

**STATE OF ARIZONA**

**DEPARTMENT  
OF  
WATER RESOURCES**

[www.water.az.gov](http://www.water.az.gov)

**ANNUAL REPORT**

**Fiscal Year 2002**

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# **ARIZONA DEPARTMENT OF WATER RESOURCES**

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

## **Mission Statement**

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

## **Goals**

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

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

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

## **DIVISIONS**

ADWR is organized into five divisions, each with distinct responsibilities that support ADWR's mission:

- Legal Division
- Information Technology Division
- Statewide Water Planning Division
- Hydrology Division
- Groundwater Management Division

Supporting each division is the Office of the Director, which provides policy direction and management services, and the Office of Finance and Administration, which provides centralized general support to ADWR. Prior to the budget cuts for the FY 2002 Budget, ADWR had a sixth division, surface water, which was eliminated due to legislative General Fund budget reductions.

## **Office of the Director**

ADWR was involved in a variety of activities and events during FY 2002. The Governor's Water Management Commission (Commission) completed its report and submitted its findings to the Governor in December 2001. Legislation providing for the assessment of the development of an Agricultural Best Management Practices (BMP) Program was enacted into law. This legislation also established a statutory irrigation efficiency for the agricultural sector, thereby ending a decades long debate between the ADWR and the agricultural sector.

Although major policy issues were addressed, the greatest challenge faced by the ADWR management team was to implement several Agency budget reductions due to the reappropriation of the FY 2002 General Fund budget.

### *Budget*

The Agency's staffing authorization has significantly decreased over the last 12 years, despite a 47 percent increase in the State's population. ADWR has absorbed not only the increased workload associated with the population increase, but also has had a number of additional, unfunded statutory responsibilities, regulatory responsibilities and programs mandated by the Legislature. ADWR has also had to internally fund increases in rent, software licensing, mandates by the court, lawsuit settlements and the increased costs associated with simply "doing business."

The tables on the following pages will help to illustrate the fiscal challenges confronting the Department. It is important to note that although funding and staffing have been reduced significantly, no statutory responsibilities or statutorily mandated programs have been eliminated.

Table I, "Change in Arizona Population vs. Change in Full Time Equivalent (FTE) Employees," found on Page 4i, shows that although the population of the State of Arizona increased by approximately 47 percent between 1990 and 2002, the number of FTES to serve that population declined by approximately 10 percent. The majority of this increase occurred in Active Management Areas in which the Department has the responsibility for assuring that new subdivisions provide a 100-year assured water supply based on renewable water supplies. Although the workload increase is directly correlated to population increase, additional staffing to meet the increased workload was not provided.

The increase in population also created new constituencies that required and demanded new programs. During the last decade, not only was the Assured Water Supply Program implemented, but statutes establishing the Arizona Water Banking Authority, the Arizona Water Protection Fund, the Arizona Rural Watershed Program and a number of other responsibilities were also enacted. No additional funding for staff or increased expenses was provided for these programs.

Table II, on Page 4ii, "General Fund Revenues vs. Agency Appropriation," illustrates the relation of the Arizona Department of Water Resources appropriations to the overall General Fund revenues. Although General Fund revenues have seen a net increase of approximately 45 percent in constant 1990 dollars between 1990 and 2002, the Department's General Fund appropriation decreased in constant 1990 dollars by approximately 10 percent. Increases in State spending have not manifested themselves at the Department. The increases in 1996 and in 2000 resulted from employee pay increases. The 2000 pay increase resulted from a market adjustment to help to bring the salaries of water resource technicians in line with technicians in the private sector to help to minimize the costs to the State associated with employee turnover.

Table III, "FY 02 Agency Appropriation Changes," found on Page 4iii, illustrates that the Department of Water Resources budget sustained a 20 percent reduction after recent budget cuts. This reduction will result in a reduction in service level to the public.

In summary, the Department for a number of years will feel the impacts of recent budget cuts. Attracting and retaining qualified staff will present a significant challenge in the future. The level of service that the public has come to expect from Department staff will be reduced.

## *Key Legislative Issues*

### Governor's Water Management Commission Recommendations

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

In essence, the Commission concluded that the goals and legal framework of the Code are sound and endorsed the individual AMA management goals. The Commission made a number of recommendations related to the Central Arizona Groundwater Replenishment District, well impacts and spacing, exempt wells, reductions in municipal and industrial groundwater use, replenishment, the Arizona Water Protection Fund (AWPF), and the Arizona Water Banking Authority (AWBA). The Commission forwarded the recommendations requiring legislative action to the Legislature. Legislation was introduced in both the House of Representatives (HB2584 and HB2653) and the Senate (SB1344 and SB1355) to implement the recommendations. However, due to the complexity of the issues contained in the legislation, and the magnitude of the budget shortfall, the sponsors opted to withdraw the legislation for the FY 2002 session.

The key provisions of the legislation are summarized below:

- Central Arizona Groundwater Replenishment District (CAGRDR)
  - Require the CAGRDR to establish a "Replenishment Reserve" of up to 20 percent of the CAGRDR's 100-year replenishment obligation. This provision is intended to address concerns regarding the ability of the CAGRDR to meet its replenishment obligations at a reasonable cost, without causing competition between the CAGRDR and municipal water providers for long-term water rights. Developers requesting a Certificate of Assured Water Supply (CAWS) would pay approximately 10 percent of the cost of the reserve for their subdivision as part of their CAGRDR enrollment fee.
  - Clarify the priorities for the use of excess Colorado River water for the CAGRDR's replenishment reserve and the AWBA's municipal and industrial firming supplies. This provision clarifies that the priority for the use of Excess Colorado River Water for the proposed "replenishment reserve" is equal to the use of the same water by the Arizona Water Banking Authority for firming of municipal and industrial water supplies in the Central Arizona Project (CAP) service area. However, the proposal does not supercede existing Priority 5 and 6 users along the Colorado River.
  - Extend the CAGRDR's Plan for Operation to a 100-year planning horizon and provide criteria for ADWR review and approval of the Plan. This requirement addresses concerns that, while CAGRDR enrollment can be used by municipal providers and subdivisions to meet 100-year Assured Water Supply (AWS) requirements, there are no comparable long-term planning requirements for the CAGRDR. The proposed requirement parallels the 100-year planning horizon and 20-year identification of water supplies recently approved by the Central Arizona Water Conservation District (CAWCD) Board.
  - Allow member service areas to de-enroll from the CAGRDR if the service area demonstrates that it has an alternative water supply to replace its reliance on the CAGRDR. This provision lessens administrative burdens on both the member service area and the CAGRDR, as well as the "cloud" associated with being a CAGRDR member service area, for member service areas that no longer require the CAGRDR's services.
  - Authorize municipal and industrial water users with replenishment requirements to enroll in the

CAGR. Currently, only municipal water providers and subdivisions regulated under the AWS rules are eligible for CAGR enrollment. This allows municipal and industrial water users with new replenishment requirements to use CAGR services to meet replenishment requirements.

- Repeal the unused authorization for an AMA water district pursuant to Title 48, Chapter 28. These statutes are no longer necessary since the entity is no longer operational. The language had authorized the creation of the Santa Cruz Valley Water District, which was dissolved by its members in 1994.
- Well Impact/Spacing and Exempt Wells
  - Adopt riparian area protection zones to protect certain designated streams and cienegas within the five AMAs. Authorize the AWPF to review listed riparian areas and designated protection zones and recommend modifications, through a public process, to the Legislature. This section would designate the 37 riparian areas with a ½ mile buffer area for limited protection from the potential impacts of certain new exempt and non-exempt wells proposed within the boundaries of the buffer area.
  - Restrict certain new exempt and non-exempt wells that may adversely impact designated riparian areas located within an AMA. This provision is related to the above provision requiring legislative adoption of maps showing designated riparian areas within the five AMAs. Exemptions from these restrictions include: existing wells, replacement wells within 660 feet, stock watering wells, domestic exempt wells for less than two acre-feet per year if no municipal service is available, agricultural and Type 1 rights if there is no reasonable alternative supply, wells withdrawing surface water, and wells that are determined to have no impact on the riparian area.
  - Require the Director of ADWR to adopt rules establishing criteria to determine if proposed exempt and non-exempt wells in a designated riparian area protection zone adversely impact the riparian area.
  - Authorize the Director of ADWR to assess the cumulative impacts of multiple wells drilled by an applicant in approximately the same location. This provision addresses concerns that the cumulative impacts of proposed wells recently issued, or currently pending, to the same applicant in the same area could cause unreasonably adverse impacts on other well owners. The legislation requires ADWR to undertake a rule-making process, in cooperation with interested parties, prior to implementation of this provision.
  - Direct ADWR's Director to form advisory groups to review available data and develop proposed review standards for criteria affecting well impact rules.
  - Reduce the maximum pump capacity of new exempt wells from 35 gallons to 20 gallons per minute. Within the AMAs, the proliferation of exempt wells is a local concern, especially within areas with sensitive water supplies. This provision would only apply to exempt wells that file a Notice of Intention to Drill (NOID) after the effective date of the legislation. ADWR would be authorized to require monitoring for those new higher volume exempt wells.
  - Increase the processing time frame for exempt well permits from the current 15 day limit to a longer time frame only for those applicants who request a higher pump capacity or for those wells affected by the new riparian area protection well permitting requirements.
  - Prohibit new exempt wells that file a NOID after the effective date of the legislation from being drilled within a municipal water provider's service area (city, town, and private water or irrigation district delivering water for potable uses) unless the municipal water provider denies service. This provision addresses current problems that municipal water providers encounter with including an exempt well, whose owner may be difficult to locate or unwilling to sign a waiver, in an impact analysis. Service

area means the physical extent of the provider's potable water system, rather than political boundaries or Certificate of Convenience and Necessity boundaries.

- Require existing exempt well owners to file an objection within 30 days to an application for a new non-exempt well. If the exempt well owner protests and the municipal provider offers a no-cost service connection to the exempt well owner, the Director shall not consider the impact of the new non-exempt well on the exempt well. This provision would only apply to existing exempt wells that file a NOID prior to the effective date of this legislation and new non-exempt wells that submit an application after the effective date of this legislation.
- Authorize existing exempt well owners whose well has gone dry, contrary to the conclusions of the well impact analysis for a non-exempt well, to seek recourse, through a civil action in Superior Court, against the non-exempt well owner. This section allows an exempt well owner to seek recourse against a non-exempt well that has caused the exempt well to go dry due to an incorrect well impact analysis. This would only apply to existing exempt wells that file a NOID prior to the effective date of this legislation and new non-exempt wells that submit an application after the effective date of this legislation.
- Require the Director of ADWR to disregard the impact of a new non-exempt well on a new exempt wells for new exempt wells that file a NOID or were drilled after the effective date of this legislation and new non-exempt wells that submit an application after the effective date of this legislation.
- Reductions in Municipal and Industrial Groundwater Use
  - Require certain existing M&I groundwater users in the Phoenix, Prescott and Tucson AMAs (and under certain conditions in the Pinal and Santa Cruz AMAs) to pay a "Mined Groundwater Tax". While some municipal providers and subdivisions are required to have a 100-year AWS, other users can pump groundwater in perpetuity. This recommendation, along with the replenishment requirement provision below, is intended to equalize current requirements for different water users to contribute to reaching the AMAs' management goals. The tax would be phased in, from \$2.00 to \$20.00 per acre-foot, over a 10-year period. The tax would be on a percentage of mined groundwater: 50 percent for municipal users and 25 percent for industrial users. In affected service areas, a residential customer's water bill increase would typically average between four and 30 cents per month when the tax is fully phased in after 10 years. Certain exemptions are provided.
  - Establish a mechanism for the "Mined Groundwater Tax" to be used in the AMA in which it is collected for groundwater recharge or water resource planning and technical investigations.
  - Require certain new M&I groundwater users in the Prescott AMA to pay a "Mined Groundwater Tax", 1.5 times the rate required above for 100 percent of the mined groundwater until a renewable or alternative water supply is available for replenishment. This provision recognizes that there are currently no alternative water supplies or replenishment mechanisms, such as the CAGR, in the Prescott AMA. Certain exemptions are provided.
- Replenishment Requirement
  - Require certain new M&I groundwater users in the Phoenix, Pinal, Prescott and Tucson AMAs (and under certain conditions, in the Santa Cruz AMA) to either use renewable supplies or have a phased-in 100 percent replenishment obligation by 2025 (2040 in the Pinal AMA). Certain exemptions are provided.
  - Require new General Industrial Use Permits or Mineral Extraction and Metallurgical Processing Permits to replenish all groundwater used in the Phoenix, Pinal, and Tucson AMAs (and, under certain

conditions, in the Prescott and Santa Cruz AMAs) after 2025 (2040 in the Pinal AMA). This provision, like the groundwater mining tax and replenishment obligation provisions, is intended to require all new M&I uses to contribute to the management goals by either using renewable supplies or replenishing mined groundwater.

- Authorize M&I water users in the Phoenix, Pinal and Tucson AMAs, required to replenishment under these provisions, to enroll in the CAGRDR.
- Arizona Water Protection Fund (AWPF)
  - Authorize the AWPF to control part of the revenues in its interest account and define a process in which the AWPF Commission and ADWR cooperatively develop an annual administrative budget and to have input on the use of interest earnings on the AWPF account, which is currently managed by ADWR.
  - Authorize the AWPF to grant money for purchase of water rights and conservation easements.
- Arizona Water Banking Authority
  - Clarify that the CAWCD Board determines the amount of long-term storage credits, earned via the four-percent ad-valorem tax, that need to be transferred to CAWCD by the AWBA.
- State of the Active Management Area Report
  - Require ADWR to submit a State of the AMA Report every five years. AMAs want to provide the most current information on the ability of the AMAs to reach management goals.
  - Require ADWR to submit a Biennial Water Management Report to the Governor and the Legislature summarizing the latest State of the AMA Report and the progress in achieving the AMA management goals. This recommendation is intended to provide key information to the Executive and Legislative branches of government on current water issues and data.

## Agricultural Best Management Practices Program

Laws 2002, Chapter 5, First Regular Session, 45<sup>th</sup> Legislature. HB 2022 Water Management resulted from an agreement between ADWR and agricultural community representatives regarding agricultural water conservation requirements. The legislation:

- Set the seasonal irrigation efficiency standard at 80 percent on lands without specified limiting conditions for the Third, Fourth and Fifth Active Management Area management plans.
- Modified the language authorizing the Director to reduce the top 25 percent of the water duties within an area of similar farming conditions.
- Modified where flex credits may be transferred, by whom, and the time period for transfer.
- Required adoption of a Best Management Practices Program for the Third Management Plan and authorized a Best Management Practices Program for the Fourth and Fifth Management Plans.

### *Arizona Water Resources Advisory Board Recommendations*

State statute requires that the Arizona Water Resources Advisory Board (AWRAB) recommendations for legislative changes be included in ADWR's Annual Report. This year, the AWRAB did not make any recommendations. Legislation authorizing the continuation of the AWRAB did not pass and the board terminated on July 1, 2002.

## **Legal Division**

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

### *Litigation*

ADWR's Legal Division prosecutes and defends all court actions where Departmental interests are at stake, except tort actions against ADWR. The Risk Management Division, Arizona Department of Administration, accepts this defense through the Attorney General's Office.

### *Administrative Hearings*

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

### *General Stream Adjudications*

There are two ongoing general stream adjudications in Arizona. These large court actions attempt to quantify and prioritize the rights of all competing water claimants in both the Little Colorado and Gila River systems. The Gila River General Stream Adjudication is currently assigned to the Maricopa County Superior Court. The Little Colorado River General Stream Adjudication is being conducted in Apache County Superior Court. ADWR provides both administrative and technical support to the courts as directed by statute.

### *Administrative Rule Making*

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

### *Financial Grant Programs and Contracts*

ADWR administers the Conservation Assistance and Augmentation and AWPf grants programs. The Legal Division provides legal assistance to both these programs. The Legal Division also reviews all contracts entered into on behalf of the ADWR, including contracts entered into on behalf of the Arizona Water Banking Authority and the Arizona Water Protection Fund.

## **Information Technology Division**

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

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

## **Statewide Water Resources Planning Division**

Though most of ADWR's regulatory focus is on the five AMAs, ADWR assists with water resource planning statewide. In FY 2002, ADWR provided planning assistance to areas that have expanding populations, limited groundwater resources and unique environmental features. ADWR assisted citizen organizations and local governments by providing technical information and analysis, and administrative support on water issues. This Division worked with rural watersheds to implement the Governor's Arizona Rural Watershed Initiative.

The Division also performs water quality related functions for ADWR, including water management policy implementation for federal and State Superfund sites, evaluation of new wells in areas of poor quality groundwater and implementation of other mandated water quality programs. Staff also works cooperatively with the Arizona Department of Environmental Quality with such activities as rule and program development.

## **Hydrology Division**

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

### *Groundwater Modeling Section*

The Groundwater Modeling Section develops numerical groundwater flow models that approximate regional groundwater movement for various areas in the State. Most of the modeling studies have been concentrated in the AMAs, however, models have also been constructed for other water sensitive areas in the State. After successful calibration and peer review, a groundwater flow model can be used as a planning tool by water resource managers. Working with water resource planners, Groundwater Modeling Section hydrologists can develop model data sets that reflect future conditions that planners believe may exist. Future urban growth patterns, pumping stresses, recharge projects and changing water use patterns can be included in these data sets. The results of future scenario runs can be viewed and management decisions evaluated as to their potential impacts on the modeled area.

### *Technical Support Section*

The Technical Support Section is composed of two units: the Arizona Water Fund Support Unit and the Notice of Intent to Drill, Permits and Hydrologic Support Unit.

### *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.

### *Field Services Section*

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

The Basic Data Unit collects groundwater and surface water information across the State. The ASLSM Unit was formed to use Global Positioning System and gravity survey technology to support various ADWR programs such as subsidence monitoring, Water Quality Assurance Revolving Fund 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 primary function of the GIS Unit is to make the information from the core ADWR databases readily accessible. Other goals include providing database tools and training, insuring GIS database compatibility and assisting in data collection, organization and analysis. The GIS Unit intends to provide information on water supply and demand from all ADWR databases to all stakeholders quickly, conveniently, clearly, completely and consistently with ADWR policy.

The ASLSM Unit provides 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 United States Geological Survey, Maricopa County and other State agencies, and has established an extensive network of data collection points in Maricopa, Pinal, Pima and Santa Cruz Counties.

### *Water Resources Section*

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

private water providers wishing to become designated or maintain an existing Designation of an Assured or Adequate Water Supply must also demonstrate the physical availability of their water supplies.

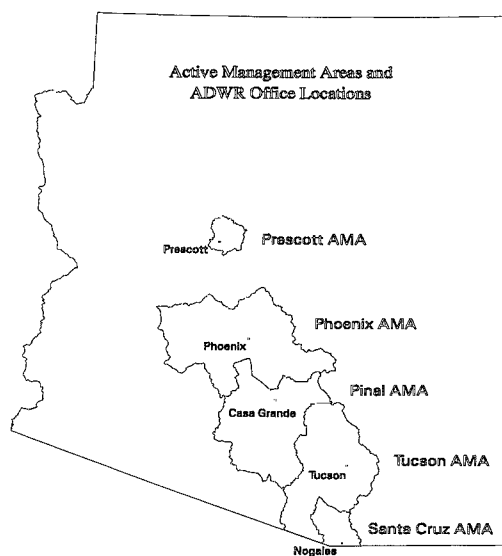
This Section provides technical assistance for implementation of the Assured and Adequate Water Supply Rules. In conformance with the *Guidelines for Hydrologic Studies*, the Section is responsible for directing private consultants and public agencies with the preparation of hydrologic studies and reports which are submitted for review in support of the various assured and adequate water supply applications. In applications for subdivisions consisting of 20 lots or less, or if the land is unsubdivided, the Section performs that analyses for the applicant. The primary purpose of all reviews performed is to assure the hydrologic availability of the water supply for the intended uses and compliance with hydrologic criteria established by ADWR for determination of an assured or adequate water supply.

## Groundwater Management Division

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

### Active Management Areas

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



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

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

### *Groundwater Users Advisory Councils*

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

### *Assured Water Supply Program*

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

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

Outside of AMAs, new subdivisions, prior to plat approval from the Arizona Department of Real Estate, must obtain a Certificate of Adequate Water Supply from ADWR that describes the availability of water for 100 years. Although lots may be sold even if the water supply is inadequate, the first prospective buyer must be informed of the water inadequacy. Subsequent buyers must review the public record for the property this information; the title company does not routinely provide this information.

## **INDEPENDENT BOARDS**

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

### **Arizona Water Banking Authority**

For more than 70 years, Arizona leaders have worked to ensure that the State's communities will have dependable, long-term water supplies. In 1996, the Arizona Legislature created the Arizona Water Banking Authority to ensure full use of the State's 2.8 million 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 calendar year 2030. During that interim period, the accumulated water left in the Colorado River would have amounted to approximately 14 maf. Most of that water would have gone to southern California.

A five-person Authority directs the activities of the AWBA. The Director of ADWR chairs the AWBA. Members include the Central Arizona Water Conservation District Board President and three persons appointed by the Governor. By law, of these appointments, one person represents Central Arizona Project Municipal and 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, 2002.

## Arizona Water Protection Fund Commission

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

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

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

Over the past five funding cycles, the Commission has selected 125 projects with awards totaling \$24,000,000. Grant awards to date exceed total appropriations because of interest accrued on deposits and a few projects have terminated due to unanticipated technical and administrative problems. AWPFC projects are located in every county in Arizona. Any person or organization may apply for funding. Successful applicants include municipalities, Indian tribes, State agencies, universities, NRCs, non-profit organizations and individuals. The Commission released an Annual Report to the Governor and the Arizona State Legislature on January 1, 2002.

## ABBREVIATION INDEX

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

*Please visit the Arizona Department of Water Resources website at [www.water.az.gov](http://www.water.az.gov)*