain management and flood insurance.
- Chaired and met regularly with the State Standards Work Group (SSWG). SSWG received \$67,000 in contributions from six counties, one town and two volunteer organizations to fund efforts of the SSWG.
- Adopted and distributed State Standard for Stormwater Detention / Retention and completed the planning for training in four locations across the state on the use of this standard:
- Executed a one-year consulting contract to develop a new state standard on Hydraulic Modeling.

Flood Warning

In 1994, the Legislature authorized ADWR to develop flood warning systems throughout the state. During FY 1999-2000 ADWR staff:

- Chaired and met regularly with the Arizona Flood Warning System—Multi-Agency Task Force to coordinate statewide efforts on flood warning.
- Under terms of the cooperative agreement with the U.S. Army Corps of Engineers (COE), completed Phase I of the Arizona Statewide Flood Warning System (AFWS). Phase I includes a high bandwidth computer/communication system that links the four National Weather Service offices (Phoenix, Tucson, Flagstaff, Las Vegas) that serve Arizona and provides access to this information to all 15 Arizona counties.
- Completed the final design of Phase II of the AFWS, in conjunction with the COE. Phase II includes the installation of up to 70 new real-time stream and rain gages throughout the state. The COE expects to award the construction contract in October 2000.
- Under contract to Yavapai and Coconino Counties, provided semi-annual maintenance of the Sedona Flood Warning System.

- Executed a one-year agreement with the Arizona Division of Emergency Management (ADEM) to maintain the Clifton Flood Warning System and train the Clifton personnel who will be responsible for the future maintenance of the system.
- In conjunction with the National Weather Service, ADEM, Salt River Project and others began planning a Statewide Flood Exercise Training event to take place in November 2000.

Dam Safety

The Department oversees the design, construction, operation and maintenance of non-federal dams in Arizona, excluding those permits for mine tailing dams for dams 25 feet or more in height or with a storage capacity of more than 50 acre-feet.

At the end of FY 1999-2000, there were 233 dams under state jurisdiction. During FY 1999-2000, the Department activities included site inspections related to applications, construction monitoring, and operations for 361 dams, including the investigation of 162 unregistered dams by the field investigations support group. Surface Water Division staff:

- Conducted detailed reviews of 13 applications to construct new dams.
- Conducted detailed reviews of four applications to repair or alter existing safe dams.
- Conducted detailed reviews of five applications to repair existing unsafe dams.
- Monitored the construction of 12 dams.
- Investigated 162 unregistered barriers to determine jurisdictional status.
- Adopted revised rules for dam safety procedures.

Surface Water Permits

During FY 1999-2000 Surface Water Division staff:

- Received 18 new applications for Permits to Appropriate.
- Issued 16 Permits to Appropriate.
- Reviewed one amendment to an Application or Permit to Appropriate Public Water.
- Issued, reissued or revised 71 Certificates of Water Rights.
- Received 521 requests for assignment; 296 requests for assignment were completed.
- Received 45 new Statements of Claim of Right.
- Received 34 amendments to Statements of Claim to Right.
- Received seven new claims for Stockpond Rights.
- Processed 22 amendments to claims for Stockpond Rights.
- Issued four Certificates of Stockpond Right.

INDEPENDENT BOARDS

To help to 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 to protect and enhance the state's water supply.

Arizona Water Banking Authority (AWBA)

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 2,800,000 acre-feet 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 million acre-feet. Most of that water would have gone to southern California.

A five-person Authority directs the activities of the AWBA. The Director of the Department chairs the AWBA and members include the President of the Board of the CAWCD and three persons appointed by the Governor. By law, of these appointments, one person represents CAP Municipal & Industrial 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, 2000.

Arizona Water Protection Fund Commission

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

A 15-member commission appointed by the Governor, Senate President, Speaker of the House, the 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. Commission members represent a wide 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 NRCDs. State law directs the Commission to give priority to projects that include matching money from other sources, provide long-term project maintenance and include broad-based public support. Funding categories include:

- Capital projects, water acquisition and other measures.
- Water conservation (Limited to five percent each of the available annual funding).
- Research and data collection.

The Commission holds bi-monthly public meetings at locations throughout the state. Those wishing to address the Commission do not need to request permission in advance. Meetings begin and end with a "call to the public" that provides individuals and organizations with the opportunity to address the Commission on riparian issues of local concern.

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 because a few projects have terminated prematurely due to unanticipated technical and administrative problems. AWPf 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, natural resource conservation districts, non-profit organizations and individuals. The Commission released an Annual Report to the Governor and the Arizona State Legislature on July 1, 2000.

ABBREVIATION INDEX

ADEQ	Arizona Department of Environmental Quality
AF	Acre-Feet
AMA	Active Management Area
ADRE	Arizona Department of Real Estate
AMWUA	Arizona Municipal Water Users Association
A.R.S.	Arizona Revised Statutes
AWBA	Arizona Water Banking Authority
AWC	Arizona Water Company
AWPF	Arizona Water Protection Fund
AWS	Assured Water Supply
CAGR D	Central Arizona Groundwater Replenishment District
CAP	Central Arizona Project
CAWCD	Central Arizona Water Conservation District
CAWS	Certificate of Assured Water Supply
CEC	Commission for Environmental Cooperation
Code	Groundwater Management Code
CMID	Cortaro-Marana Irrigation District
COE	United States Corps of Engineers
CVID	Chino Valley Irrigation District
Department	Arizona Department of Water Resources
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRMs	Flood Insurance Rate Maps
GIS	Geographic Information Systems
GRRC	Governor's Regulatory Review Council
GUAC	Groundwater Users Advisory Council
GWSI	Groundwater Site Inventory
HSR	Hydrographic Survey Reports
ICMs	Interim Conservation Methods
IGFR	Irrigation Grandfathered Right
IMS	Irrigation Management Service
INA	Irrigation Non-Expansion Area
IPAG	Institutional and Policy Advisory Group
M&I	Municipal and Industrial
MSCP	Multi-Species Conservation Program
NAFTA	North American Free Trade Agreement
NFIP	National Flood Insurance Program
NGCWP	Northern Gila County Water Plan
NPCCP	Non-Per Capita Conservation Program
NRCD	Natural Resources Conservation District
OAH	Office of Administrative Hearings
PCWAA	Pinal County Water Augmentation Authority
REPP	Regional Effluent Planning Partnership
RRP	Regional Recharge Plan
SAWRSA	Southern Arizona Water Rights Settlement Act
Secretary	Secretary of the Interior
SRP	Salt River Project
SMP	Second Management Plan
TMP	Third Management Plan
UAAP	Uniform Administrative Appeal Procedure
USCWUG	Upper Santa Cruz Water Users Group
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Society
WQARF	Water Quality Assurance Revolving Fund

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