

State of Arizona

**DEPARTMENT OF
WATER RESOURCES**



ANNUAL REPORT

Fiscal Year 2014

JANICE K. BREWER
Governor



Michael J. Lacey
Director

ARIZONA DEPARTMENT of WATER RESOURCES
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July 1, 2014

The Honorable Janice K. Brewer
Governor of Arizona
1700 West Washington Street
Phoenix, AZ 85007

The Honorable Andy Biggs
President, Arizona State Senate
1700 West Washington, Suite 205
Phoenix, AZ 85007

The Honorable Andy Tobin
Speaker, Arizona House of Representatives
1700 West Washington, Suite 221
Phoenix, AZ 85007

Dear Governor Brewer, President Biggs, and Speaker Tobin:

I am pleased to submit to you the Department of Water Resources Annual Report for Fiscal Year 2014 as required by A.R.S. §45-111. This report includes an overview of the Department's functions, water management challenges as well as our accomplishments between July 1, 2013 and June 30, 2014.

The Arizona Department of Water Resources is proud of our accomplishments during Fiscal Year 2014 and will continue to implement Arizona's water management laws and programs to secure the State's long-term dependable water supplies. While challenges to providing a sustainable water supply are numerous, the Department continues to make progress toward this goal. Competition for water throughout the Southwest United States continues to increase and Arizona must continue to be vigilant to protect its water rights, particularly its rights to Colorado River water. It is essential that our State continue to play a prominent role in Colorado River water supply, operations and allocation issues, as well as continue to protect Arizona's groundwater and surface water supplies for future generations.

Sincerely,


Michael J. Lacey
Director

ADWR'S OPERATIONS

In 1980, the Arizona Department of Water Resources (ADWR) was created to ensure dependable long-term water supplies for Arizona's growing communities. ADWR succeeded the "authority, powers, duties and responsibilities of the Arizona Water Commission and the State Water Engineer relating to surface water, groundwater and dams and reservoirs." A.R.S. § 45-103(A). The Director of ADWR "has general control and supervision of surface water, its appropriation and distribution, and of groundwater to the extent provided by this title, except distribution of water reserved to special officers appointed by courts under existing judgments or decrees." A.R.S. § 45-103(B). Further, the Director is authorized, for and on behalf of the State of Arizona, to consult, advise and cooperate with the United States on issues related to the Colorado River. A.R.S. § 45-107.

To carry out its statutory responsibilities, ADWR administers state water laws (except those related to water quality), explores methods of augmenting water supplies to meet future demands, and works to develop public policies that promote conservation and equitable distribution of water. ADWR oversees the use of surface and groundwater resources under state jurisdiction and negotiates with external political entities to protect and augment Arizona's water supply.

Arizona's water supplies consist of: Surface water, including Colorado River water and In-State rivers; groundwater; reclaimed water (also known as effluent).

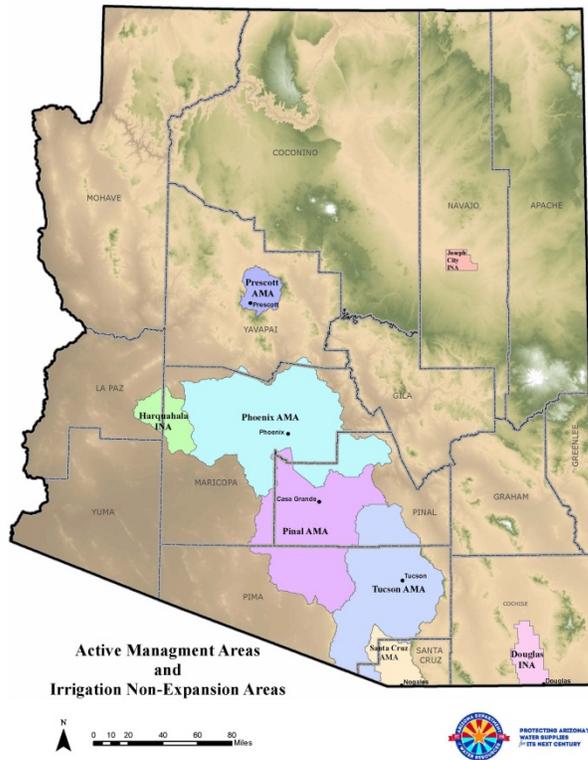
Arizona's Annual Water Supply Budget			
Water Source	Million Acre-Feet (maf)		% of Total
SURFACE WATER			59.1%
Colorado River		2.8	39.4 %
<i>CAP</i>	<i>1.6</i>		<i>22.5%</i>
<i>On-River</i>	<i>1.2</i>		<i>16.9%</i>
In-State Rivers			19.7%
<i>Salt-Verde</i>	<i>.9</i>		<i>12.7%</i>
<i>Gila & others</i>	<i>.5</i>		<i>7.0%</i>
GROUNDWATER			38.0%
RECLAIMED WATER			2.8%
Total			7.1 maf

Groundwater Management

To address groundwater depletion in the state's most populous areas, the state Legislature enacted the Groundwater Code in 1980, and directed ADWR to implement its provisions. The goal of the Code is twofold: 1) to control severe groundwater depletion and 2) to provide the means for allocating Arizona's limited groundwater resources to most effectively meet the state's changing water needs.

Active Management Areas

Areas where groundwater depletion was most severe were designated as Active Management Areas (AMAs). There are five AMAs: Prescott, Phoenix, Pinal, Tucson, and Santa Cruz. These areas are subject to regulation pursuant to the Groundwater Code. To meet the statutory requirements of the Code, management goals were established for each AMA. In the Phoenix, Prescott, Tucson and Santa Cruz AMAs, the management goal is to achieve safe-yield by the year 2025. Safe-yield is accomplished when, on average no more groundwater is being withdrawn than is being replaced annually. In the Pinal AMA, where the economy is primarily agricultural, the management goal is to preserve that economy for as long as feasible, while considering the need to preserve groundwater for future non-irrigation uses. In addition to maintaining its safe-yield status, the Santa Cruz AMA goal is to prevent local water tables from experiencing long-term decline. Each AMA carries out its programs in a manner consistent with these goals while considering and incorporating the unique character of each AMA and its water users.



83% of the state's total population resides within the Active Management Areas

- Municipal Use - 86% of Statewide use is under mandatory conservation program requirements
- Industrial Use – 61% of Statewide use is under mandatory conservation program requirements
- Agricultural Use– 39% of Statewide use is under mandatory conservation program requirements

Irrigation Non-Expansion Areas

Areas where groundwater depletion was less severe were designated as Irrigation Non-Expansion Areas (INAs). These lands had been legally irrigated at any time between January 1, 1975 and January 1, 1980 may continue to be irrigated. There are three INAs: Joseph City INA, Douglas INA and the Harquahala INA.

Management Plans

Management plans reflect the evolution of regulation under the Groundwater Code, assisting in moving each AMA toward achieving their long-term water management goals. Through the Management Plans, ADWR establishes conservation goals for each water use sector: agriculture; municipal including cities, towns, and private water companies by statute; and industrial including mining, golf courses, electric power generation, dairies, and feedlots.

Assured and Adequate Water Supply Program

The Groundwater Code also established requirements to ensure that water supplies are adequate to meet the long-term needs of new development. The Assured Water Supply Program requires developers of new subdivisions within AMAs to demonstrate that sufficient water supplies of adequate quality are physically, continuously, and legally available for 100 years; that any groundwater use is consistent with the AMA's management plan and management goal; and the financial capability to construct the necessary transmission, delivery, and treatment facilities is available. Rules associated with this program require the use of renewable supplies, such as reclaimed water, surface water, and/or water delivered via the Central Arizona Project (CAP).

For areas outside AMAs, the Adequate Water Supply Program requires that the developer inform potential buyers of newly subdivided land of the availability of water for the property. The Adequate Water Supply Program does not prevent the sale of property when a 100-year supply is not available unless the city, town, or county in which the subdivision is located has adopted the mandatory water adequacy ordinance discussed later in this report. Requirements under these programs serve to advise consumers of subdivided land of the long-term available water supply.

Recharge Program

The Recharge Program allows injection or infiltration of surface water or reclaimed water into an aquifer for storage. The Recharge Program has proven to provide a cost effective way to both store water for future use and to provide an indirect mechanism to treat and deliver renewable supplies.

Regional Planning

ADWR continues to be active in regional water resource planning. Regional planning efforts include technical studies of specific areas throughout the State, conducted through contractual agreements with the United States Bureau of Reclamation (BOR) and the United States Geological Survey (USGS). During the last fiscal year the BOR along with the seven Colorado River basin states (including Arizona) continued work on the "Next Steps" phase of the Colorado River Basin Water Supply and Demand Study. ADWR is also actively involved with in-state planning assessing potential demand and supply challenges in rural areas of the state as well as within the AMA's. Specifically, in this fiscal year, ADWR has worked on preparing a demand and

supply assessment for the Mohave County Water Authority anticipated to be completed in March 2015.

Rural Water Studies

ADWR actively participates in six rural watershed partnership groups that represent water interests outside of the AMAs. ADWR provides technical and policy advice and assistance to these groups and attends multiple meetings per month associated with the governing bodies, executive committees and technical advisory committees associated with the watershed partnerships. The activities of the different rural watershed groups vary greatly. In areas such as the Upper San Pedro (Sierra Vista area), Coconino Plateau (Flagstaff and surrounding areas), Verde River (Cottonwood to Camp Verde), Yuma, Bullhead City and Lake Havasu City, significant water resources planning and development is either proposed or underway to meet the current and projected water supply needs of the area.

In addition to participation with the rural watershed partnership groups, ADWR also participated in various studies, analyses and data collection activities in rural areas. ADWR has a Special Line Item Appropriation that funds personnel and water resources data collection and investigation assisting the rural communities with long-term planning and management programs. These data collection efforts and their expansion directly support the expanded monitoring strategy identified in the Governor's Strategic Vision for Water Supply Sustainability.

Colorado River Management

The Colorado River is a vital resource to the desert southwest, serving seven states – including Arizona, several Indian tribes and Mexico. ADWR is the state entity charged with promoting, protecting, and comprehensively managing Arizona's annual apportionment of 2.8 million acre-feet of Colorado River water. This apportionment is important to Arizona's current and future economic development and is critical to the state's water management policies.

Engineering and Permits

ADWR engineering and permitting activities are focused in three areas: Water Rights Administration, Adjudications Support, and Flood Hazard Management.

Water Rights Administration

Water Rights Administration programs promote the fair and equitable use of water through the issuance of permits for surface water use and groundwater withdrawal; and also reduce risk to health and groundwater quality through issuance of well drilling permits.

In AMAs, groundwater pumping from non-exempt wells requires a groundwater right or withdrawal authority from ADWR. State law assesses withdrawal fees¹ and requires annual groundwater

¹ Withdrawal fees are statutorily required to fund ADWR's Conservation and Augmentation Assistance Programs and the Arizona Water Banking Authority.

withdrawal and use reports to be filed for pumping from non-exempt wells within AMAs. Exempt wells² are not subject to these requirements. Groundwater use outside of AMAs does not require a groundwater right. However, drilling a well anywhere in the state requires that a Notice of Intent to Drill be filed with ADWR and also requires the well to be constructed in conformance with ADWR's minimum well construction standards. The Groundwater and Wells Program issues groundwater withdrawal permits, processes conveyances of groundwater rights and notices of intent to drill or modify wells, issues well driller licenses, and manages and maintains a registry of groundwater rights and wells information.

Surface water is subject to the "doctrine of prior appropriation," meaning that the first person to legally put the water to beneficial and reasonable use has a right senior to later appropriators. Under statutes that have been in place since 1919, rights to use surface water primarily are obtained through a permitting process at ADWR that may result in a certificate of water right after the water has been put to beneficial use. Surface water rights may be used to support claims in the adjudication process. The Surface Water Program issues permits and certificates for rights to use surface water within the State of Arizona, excluding the Colorado River, processes assignments of surface water rights and claims, and manages and maintains a registry of rights and claims. This program also maintains records related to water rights in both computer and physical files, which are available to the public.

Adjudications Support

The State of Arizona is conducting general stream adjudications of surface water rights in two major portions of the state: the Gila River System and Little Colorado River System. Adjudications are judicial proceedings conducted in State Superior Court for Maricopa and Apache Counties to determine the nature, extent and relative priority of the water rights of all persons in each river system and source. This includes surface water rights and claims to surface water based upon both state and federal law. The Adjudication Support Program investigates claims for water rights; publishes comprehensive Hydrographic Survey Reports for watersheds and federal reservations, and prepares technical reports on other issues and factual matters as requested by the adjudication court. This program also processes, maintains and updates information related to statements of claimant (SOC) filed by water users in the adjudication court proceeding. In addition, based on information in ADWR's records, this program notifies new water users that the adjudication proceedings are underway and provides information about how to participate in the court process through the mailing of new use summons.

Flood Hazard Management

Flood Hazard Management programs reduce risk to life and property by supervising the safe construction and operation of non-federal dams and assisting local flood control and floodplain management efforts. The Dam Safety Program supervises the safety of jurisdictional dams in Arizona by reviewing and approving permits for construction of new dams and repairs to existing dams, inspecting dams and working with dam owners to remediate safety deficiencies. The Flood Warning Program coordinates with local communities, state and federal agencies for the planning, design, construction and operation of flood warning systems, operates and maintains field equipment, hosts the statewide flood warning website (www.afws.org). The Floodplain

² Wells having a maximum pumping capacity of 35 gallons per minute or less.

Management Program coordinates the National Floodplain Insurance Program (NFIP) in Arizona, assists local communities participating in the NFIP through implementation of the federally-funded Community Assistance and RiskMAP programs, and publishes state criteria for floodplain delineations at the local level.

Hydrology Support

ADWR hydrologists serve as the technical arm of the Department, collecting and analyzing statewide water resource data and maintaining the state's Groundwater Site Inventory (GWSI) database. Hydrologic conditions are calculated and analyzed in preparing reports in response to legislative and judicial requests, public inquiries and water management planning efforts. ADWR hydrologists are often assigned to work on the scientific components of specific research projects and are also consulted in making determinations on permit applications. ADWR prepares regional groundwater models that frequently serve as the basis for evaluating water management alternatives and the projected impacts of proposed development in the State. These models are provided to the water using community, their technical representatives, and the public and commonly serve as the foundations for applications under the Assured and Adequate Water Supply Program. ADWR hydrology field staff routinely makes manual groundwater level measurements at over 1,800 "Index" wells throughout the state. Additionally, the state Legislature has supported ADWR efforts to obtain more groundwater data around the state through the Automated Monitoring Initiative. This groundwater data collection effort relies on radio telemetry and satellite technology to obtain water level measurements in areas of the state where groundwater information is lacking. ADWR collects micro-gravity data to monitor changes in groundwater storage in the Pinal and Phoenix Active Management Areas. ADWR also uses remote sensing in conjunction with satellite Interferometric Synthetic Aperture Radar (INSAR) data to study land subsidence areas throughout the state.

Land Subsidence Monitoring

ADWR is the State Agency tasked to monitor land subsidence. An AMA can be created because of land subsidence and earth fissures. Land subsidence is a regional problem where groundwater pumping has exceeded the natural recharge of the groundwater, resulting in declining groundwater levels and land subsidence. Land subsidence has damaged highways, flood control structures and floodways, canals, various types of pipelines, well casings, and even homes. Land subsidence has also altered the natural drainage patterns, causing flooding in new areas that never flooded. Understanding where land subsidence is occurring, helps groundwater modelers model future land subsidence from groundwater declines as well as planners and engineers to try and mitigate land subsidence.

ADWR has the largest statewide land subsidence monitoring program using satellite based synthetic aperture radar data which is processed by ADWR using interferometry (InSAR). ADWR is recognized as a leader with InSAR and the State of California is recommending that their own InSAR program be modeled off of ADWR's InSAR program. ADWR currently has 14 InSAR cooperators who consist of Federal, State, County and local agencies and water providers. These InSAR cooperators provide more than \$160,000 to the InSAR program funding the data collection.

The InSAR cooperators then use the land subsidence data for their own land subsidence monitoring, modeling, mitigation, design, and planning projects.

Aquifer storage monitoring using micro-gravity: ADWR collects micro-gravity data in both the Phoenix and Pinal AMA's to monitor the change in aquifer storage to better understand aquifer health. Manual groundwater measurements are a single point measurement, but the gravity data is a more regional measurement that is measuring the change in mass of the groundwater. The change in mass of groundwater is calculated by using the change in gravity between measurements. The change in aquifer storage is then used for calculating the water budgets in both the Pinal and Phoenix AMA groundwater models.

BUDGET- FISCAL YEAR 2014

The total ADWR State appropriation for FY 2014-2015 is \$13,233,200. This appropriation is restricted to special line items as follows:

Operating lump sum appropriation	\$7,499,100
Adjudication support	1,256,700
Assured and adequate water supply administration	1,989,500
Rural water studies	1,167,700
Conservation and drought program	410,000
Automated groundwater monitoring	410,200
Lower Colorado River Litigation Expenses	500,000
TOTAL:	\$13,233,200

Prior years' budgets are presented below:

<u>Fiscal Year</u>	<u>Total Appropriation</u>	<u>Actual FTEs</u>
2005-2006	\$18,796,600	227
2006-2007	\$20,789,700	239
2007-2008	\$22,763,100	236
2008-2009	\$21,401,600	235
2009-2010	\$16,879,800	157
2010-2011	\$7,360,300	97
2011-2012	\$12,363,800	100
2012-2013	\$12,400,500	110
2013-2014	\$12,940,500	125
2014-2015	\$13,233,200	131

ACCOMPLISHMENTS IN FY 2013-2014

Agency Wide

Arizona's Strategic Vision for Water Supply Sustainability

On January 14, 2014, the Arizona Department of Water Resources released *Arizona's Next Century: A Strategic Vision for Water Supply Sustainability* that provides a foundation for Arizona's continued economic prosperity and growth in its next Century. The Strategic Vision assesses current and projected demands and water supplies that have been identified in recent reports and provides potential strategies that will help Arizona meet its future needs. Recent studies have identified the potential for a long-term imbalance between available water supplies and projected water demands over the next 100 years if no action is taken. Over the next 25 to 100 years, Arizona will need to identify and develop additional water supplies to meet projected growing water demands. While there may be viable local water supplies that have not yet been developed, water supply acquisition and importation will be required for some areas of the State to realize their full growth potential. The Strategic Vision creates the framework for addressing future water supply challenges and helps to secure sufficient and dependable water supplies for Arizona

The Strategic Vision was prepared at the request of Governor Brewer and is identified as part of her January 13, 2014 "The Four Cornerstones of Reform", building on Arizona's past successes to meet our future challenges in water supply sustainability.

Subsequent to the release of the Strategic Vision, ADWR began a statewide outreach tour to present the Strategic Vision and receive input from local stakeholders and other interested parties. To date ADWR has presented the Strategic Vision at 31 venues, within thirteen cities and towns throughout Arizona and also traveled to Washington DC to present to Arizona's Congressional Delegation.

ADWR is formulating an implementation strategy for the Action Items identified in the Strategic Vision. The goal of implementation strategy is to build coalitions and formal structure to advance the Strategic Vision into a viable plan for the State to pursue to ensure water supply sustainability and economic prosperity.

Continuing Efforts to Enhance Public Access to our Data

The Groundwater Code requires that persons with grandfathered rights, withdrawal or recharge permits, or those designated as individual users must file an annual water use report of groundwater withdrawals and use to ADWR. Approximately 7,000 reports are filed with ADWR annually.

This year ADWR's Planning and Information Technology staff continued working to streamline even further external and internal processes for accepting Annual Water Use Reports and inputting the data contained in them.

In 2014, staff added to the menu of forms available online by offering the set of forms known as the "Groundwater Summary" to the public and irrigation district staff. These forms are used by farmers who pumped groundwater or used in lieu of groundwater and therefore need to pay groundwater withdrawal fees. As a result, 329 additional forms were filed online with an associated fee total of over \$133,000. The total amount of fees collected on line was \$138,000, far exceeding the total amount collected online in previous years, which was usually less than \$10,000 annually.

Staff also added more query and report options that allow the public to access, any time of day and any day of the year, the same data used by staff. The group of queries and reports added this year allow users to generate lists of Irrigation Grandfathered Rights (IGRs) in a selected district by assessor parcel number or legal location. District managers can now also query for lists of those IGRs participating in the Best Management Practices Program. Also added was a query of Community Water Systems (CWS) throughout the state regulated by ADWR. In addition, beginning this year, CWS annual reports filed on line are now automatically uploaded to the Imaged Records database on line. This makes the information available to the public much sooner and relieves staff of the task of scanning the reports in manually.

Colorado River Management

Comprehensive Water Management - Shortage Sharing Agreement with Mexico

In November 2012, the United States and Mexico entered into a landmark binational agreement to guide future management of the Colorado River, Minute 319. Minute 319 addresses significant Colorado River issues shared by water users in both the United States and Mexico. This agreement provides water supply flexibility to Mexico, protection for Arizona from potential shortages and a framework for development of additional sources of water from joint United States-Mexico water development projects. The agreement creates benefits and greater certainty for both nations and their water users. This agreement is effective for a five year period and will remain in force until December 31, 2017. ADWR has participated in this a process, along with the Inter Boundary and Water Commission, the Bureau of Reclamation, the other Basin States, and Mexico.

Minute 319 also allows Mexico to continue to receive the benefits created by Minute 318 entered into in December 2010 following a major earthquake that damaged vital irrigation systems in the Mexicali Valley. Minute 318 granted the emergency storage of a portion of Mexico's allocation in Lake Mead for later use and benefits Arizona as storage of Mexico's water in Lake Mead reduces the probability of shortages within the Colorado River system. ADWR, on behalf of the State of Arizona, received a Partners in Conservation Award in January 2014 from the Secretary of the Interior for the pulse flow program.

During the period from March 2014 through May 2014, the environmental pulse flow allowed by Minute 319 occurred. The pulse flow utilized 105,400 acre-feet of Mexico's stored water to provide for environmental benefits in both the United States and Mexico, primarily the Colorado River between Imperial Dam and the Gulf of California where the River meets the sea.—The primary benefit of the pulse flow was to provide water for ecosystem restoration in the Colorado River delta.

ADWR is a member of several Minute 319 implementation bi-national groups including: Environmental Flows; Basin Conditions and Hydrology; Miguel Alemang restoration and Roasrito pilot project and desalination work groups.

Colorado River Basin Water Supply and Demand Study

In December of 2012, the U.S. Bureau of Reclamation (BOR) released a study which concluded that by the year 2060, and in some cases by 2025, projected future demands on Colorado River water may exceed the available supplies; the median imbalance was projected to be 3.2 million acre-feet in 2060. The Colorado River Basin Water Supply and Demand Study (Study) is the most recent collaboration between the Seven Colorado River Basin States, Arizona represented by the Arizona Department of Water Resources, California, Colorado, New Mexico, Nevada, Utah and Wyoming, the Bureau of Reclamation, Native American Indian Tribes, multiple water users in the Basin, including the CAP and other key water agencies to address Colorado River demand and supply issues.

The study served as a call to action, and along with the release of the Study, the leaders of the seven states within the Colorado River Basin committed to taking further steps to address the projected imbalances. Possible actions included: identifying and implementing additional conservation and reuse programs, investing in new infrastructure projects, conducting feasibility studies, pursuing legislation and the development of new policies. These efforts are consistent with many of the strategies identified in the Governor's Strategic Vision for Water Supply Sustainability and will require that the Basin States, water agencies, Native American Tribes and private stakeholders continue to work together to protect and enhance the Colorado River and its supplies.

As part of the Moving Forward/Next Steps phase in Fiscal Year 2014, ADWR continued to participate with the Bureau of Reclamation, the Colorado River Basin States and other stakeholders to form three working groups overseen by a Coordination Team which ADWR is a member. The groups are the Municipal and Industrial Conservation, Agricultural Conservation, and Environmental Flows and Recreation to address issues identified in the Study. Phase I reports are expected to be released in the fall of 2014. An Augmentation Work Group has also initiated its work in May 2014.

Colorado River Contingency and Sustainability Planning

Early in Fiscal Year 2014, as a result of the 14 year drought in the Colorado River system, principals from the seven Colorado River Basin States began a process to identify and quantify the impacts of declining reservoir levels, primarily for Lakes Mead and Powell. The process will also include development of options and strategies to provide sustainability to the reservoir system and to avoid large and lengthy shortages to the Lower Basin States, including Arizona.

Non-Indian Agricultural Priority Central Arizona Project Water Reallocation

In December 2004, the Arizona Water Settlements Act, Public Law 108-451 (Settlements Act), was enacted. The Settlements Act ratified the Arizona Water Settlement Agreement (Agreement) between the United States, ADWR, and the CAWCD and provided for the reallocation of 96,295

acre-feet of Non-Indian Agricultural Priority Central Arizona Project Water (NIA Priority CAP water) for municipal and industrial uses in the state of Arizona.

Both the Settlements Act and the Agreement required the NIA Priority CAP water be reallocated to ADWR to be held in trust for further allocation. It was also specified that the Director of ADWR develop eligibility criteria and make the NIA Priority CAP water available for reallocation “at periodic intervals, starting in 2010” and submit a recommendation for reallocation to the Secretary of the Interior (Secretary) and that any reallocation shall be based on the Director’s recommendation or revised recommendation.

ADWR developed a process and eligibility criteria for the reallocation of the 96,295 acre-feet of NIA Priority CAP water. As part of the overall reallocation structure, ADWR recommended that 55,255 acre-feet of NIA Priority CAP water be made available for reallocation to municipal and industrial water users within the CAP service area in a process beginning in 2013, with the remaining water to be recommended for reallocation both inside and out of the CAP service area in later phases.

Applications to receive a recommendation for an allocation in this phase were due to ADWR in June 2013. ADWR received 17 applications for the municipal pool and six applications for the industrial pool with a total requested volume of 135,127 acre-feet. A separate pool of 8,626 acre-feet was identified for the Central Arizona Irrigation and Drainage District and the Maricopa-Stanfield Irrigation and Drainage District per the Settlements Act and the Agreement. There were no applicants for this water so it will be available for future phases of the reallocation.

The applications were evaluated based on the established eligibility criteria designed to meet near-term water demands and to replace or prevent the use of groundwater. On January 16, 2014, the Director of ADWR submitted to the Secretary a recommendation for 46,629 acre-feet of NIA Priority CAP water. This total was comprised of 34,629 acre-feet of NIA Priority CAP water in the municipal pool for 13 of the applicants and 12,000 acre-feet of NIA Priority CAP water for the applicants in the industrial pool. The Bureau of Reclamation, on behalf of the Secretary, has acknowledged receipt of the Director’s recommendation. There was no additional ADWR action in Fiscal Year 2014 as the federal entities are in the process of analyzing the recommendation to determine their next steps, primarily with respect to actions required for compliance with the National Environmental Policy Act.

Lower Colorado River Multi-Species Conservation Program (LCR MSCP)

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) is a partnership of federal and non-federal entities formed to meet the permitting provisions of the Endangered Species Act (ESA) by restoring native habitat while accommodating current and future water and power development. The ADWR is an “Arizona participant” and is a member of the LCR MSCP Steering Committee. The Director of ADWR is generally responsible for formulating plans and programs for the development, management, conservation and use of surface water, including Colorado River water, and groundwater throughout the state.

The LCR MSCP will implement at least 8,132 acres of new habitat with specific requirements to

create cottonwood-willow, honey-mesquite, marsh and backwater habitats. In addition, program requirements include augmenting existing fish populations of razorback sucker and bonytail chub by 660,000 and 620,000 fish, respectively. Through Fiscal Year 2014, as reported in the most current Bureau of Reclamation accomplishments, a total of 2,951 acres of conservation habitat has been created, while approximately 215,000 razorback sucker and approximately 58,000 bonytail chub have been produced.

Glen Canyon Dam Adaptive Management Program

The ADWR is a Colorado River Basin States representative for the Glen Canyon Dam Adaptive Management Program, established in 1997. The Grand Canyon Protection Act of 1992 and the 1996 Record of Decision provided a foundation to form this organization and develop a process for cooperative integration of dam operations. As a Basin State representative, ADWR serves as policy and technical advisors to represent the state of Arizona's interests. In Fiscal Year 2014, an ADWR representative was selected to co-chair the technical work group of the Adaptive Management Program.

Through Fiscal Year 2014, ADWR has been involved in the development of a Basin States' alternative associated with the preparation of an Environmental Impact Statement (EIS) that will provide a new framework for adaptive management of the Glen Canyon Dam and replace the 1996 Record of Decision. The Department of the Interior, through the Bureau of Reclamation and the National Park Service are preparing the EIS for the purposes of implementing a long-term experimental and management plan (LTEMP) for the operation of Glen Canyon Dam. ADWR has actively participated in LTEMP meetings to insure that the position of water users in the state is articulated and represented. It is anticipated that a public draft of the EIS will be available by October 2014

Water Planning Division

Central Arizona Groundwater Replenishment District 2015 Plan of Operation - Stakeholder Process

The Central Arizona Groundwater Replenishment District (CAGR) is required by statute to submit a plan of operation for approval by ADWR every ten years. A new CAGR Plan of Operation (Plan) covering the period from 2015 through 2025 must be submitted to ADWR for review no later than January 1, 2015. The new Plan will describe the activities that CAGR proposes to undertake in the Phoenix, Pinal and Tucson Active Management Areas (AMAs) over the next 100 years to meet its replenishment obligations for existing and new members. During this fiscal year ADWR has attended a series of stakeholder meetings held by the CAGR, and has provided background information as needed. ADWR will begin review of the 2015 Plan once it is submitted by the CAGR.

Recovery Planning for Water Banking Credits

ADWR, the Central Arizona Water Conservation District (CAWCD) and the Arizona Water Banking Authority (AWBA) created an Interagency Working Group to develop a collaborative plan to

address recovery of water bank credits when it becomes necessary. The purpose of the plan is to provide a blueprint for recovery that provides certainty to those stakeholders who are beneficiaries of firming services (back-up water supplies) provided by the AWBA. Those entities include the Central Arizona Project (CAP) municipal and industrial subcontractors, municipal water providers located along the Colorado River, Arizona Indian Tribes, and the Southern Nevada Water Authority. ADWR also created an AD Hoc Recovery Planning Group consisting of stakeholder representatives within the CAP service area to provide valuable input into the recovery planning process.

The Joint Plan: Recovery of Water Stored by the Arizona Water Banking Authority was released in 2014. In May 2014 a preface to the Joint Recovery Plan that acknowledges that the Plan advances the objectives of the IGA among ADWR, AWBA, and CAWCD, was executed and incorporated into the final plan. The agencies will continue to work cooperatively on the future activities and commitments outlined in the plan.

Engineering & Permits Division

Groundwater and Wells Program

Highlights for FY 2014 include:

- Mailed 294 renewal applications for Full-Time Well Driller License in advance of a June 30, 2014 expiration date. In compliance with A.R.S. § 41-1080, the applications included requirement for proof of the applicant's lawful presence in the United States under Federal law.
- Processed more than 2,299 notices of intent to drill and more than 727 notices of intent to abandon wells.
- Processed more than 239 conveyances of groundwater rights due to changes in property ownership.
- Issued more than 160 new and renewal well driller licenses and administered 19 applicants drilling exams.
- Performed nearly 192 well inspections statewide to verify minimum well construction standards and obtained other factual data in Maricopa County, Navajo County, Pinal County, Gila County, La Paz County, Yuma County, Mohave County, Yavapai County, Coconino County, Pima County, and Apache County.
- Processed 229 applications to change ownership of authority of an Irrigation Grandfather Right which includes the Withdrawal Authority for Type 2 Non-Irrigation Grandfather Rights.
- Processed 3,335 change of well registration applications

Surface Water Program

Highlights for FY 2014 include:

- Completed a project with the Arizona Department of Administration Government Transformation Office (GTO) that identified efficiency and customer service improvements to the existing process for assigning changes in ownership of surface water rights and permits. The project resulted in revisions to the assignment forms, which improved clarity

- for the applicant. Additional possible actions for reducing processing times were identified with pending implementations.
- Issued public notices concerning 8 applications to appropriate public water, including claims for stockponds, instream flow maintenance, and severance and transfer of water rights.
 - Processed and issued 112 permits or claims for appropriation of public water, certificates of water rights and claims of water rights.
 - Processed and issued letters of completion for 490 assignments of surface water rights and claims due to changes in property ownership.
 - Performed 11 field inspections statewide in preparation for issuing certificates of water rights.
 - Reviewed and processed 23 assessment reports filed in support of permits to appropriate water for instream flow maintenance.

Adjudication Support

Highlights for FY 2014 include:

- On June 28, 2013, at the request of the Court, filed comments regarding the report of the Special Master dated April 24, 2013.
- On January 17, 2014, participated in an oral hearing before the Maricopa County Superior Court on matters concerning the water rights claims of the Hopi Tribe and the United States on behalf of the Tribe. Work on the Final Hydrographic Survey Report for the Hopi Indian Reservation ("Final Hopi HSR"), in accordance with the Court's direction, is underway. This report is anticipated to be completed on or before September 1, 2015.
- On February 14, 2014, at the request of the Court, ADWR filed its report concerning federal reserved water rights claims for the Aravaipa Canyon Wilderness Area (ACWA).
- On March 27, 2014, participated in a status conference before the Maricopa County Superior Court and Special Master George Schade on matters related to the federal reserved claims for ACWA.
- On January 15, 2013, the Court requested ADWR to prepare a revised Subflow Zone Delineation Report for the San Pedro River Watershed on or before April 1, 2014, consistent with the October 12, 2012, order. ADWR filed its revised report on April 1, 2014.
- On April 18, 2014, the Court met with the Director and staff of the Arizona Department of Water Resources to review matters related to the expeditious progress of the adjudications.
- An order for special proceedings for consideration of the Amended and Restated White Mountain Apache Tribe Water Rights Quantification Agreement ("WMAT Agreement") was filed by the Court on April 29, 2014. As requested by the Court, ADWR will file a report that analyzes and summarizes the WMAT Agreement on or before July 25, 2014.
- In 2014, ADWR updated, for the second time, the address and ownership information in the statement of claimant database in order to facilitate the settlement of the water rights claims of the White Mountain Apache Tribe. This settlement has been approved by Congress and also must be approved by the adjudication court. As part of that process, 69,267 notices were mailed to adjudication claimants or their predecessors throughout the Gila River and Little Colorado River adjudications. ADWR provided support to the notice recipients.

- At the request of the Court, in an Order dated June 11, 2014, on or before October 1, 2014, ADWR will file its proposal (or list of proposals) for the next project(s) it believes it should undertake.
- New use summons will be served by certified mail to 652 potential claimants for the Gila River adjudication and 102 for the Little Colorado River adjudication that may have initiated new water uses between January 1, 2013 and December 31, 2013. The summons indicates that the appropriate court-approved statement of claimant forms must be filed for any water rights that are claimed. ADWR will provide support to the summons recipients.

Dam Safety

Highlights for FY 2014 include:

- Award of approximately \$69,000 federal grant from the U.S. Department of Homeland Security – FEMA in support of the State Dam Safety Program.
- Inspection of: 109 dams with 85 high-hazard (potential loss of life in the unlikely event of failure); 11 with significant-hazard (potential downstream economic consequences); 13 dams with relatively low-hazard (potential low economic losses). ADWR identified safety deficiencies requiring correction at 48 dams with either high or significant potential downstream consequences.
- Identified three unregistered dams - Leslie Canyon Pond dam (significant hazard) located in Cochise County; LCWUA Dam (high hazard) located in Cochise County; and Home Tank Dam (high hazard) located in Yavapai County.
- Approval of construction permits for modifications/repairs to one dam owned by the City of Phoenix which serves as a reservoir for municipal water supplies.
- Approval of construction permit for rehabilitating Buckeye FRS No. 1 located in Maricopa County and owned by the Flood Control District of Maricopa. The dam was constructed in 1974.
- Approval of construction permits for modifications/repairs to Canyon Mouth Dam and Railroad Embankment Dam.
- Approval of the application to remove the Low hazard, Tailings Water Reclaim Dam. The dam has been removed but close-out documentation has not been submitted to date.
- Reviewing an application to breach the significant hazard, Leslie Canyon Pond Dam.
- Working closely with the City of Tempe for approval of construction permit for installing a new dam to replace the existing rubber bladder dam at the Tempe Town Lake. ADWR is reviewing and approving the application in phases in order to meet the aggressive construction schedule proposed by the City of Tempe.
- Provided regulatory oversight of construction activities at multiple dams statewide including: Magma Dam and Powerline FRS in Pinal County, White Tanks No. 4 Dam in Maricopa County, Little Hell's Canyon Dam in Yavapai County, Clay Avenue Detention Basin in Coconino County, Evaporation Pond No. 1 at the Palo Verde Nuclear Generating Station, 64th Street Reservoirs 1-ES1-1, 1-ES1-2, and 1-ES1-4 in Maricopa County.

Flood Warning

Highlights for FY 2014 include:

- Continued role as chair of the biannual Arizona Flood Warning System (AFWS) Multi-Agency Task Force (MATF) group meetings. The MATF includes staff from local, state

- and federal agencies involved in flood warning activities. The purpose of the meetings is to share flood warning information and to retain coordination among agencies.
- Repaired damaged ADWR-owned flood warning repeater at Signal Peak, which receives precipitation and streamflow data from areas east of Globe.
 - Performed routine maintenance of ADWR-owned flood warning gages located in Apache, Greenlee, Graham, Cochise, Santa Cruz and Yuma counties.

Floodplain Management

Highlights for FY 2014 include:

- Continued to meet with the Arizona Department of Fire, Building and Life Safety – Office of Manufactured Housing about permitting for manufactured homes in Arizona. As coordinating agency for the National Flood Insurance Program, ADWR works to ensure agencies are aware of local, state and federal floodplain regulations.
- Provided technical assistance and ordinance review to the City of Glendale after it was suspended from the National Flood Insurance Program.
- Awarded \$154,500 federal cost-share from the U.S. Department of Homeland Security – FEMA in support of the Community Assistance Program for comprehensive assessments of community floodplain management programs.
- Conducted community assistance visits (CAVs), including field tours of recent development in the FEMA 100-year floodplain and face-to-face meetings with floodplain management and building permit staff, for: City of Peoria.
- Conducted a total of three floodplain management training workshops. The training workshops on the FEMA Elevation Certificate were presented in Willcox and Phoenix and the Substantial Improvement and Substantial Damage training workshop was presented in Scottsdale. Local floodplain administrators, building officials, engineers and registered land surveyors attended.
- Initiated community assistance contacts (CACs), including brief meetings to help NFIP communities evaluate their floodplain management programs, and to offer training and other assistance, for: Apache Junction, Clifton, Cottonwood, Paradise Valley and Snowflake.
- Completed floodplain reviews for Community Development Block Grant (CDBG) applications and provided general technical assistance for: Apache Junction, Buckeye, Cave Creek, Clifton, Coconino County, Flagstaff, Glendale, Globe, Goodyear, Greenlee County, La Paz County, City of Maricopa, Mohave County, Oro Valley, Peoria, Phoenix, Pima County, Pinal County, Pinetop-Lakeside, Santa Cruz County, Scottsdale, Sedona, Snowflake, Tempe, Tusayan, Wickenburg, Winslow and Yavapai County.
- Awarded \$120,000 federal grant from the U.S. Department of Homeland Security – FEMA in support of the Risk Mapping, Assessment, and Planning (Risk MAP) program intended to increase public awareness and reduce risk to life and property from flooding.
- Participated in a series of public meetings with community and county floodplain management staff and residents to present information related to new and future flood insurance rate maps. Meetings included: La Paz County, Maricopa County, City of Maricopa, Pinal County, Yavapai County and Yuma County.
- At FEMA's request, staff assisted 25 communities in Maricopa County with review of their floodplain management regulations to ensure compliance with the NFIP prior to new Flood

Insurance Rate Maps that were issued in late 2013.

- Attended numerous meetings with Coconino County, Maricopa County, Mohave County, Pinal County, and Yavapai County to discuss all hazards, including flooding, and to develop future projects within strategic watersheds.
- Participated in meetings and planning exercises pertaining to ADWR's role and involvement in possible emergency management situations with respect to dams, levees, and secure water supplies. Partners include the Department of Homeland Security (DHS), U.S. Bureau of Reclamation (USBR), and AZ Division of Emergency Management.

Hydrology Division

Publications and Reports

The Hydrology Division completed and published the following in FY 2014:

- Regional Groundwater Flow Model of the Pinal Active Management Area, Arizona Model Update and calibration. ADWR Modeling Report No. 26.
- Groundwater Flow Model Update Report for the Prescott Active Management Area. ADWR Modeling Report No. 25.
- Updated INSAR Land Subsidence Maps of Various Subsidence Features in Arizona Published on the Department's Land Subsidence Unit Homepage. There are now 200 land subsidence maps available for download.
- Land Subsidence Monitoring Report No. 1
- CAP Fissure Study Report
- Draft Statewide Water Level Change Map Report Open File Report 13

Stakeholder Outreach

- Hydrology Division sent out invitations to over 50 individuals, agencies and organizations inviting their participation and use of ADWR's recently developed Online Water Level Data Portal
- Hydrology Division staff presented an update on the Online Water Level Data Portal to the Arizona Hydrological Society (Phoenix Chapter)
- Modeling section staff worked with Santa Cruz AMA GUAC, WRRC, HRC on Groundwater, Climate And Stakeholder Engagement (GCASE)
- Modeling section staff presented results of Pinal Model Update to Pinal GUAC and the public
- Modeling and Field Services staff worked with City of Prescott, Prescott Valley, Salt River Project and the U.S. Geological Survey on the location of potential new stream gage sites in the Big Chino sub-basin
- Modeling section staff met with Groundwater Users Advisory Council members from all AMAs to discuss the progress that has been made on groundwater models and water budget information
- Modeling section staff met with members of Tucson AMA Safe-yield task force to discuss future scenario runs
- Modeling staff participated in East Valley Water Forum meetings

- Modeling and Field Services staff presented information to AZSLD
- Modeling staff participated in Santa Cruz River Research Days (Tucson)
- Modeling staff is working in cooperation with ADEQ to gather relevant parameter data for Phoenix AMA model development
- Modeling staff developed hydrology-related problems sets for Applied Calculus Class (Prescott College)
- Modeling staff participated with the USGS, SRP, City of Prescott and Town of Prescott Valley to discuss model parameter and observation sensitivities (OPR-PPR)
- Field Services Survey Unit staff met with various stakeholder groups in Arizona and at national meetings to make presentations and discuss results of INSAR subsidence and earth fissure monitoring.
- Field Services Survey Unit Staff gave land subsidence updates to both the Phoenix AMA and Tucson AMA Groundwater Users Advisory Council Members.
- Field Services Survey Unit staff met with various stakeholder groups in Arizona and at national meetings to make presentations and discuss results of INSAR subsidence and earth fissure monitoring.
- Field Services Survey Unit Staff completed a Fissure Risk Study for the CAP in cooperation with the Arizona Geological Survey
- Field Services staff provided training and support to ASLD hydrologists related to water level monitoring techniques and pump test support in western Arizona groundwater basins.

Groundwater Modeling

The Groundwater Modeling Section worked on the following groundwater models and projects in FY 2014:

- Updated and improved the Tucson AMA Groundwater Model and the AMA's Water Budget Information
- Completed the Pinal Model calibration update and report. Ran several future water use scenarios based on assumptions of reduced CAP water availability and increased municipal water demand.
- Completed the Prescott Model Calibration and Updated report. Currently using Prescott Model for exploring alternative water management concepts. Continued building and incorporating new data into the Phoenix AMA Groundwater Model (combined the Salt River Valley and Hassayampa Models). Worked with City of Phoenix and SRP hydrologists on various geology updates to the model.
- Provided support for groundwater budget development for all five Active Management Areas and Hydrologic Chapters of 4th Management Plan Reports For Prescott and Tucson AMAs; used updated models to provide information and parameters for ADWR permitting
- Made substantial progress updating the Santa Cruz AMA "Micro-basin" Model and began developing plans to combine and expand both Santa Cruz AMA groundwater flow models. Evaluating sensitivity of Santa Cruz AMA model fluxes to improve conceptual understanding of hydrologic system; this includes an area which recently experienced numerous dry wells.

Field Services

The Basic Data Unit conducted approximately 1,800 water level measurements statewide at

ADWR-Groundwater Site Inventory Index well locations, and at special monitoring network locations in the Coconino Plateau, Big Chino basin, Payson/Tonto basin area, Queen Valley and Santa Cruz AMA.

Staff performed maintenance, repairs and downloads at 126 automated water level monitoring sites throughout the state and installed new automated equipment at sites in the Buckeye, Prescott Valley, Big Chino (Paulden), West Salt River Valley, Red Gap Ranch, and other areas of the state.

- Completed quarterly stream gaging surveys in the Verde River headwaters area and the Santa Cruz AMA area.
- Completed draft Statewide Water Level Change Map Report OFR 13.
- Conducted gravity surveys and GPS surveys in the Pinal AMA Cochise County, Prescott, Santa Cruz, Tucson, Green Valley, Pinal, Holbrook and in other areas of the state.
- Provided follow-up training to Arizona State Land Department (ASLD) staff on water level data collection technique. Staff also assisted ASLD and Arizona Geological Survey with aquifer test in the Butler Valley.
- Continued work on developing online automated water level data portal for water level data reporting
- Conducted more research and installed automated monitoring groundwater monitoring equipment in three additional wells in the the Buckeye Waterlogging area
- Capped several open wells encountered during field operations in the Pinal AMA

Indian Settlement Negotiations

White Mountain Apache Tribe

On January 13, 2009, the White Mountain Apache Tribe, the United States, the State of Arizona and a number of other state parties executed the White Mountain Apache Tribe Water Rights Quantification Agreement ("Quantification Agreement"). Federal legislation approving and authorizing the agreement was passed by Congress and signed into law by the President on December 8, 2010. The Quantification Agreement quantifies the water rights of the Tribe within the Gila River Adjudication and the Little Colorado River Adjudication areas. As part of the settlement, the federal government will construct the White Mountain Apache Tribe Rural Water System to divert, store and distribute water from the White River to communities within the Tribe's reservation. Also, the Tribe will receive an allocation of 25,000 acre-feet per year (AFY) of Non-Indian Agricultural priority Central Arizona Project ("CAP") water and will lease the water to various municipalities in the Phoenix Active Management Area and the Central Arizona Groundwater Replenishment District. The State of Arizona will firm 3,750 AFY of the CAP water to Municipal and Industrial CAP priority until 2108. The settlement will not become effective until several conditions are satisfied, including: (1) revising the Quantification Agreement to conform to the federal legislation and execution of the revised agreement by the parties; (2) approval of the Quantification Agreement by the Gila River and Little Colorado River adjudication courts; and (3) the State of Arizona must contribute \$2 million toward the construction of the White Mountain Apache Tribe Rural Water System. ADWR has worked with the parties to revise the Quantification Agreement. The revised Quantification Agreement has been executed by the White Mountain

Apache Tribe, the United States and all of the state parties, including Governor Brewer on behalf of the State of Arizona. On April 16, 2014, parties to the Quantification Agreement filed with both adjudication courts an application for an order for special proceedings to approve the Quantification Agreement. On April 29, 2014, the judge for both adjudications entered an order granting the applications and ordering ADWR to file a factual analysis and technical assessment of the Quantification Agreement by July 25, 2014.

Hualapai Tribe

During the past year, ADWR has been involved in negotiations between the Hualapai Tribe, the United States and certain state parties for a settlement of water rights claims between those parties in the Bill Williams River watershed. Federal legislation approving a settlement was introduced in Congress on June 19, 2014. Introduction of the legislation is a significant step forward in settling the Hualapai Tribe's water rights claim and highly important as settlement of Indian Water Rights claims is a key strategy in the Governor's Strategic Vision for Water Supply Sustainability.

Tonto Apache Tribe

During the past year, ADWR has been involved in negotiations with the Tonto Apache Tribe, the United States and certain state parties for a settlement of the water rights claims of the Tribe. Those negotiations are on-going and confidential.

CRITICAL CHALLENGES/OPPORTUNITIES

Issue 1: Implementation of Arizona's Strategic Vision for Water Supply Sustainability

ADWR is formulating an implementation strategy for the Action Items identified in Arizona's Strategic Vision for Water Supply Sustainability. The goal of an implementation strategy is to build coalitions and formal structure to advance the Strategic Vision into a viable plan for the State to pursue to ensure water supply sustainability and economic prosperity.

The implementation strategy will focus on the following priorities identified in the Strategic Vision:

- Legislate an update to the Strategic Vision every 10 years
- Begin Discussions on Ocean Desalination
 - Exchange Options
 - California
 - Mexico
 - Direct Options
 - Mexico
- Resolve ADOT Right-of-Way Issues for utilities
- Establish an Adjudication Study Committee to address the challenges facing the general stream adjudication of surface water supplies
- Begin Discussions on Water Development
 - Immediate needs for Water Resources Development Revolving Fund for rural Arizona
 - Long-Term Needs for Large-Scale water importation projects
- Remove current statutory limitation (*A.R.S. § 45-801.01(22)*) on the ability to receive long-term storage credits for recharging reclaimed water beyond 2024
- Review Legal and Institutional Barriers to Direct Potable Reuse of Reclaimed water and develop an implement plan for resolution
- Begin discussions with New Mexico on an interstate cooperative program for watershed management/weather modification in the Upper Gila watershed
- Resolve Remaining Indian Settlements

Issue 2: Continuation of Groundwater Management in the Five Active Management Areas - Development of the Fourth Management Plan

The Groundwater Code establishes management goals for each of the AMAs. For the Prescott, Phoenix, and Tucson AMAs, the goal is to reach safe-yield by 2025. Safe-yield is accomplished when no more groundwater is withdrawn from the aquifer than is annually replaced. The consequence of not achieving safe-yield will be to threaten the long-term availability of water supplies for existing homes, industries and communities in AMAs. The Pinal AMA management goal is to allow development of non-irrigation uses and to preserve existing agricultural economies for as long as feasible, consistent with the necessity to preserve future water supplies for non-irrigation uses. The Santa Cruz AMA management goal is to maintain a safe-yield condition in the AMA and the additional requirement to prevent local water tables from experiencing long-term declines.

One tool to assist the AMAs to achieve their goal is the adoption of a series of five groundwater management plans to be implemented in sequence from 1980 through 2025. During this fiscal year, ADWR continued with the development process of the Fourth Management Plans (Plans). As part of that development, ADWR completed Assessments of the current conditions of each of the five AMAs. This information, along with stakeholder input, will provide the frame work for the development of the Fourth Management Plans.

ADWR will approach the Fourth Management Plans more as Plans for success, rather than documents that simply identify the statutory requirements for the primary water-using sectors. In these Plans, ADWR in cooperation with regulated communities and the public will build on past successes but recognize that additional observations should be considered, including:

1. Conservation will only get us so far. We will continue to address meaningful conservation requirements, but also will review the “incentives” for utilization of renewable water supplies, reduce the complexity and the administrative workload necessary to implement these programs, and be diligent in their enforcement.
2. Continue discussions regarding the AMA goals and the implications to the State of not reaching them.
3. Consider different approaches to water management among the AMAs, recognizing local conditions, economic, and community values.
4. Address the limitations of the Management Plans and underlying authorities as we determine what course of action to follow.
5. Recognize sub-area issues and consider alternative management strategies to address areas where groundwater conditions are positive and where conditions are negative.
6. Develop, in cooperation with local water users and other water resource entities (CAWCD, AWBA, CAGR, etc), a long-term water management strategy, tailored to each AMA, identifying specific actions and resources that will be required to accomplish this strategy.

Each AMA's Groundwater User Advisory Council (GUAC) has been the forum in which the public can participate to obtain information and submit comments on the Fourth Management Plans.

During this past year, ADWR has hosted several GUAC meetings in the Prescott, Phoenix, Pinal, Tucson, and Santa Cruz AMAs to discuss the direction of the Plan. ADWR has solicited input from not only the GUAC members but also the water users and stakeholders within each of the AMAs. ADWR moved toward promulgation of the Prescott AMA Fourth Management Plan this year, and the remaining AMA Fourth Management Plans to follow.

The Groundwater Code mandates the inclusion of progressively more restrictive groundwater conservation requirements and methods to supplement groundwater supplies from the First Management Plans through the Third Management Plans. The Code is specific as to what programs must be included in each sequential management plan and ADWR has met the statutory mandates requiring the establishment of a water rights system and the continuing development and refinement of mandatory conservation requirements for industrial, municipal, and agricultural water users. For subsequent management plans, the statutory requirements are less specific, which implies the need to conduct a thorough assessment of the status of each AMA prior to the development of the Fourth Management Plans.

Phoenix AMA

The Phoenix AMA is currently in safe-yield, which is a significant achievement in the largest populated section in the state. In addition to reducing groundwater pumping, communities and individuals have made substantial investments in the utilization of renewable water supplies in this AMA, both directly and through recharge and recovery, water banking, water recycling, and utilization of renewable water supplies. ADWR and its regulated community have made large strides in ensuring there are sufficient supplies for future development and in providing back-up supplies for times when surface water supplies are limited. After review of the Phoenix AMA Assessment, it is clear that the challenge is to maintain safe-yield in this AMA. Facilitating the delivery of renewable water supplies into areas where historic groundwater declines have occurred will be an important focus of ADWR's efforts in this basin and will assist in ensuring that current and future citizens will have a long-term assured water supply.

Tucson AMA

The Tucson AMA has been a model for the efficient use of water supplies, which is important in light of limited availability and direct utilization of renewable supplies. While the recycling of water is an important element of the Tucson AMA nearly achieving safe-yield, more can be done to increase the use of renewable water supplies both for direct uses and recharge and recovery efforts. The focus of ADWR's efforts in this AMA will be to proffer and enact policies that increase the direct use of Central Arizona Project water and recycled water. This will be the key to achieving and maintaining safe-yield in this AMA.

Pinal AMA

The management goal of the Pinal AMA is unique, as there is recognition of the importance of agriculture to the economy of this region. However, the need to preserve water for current and future non-agricultural uses is also recognized in the goal. In 2007, a major effort was culminated to recognize the need to preserve water supplies for future municipal and industrial uses in the modifications to the Pinal AMA Assured Water Supply Rules.

These modifications were a community-driven effort of local water leaders, supported by the findings of the Governor's Water Management Commission and the Third Management Plan water budget and analysis. A key provision of this rule change, involving a gradual reduction in the issuance of credits that may be used to pump groundwater without the requirement to offset with renewable supplies, was to take effect in 2014. Local farming and business interests had concerns regarding the reduction in credit issuance, and have been regularly meeting during this fiscal year to explore methods of restructuring the AWS rule to address these concerns. ADWR has been working with local leaders and stakeholders to provide information regarding the AWS rules, as possible adjustments to the rules are discussed. ADWR has stressed that any rule changes must not result in additional harm to the aquifer, which would be detrimental to both the agricultural and development economies of the AMA contrary to the statutorily mandated goal of the AMA. Future efforts should be focused on ensuring there are continued opportunities for the direct use of renewable water supplies in the agricultural sector as well as securing additional renewable water supplies for future municipal and industrial development.

Santa Cruz AMA

The Santa Cruz AMA was split from the Tucson AMA in 1994 in recognition of its unique hydrology and the importance of the Santa Cruz River to the economy of the AMA. The management goal of this AMA is to maintain its current safe-yield status and protect the local water levels within its boundaries. With possible significant residential development in this area, and without Assured Water Supply Rules that reflect its unique goal, the ability to achieve this management goal will be in jeopardy. The Fourth Management Plan for this AMA will be focused on developing mechanisms such as recharge of underutilized reclaimed water and well spacing requirements that leverage locally available resources and reflect the goal of protecting existing water levels.

Prescott AMA

The Prescott AMA was declared to be out of safe-yield by ADWR in 1999. The management goal is for this AMA, as in the Phoenix and Tucson AMAs, is to achieve and maintain safe-yield by 2025. The availability of renewable water supplies is limited in this AMA, although opportunities do exist for the use of renewable water supplies and reclaimed water through aquifer augmentation, direct delivery or through recharge and recovery. The proliferation of exempt wells in this AMA is also a challenge to maintaining the availability of groundwater supplies. The importation of water from the Big Chino sub-basin of the Verde River groundwater basin is a tool provided in statute to assist this AMA in achieving its management goal. Efforts should be focused on developing long-term reliable renewable water supplies, including water reuse, and increased efficiencies of existing uses of water in this AMA. ADWR analysis indicates that by using all of the tools and supplies currently available in the AMA (Big Chino importation, surface water use, use of reclaimed water, and maximized efficiencies), safe yield can be attained. During the Fourth Management period, ADWR will facilitate discussions with the local community through the GUAC regarding the costs and impacts of following this strategy.

Issue 3: Surface Water Permitting

ADWR lacks authority to bring administrative enforcement actions for violations of the state's surface water laws; manage the use of surface water resources pursuant to water rights or claims; or resolve disputes between surface water users. When ADWR receives a complaint that a person is violating surface water laws, it attempts to persuade the violator to comply. If that fails, ADWR requests the appropriate County Attorney or the Attorney General investigate and take appropriate enforcement action. Certain violations of the surface water laws have been classified as class 2 or 3 misdemeanors and may be prosecuted by local law enforcement agencies, the county attorney or the Attorney General. See A.R.S. §§ 45-112 and 45-190. Frequently, aggrieved parties and the public are frustrated by ADWR's inability to administer the law and resolve surface water complaints.