Quick Facts

- During the summer, daily water usage is as much as two and one-half times that of winter use due to outdoor water use and irrigation.
- At 485 square miles, the Prescott Active Management Area is the smallest of the five management areas in the state.
- Annual groundwater use in the Prescott Active Management Area is approximately 18,000 acre feet, down 2,000 acre feet since groundwater mining was declared in 1999.
- Forests and woodlands are the primary source of water supply for Arizona's rural areas, including central Yavapai County.
- An acre foot of water is equal to 325,851 gallons, enough water for three to four households per year.
- Safe-yield is a groundwater management goal to achieve and thereafter maintain a long term balance between the amount of groundwater withdrawn in an active management area and the annual amount of natural and artificial recharge in the active management area. A.R.S. § 45-561(12)
- The Prescott Active Management Area includes the Upper Aqua Fria and Little Chino sub-basins.
- Snapshot Prescott Active Management Area groundwater:
  – Aquifer contains 2.9 million acre feet of groundwater (950 billion gallons)
  – About 10,000 acre feet/year is naturally recharged
  – About 18,000 acre feet/year if pumped

Executive Board

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Save the Dates!

Visit the Upper Verde River Watershed Protection Coalition Booth

Yavapai County Contractor's Association

Home & Garden Show

May 13 – 15

Prescott Valley Event Center

Enter for your chance to win a rainwater harvesting barrel!

Groundwater Balance

Continued from page 5

sub-basin without impacting the Upper Verde River.

"We also actively develop and participate in water conservation programs, annually report progress to the ADWR, adhere to State programs that limit development, adopt and utilize ADWR best management practices, and partner with other communities in the AMA and Yavapai County to investigate alternative water supplies, and manage the watershed. The broad agreement with Salt River Project to import water from the Big Chino into the PrAMA, at some future date, was finalized in 2010," he said.

UPPER VERDE RIVER WATERSHED PROTECTION COALITION

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YAVAPAI Water Smart™ NEWS

UPPER VERDE RIVER WATERSHED PROTECTION COALITION

SPECIAL EDITION

Be Water Smart: Special edition of Water Smart News

by Lora Lee Nye, Executive Board Chair

This special edition of Water Smart News was produced by the Upper Verde River Watershed Protection Coaltion (UVRWPC) in recognition of April as national Water Awareness Month. It includes general information on the area's water supply, rainwater harvesting, and water conservation education, with a focus on how to save when watering outdoors.

Content is diverse including articles about how growth gets water, living in an active water management area, rainwater harvesting methods, outdoor water conservation, low-water use landscaping, available water conservation incentives; and a calendar of local water awareness events during the month of April, and illustrations of water supply and water use.

WaterSmart News has become a popular communication tool for our stakeholders to inform them of UVRWPC news and activities. We have used the same format to develop this specifically focused edition for the general public.

See Be Water Smart, page 3

Save water outdoors by planting smart

Water conservation a priority for area communities

Water consumption during the summer months can be more than double that of winter months due to outdoor use and irrigation. Greater than fifty percent of water used for irrigation goes to waste due to overwatering, evaporation and runoff.

April Water Awareness Month also kicks off the summer season, and when it comes to landscaping and outdoor water conservation, the keys are go native and think low-water use. Efforts to keep vegetation native and low-water use will conserve water, decrease maintenance, and reduce monthly bills. Seven steps to outdoor landscaping is included on page 3.

Along with planting smart, residents should water only between 8 p.m. and 8 a.m. when water loss due to evaporation is at its lowest. And remember to monitor sprinklers for leaks, and redirect heads to ensure no water sprays onto paved surfaces. The City of Prescott has an ordinance that restricts outdoor spray irrigation to the hours between 8 p.m. and 8 a.m.

Rainwater harvesting can be a valuable tool when paired with

See Planting Smart, page 6

Living in an active groundwater management area

In 1980, the Arizona Groundwater Management Act (GMA) established the Arizona Department of Water Resources (ADWR) and defined active groundwater management areas throughout the state, including the Prescott Active Management Area (PrAMA). It statutorily identified the ADWR as the regulatory authority charged with oversight for water supply planning and management in designated management areas.

The PrAMA, at 485 square miles, is the smallest of the state's five active water management areas. It includes the City of Prescott, Town of Prescott Valley, Yavapai-Prescott Indian Tribe, and portions of Yavapai County, and the Towns of Dewey-Humboldt and Chino Valley.

With passage of the GMA, Arizona established itself as a model for the nation, and in 1986 was recognized by the Ford Foundation for its "landmark work in water management."

Large water providers in active management areas must comply with GMA regulations, which, in the PrAMA, includes the requirement that residential subdivisions show

Groundwater Management, page 5

State regulations: Residential growth and groundwater supplies

After several years of a depressed housing market in the Prescott area, new home construction has started to pick up again. Along with residential growth come questions about impacts to water supplies.

Water management in Arizona is complex but effective. Arizona has not experienced major impacts from drought largely because of the advance planning that began more than three decades ago with passage of Arizona's 1980 Groundwater Management Act (Act), and formation of the Prescott Active Management Area (PrAMA). The 1980 Act requires that every new subdivision in the PrAMA prove to the Arizona Department of Water Resources (ADWR) that it has a 100-year water supply before it can be approved by a county or municipality. New subdivisions cannot use groundwater that has been allocated to a previously approved subdivision, and the 100 year assured water supply calculation includes consideration for long-term drought.

With the exception of homes using a private well, new homes currently under construction in the quad-city area (Prescott, Prescott Valley, Chino Valley and Dewey-Humboldt) are on subdivision lots that were approved prior to 1999. Pre-1999 subdivisions were allowed to demonstrate a 100-year Assured Water Supply based on water from the local aquifer. But in January 1999, ADWR issued a rule that prevents any new subdivisions from using additional water from the aquifer. This rule, and enforcement by ADWR, reserves the water in the aquifer for current residents and owners of the pre-1999 lots.

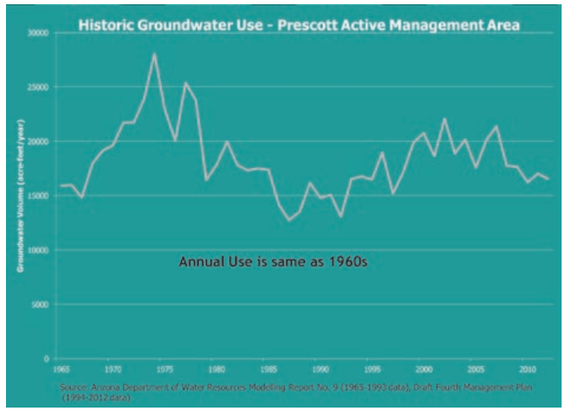
New subdivisions in the quad-city area are still a possibility, but developers must now achieve a much higher standard to demonstrate a 100-year Assured Water Supply. Without the ability to use groundwater from the aquifer, new subdivisions have limited and more expensive choices for water. These alternative water supplies include acquiring an existing water right under Arizona Law (ext inguishment credits), effluent credits, surface water from lakes or streams and water imported from outside of the groundwater basin.

Extinguishment credits are created when a water right that existed prior to the 1980 Act is taken out of service (typically irrigated agriculture) and the use is converted to a 100-year Assured Water Supply. That water can no longer be use for irrigated agriculture, and the rights of use are permanently transferred to the new subdivision. Effluent credits are created when reclaimed water from a wastewater treatment plant is initially stored below ground in vacant pore space above the water table. A developer can acquire these credits to prove a 100-year water supply. Using water from lakes and streams requires a senior water right under Arizona Law; typically a use that existed prior to statehood that can be taken out of service and converted to a 100-year Assured Water Supply. The common characteristic of all of these alternative water supplies is that they now and in the future reduce the reliance on the groundwater supplies.

In many ways, the 1980 Act is a consumer protection act that protects groundwater supplies for quad-city area residents and prevents new subdivisions from threatening that supply.

According to information provided by ADWR, current groundwater withdrawals in the PrAMA are approximately equal to groundwater withdrawals in the mid 1960s.

Water use declining in Prescott Active Management Area



Annual reports recently filed by the two largest water providers in the Prescott area show that water conservation programs are working.

According to John Munderloh, Water Resources Manager for the Town of Prescott Valley, the City of Prescott and Town of Prescott Valley are required to supply documentation on conservation programs each year to the Arizona Department of Water Resources (ADWR).

"Water conservation programs are mandated by the State of Arizona for large water providers located in Active Management Areas (AMA)." he said. "Prescott and Prescott Valley are are considered large water providers. The largest water use for both municipalities occurred in the mid-2000's, during the peak of the building boom."

Leslie Graser, City of Prescott Water Resources Manager, said the city's water use has declined over the last decade. The Town of Prescott Valley has also seen a decline in its water use over the same time period. "The daily per-person water use is down from a high of about 130 gallons ten years ago to below 100 gallons now," Munderloh said.

Graser and Munderloh attributed the reduction in water use to tiered rate structures and other community efforts like Water Smart, a regional water conservation outreach and public education program.

"Differential or tiered rates include increased charges for each unit of water used above a base quantity and reward people who conserve with lower water bills," Graser said. "In other words, the more you use above the base quantity, the more you pay."

Water conservation programs are selected from a list of Best Management Practices provided by ADWR.

"This gives us the ability to select those programs that work best for our communities," Graser added. "There continues to be a focus on outdoor water conservation, such as landscape watering. Improved efficiency can be achieved while maintaining pleasing outdoor spaces both at private homes and throughout the community. Further, every drop returned to wastewater treatment plants can be treated for recharge or reuse."

The city and town both operate recharge facilities to reclaim, treat and recharge interior waste water.

"Basically everything that is flushed or goes down a drain inside a home or business located in the town or city limits is available for reclamation and recharge," Munderloh said.

Groundwater from the regional aquifer underlying Prescott Valley and Chino Valley is the primary source of supply for the two communities.

CITY OF PRESCOTT WATER CONSERVATION INCENTIVES

Incentive	Incentive Award Amount
Landscape conversion to automatic drip system[2]	$75.00
Landscape irrigation audit by Certified Auditor[3]	$75.00
Rainwater cistern[4]	$ 0.10 per gal/storage $300.00 max award
Turf removal on-site and in adjacent public right-of-way[5]	$0.25 per sq ft $400.00 max award per residential account $800.00 max award per non-residential account
High efficiency toilets (replacement units 1.6 gallons or less per flush; 2 units maximum per residential account)	$50.00
Commercial urinals (replacement units 1.0 gallons or less per flush, or alternative flushless design)	$50.00
Rotator spray head replacement (minimum of 12 heads replaced)	$2.00 per spray head $40.00 maximum award
Leak repairs (one time benefit per property)	$5.00 per repaired leak $25.00 maximum award
Showerheads (not to exceed 2.4 gallons/minute)	$10.00
Other qualifying low flow-low tech Water Smart device	$10.00

Planting Smart

Continued from page 1

native and low-water use plants, decreasing or eliminating the need to apply potable water.

Annual precipitation ranges from 16 to 18 inches in the quad cities of Prescott, Prescott Valley, Chino Valley and Dewey-Humboldt. Native and low-water use landscapes are adapted to thrive on area precipitation and harvested rainwater with potable water only necessary until the plant is established or during extremely dry periods. High water use plants and grass areas are more likely to require potable water to survive.

The City of Prescott, Town of Prescott Valley, Yavapai-Prescott Indian Tribe, and portions of Yavapai County and the Towns of Chino Valley and Dewey-Humboldt are located in the Prescott Active Management Area (PrAMA), one of five actively managed groundwater areas in the state regulated and monitored by the Arizona Department of Water Resources (ADWR).

Water providers within the PrAMA are required by ADWR to conduct water conservation activities that are selected by the providers from a state approved list of Best Management Practices for water conservation. Activities are reported to ADWR on an annual basis.

Water conservation, with a focus on outdoor water savings, is a priority for PrAMA communities. Interior water use is reclaimed through recharge facilities operated by the City of Prescott and Towns of Chino Valley

and Prescott Valley. Outdoor water use is not available for reclamation through treatment and recharge facilities.

The City of Prescott has a variety of financial incentives designed to promote water conservation indoors and out. For more information on incentives and qualifications, please go to the city's web page for current information at: www.prescott-az.gov or contact Annikki Chamberlain at: annikki.chamberlain@prescott-az.gov.

See City of Prescott Water Conservation Incentives on Page 7

Harvesting Rainwater:

Renewal of an age-old practice

Rainwater harvesting is the tool to capture, contain and use water that does not come from a municipal water supply or well. A basic system includes the rainwater, a landscape in need of water and a method to catch and distribute the water.

For every inch of rain that falls, about 620 gallons of water can be caught and collected, per 1,000 square feet of roof area. A homeowner with a 1,000-gallon storage capacity can expect to harvest between 4,000 and 8,000 gallons of rainwater each year. Annual average household use per month is 7,000 to 8,000 gallons. Household use during the summer can rise as high as 16,000 gallons per month, or more.

Systems range from the more basic designed to collect and store rainwater for use on landscapes, to sophisticated varieties that sustain all household needs. The cost to install a rainwater harvesting system is about $1.75 per gallon of storage capacity and typically requires three to four-days of onsite work. Average storage capacity for a single-family residence is 1,000 gallons.

Rainwater harvesting is an age-old practice that is experiencing a resurgence in popularity, as people become more environmentally aware and concerned about resource conservation. Its use can be traced as far back as 5,000 years ago to ancient peoples living in semi-arid and arid climates of the Middle East and Asia.

RESOURCES

Upper Verde River Watershed Protection Coalition: www.yavapaiwatersmart.org

City of Prescott Outdoor Landscaping: www.prescottwatersmart.com

Arizona Department of Water Resources: www.azwater.gov

City of Prescott: www.prescott-az.gov

Town of Prescott Valley: www.pvaz.net

Town of Chino Valley: www.chinoaz.net

Yavapai County: www.yavapai.us

Yavapai County Cooperative Extension: http://extension.arizona.edu/yavapai/

April Water Awareness Month: www.waterawarenessmonth.com

Prescott Creeks Preservation Association: www.prescottcreeks.org

Prescott Area Wildland Urban Interface Commission: www.yavapaifirewise.org

Questions about this newsletter or content: info@yavapaiwatersmart.org

7 Steps to Low-Water Use Landscaping

Create beautiful, lush and colorful outdoor living spaces with low-water use flowers, plants, trees and shrubs. Research plants in relation to sun exposure, water and maintenance demands. Understand how they will function with the existing topography, wildlife, views and household privacy needs.

1. Design a Plan:
Sketch the area. Include existing and proposed walkways outdoor spaces, structures and planted areas. Install flowers, plants, trees and shrubs with similar light and water needs on the same irrigation zone. Consider the use of outdoor spaces in relation to indoor spaces.

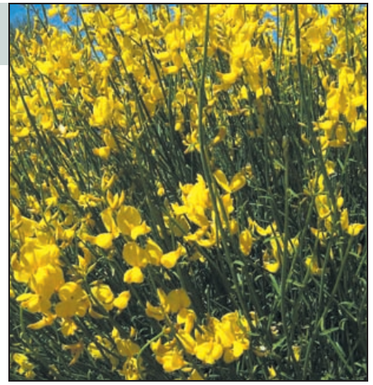
2. Amend the Soil:
Most plants and turf areas require some organic compost. Be aware of the soil composition necessary for the plants, trees and shrubs selected, and make amendments during the site preparation stage. Native plants will thrive with little or no soil amendments.

3. Select Low-Water Use Plants:
A wide variety of plants, trees and shrubs flourish in low-water use landscapes, and are available for purchase at local nurseries. Categories include very low, low and moderate water use. Tags in each plant explain water and light needs. Do not forget to consider space requirements upon mature growth.

4. Create a Practical Lawn Area:
Lawns have a place in low-water use landscapes. Options include seasonal native grasses, turf, ground covers and native wildflowers. Take into account the long-term water demand, maintenance needs and cost.

5. Install an Irrigation System:
Design an efficient watering system during the planning phase. Permit and install the required backflow prevention device. Zone the plant, shrub and turf areas. Adjust watering systems to account for plant maturity, topography and seasonal precipitation.

6. Mulch Top Dress:
Install 2-3" of mulch or rock over a woven fabric weed barrier. Shredded wood chips and garden compost conserve soil moisture. Decomposed granite and select rock types work best in unplanted areas. Consider



pre-and post-emergent to reduce weed growth.

7. Maintain the Landscape:
Low-water use landscapes require seasonal maintenance. A well-maintained landscape and efficient irrigation system will insure outdoor living spaces remain healthy and attractive.

This month, take part in an opportunity to learn more about Your water resources.

Celebrate 30 days of Water Awareness Month

EVENTS

1. Water exhibit at the Prescott Public Library: Entire month; 215 East Goodwin Street, Prescott

2. Granite Creek Cleanup: Saturday, April 23, 9-11 a.m. Register at http://wordpress-developer.us/prescottcreeks/volunteer-event-signup/

3. Prescott College and Open Space Alliance Earth Day on the Courthouse Plaza, Saturday, April 23, 10 a.m. to 4 p.m.; downtown Prescott

4. What You Need to Know to Grow class: Highlands Center for Natural History, Saturday, April 23, 9 a.m. to noon; 1374 S. Walker Road, Prescott

5. Highlands Center for Natural History, Spring Native Plant Sale: Sunday, May 1, 10:30 a.m. to 1 p.m.; 1374 S. Walker Road, Prescott

6. Yavapai Home and Garden Show: Saturday and Sunday, May 13-15, Prescott Valley Event Center, 3201 North Main Street, Prescott Valley

Be Water Smart,

Continued from page 1

Water conservation education is a coalition priority and, in 2008, the UVRWPC adopted WaterSmart as the umbrella under which we deliver water conservation education as a region. It is also an essential water management strategy for communities in the Prescott Active Management Area (PrAMA) that are required by the Arizona Department of Water Resources to conduct water conservation, and report annually on water conservation education activities. Our partners in water conservation education, also PrAMA communities, include the City of Prescott, Towns of Prescott Valley and Chino Valley, Yavapai-Prescott Indian Tribe, and Yavapai County.

Please read through this issue and make any comments by e-mailing info@yavapaiwatersmart.org. Browse through the website to learn more about the UVRWPC and its priorities.

THE POWER OF PARTNERSHIPS

The importance of partnerships at all levels cannot be understated. Members of the Upper Verde River Watershed Protection Coalition (UVRWPC) have been successful in developing relationships and building partnerships that are leading to positive results for the watershed and central Yavapai County communities.

Since 2012, with passage of the Watershed Initiative by the Executive Board, planning across the watershed and engagement of public and private stakeholders to write and implement a project based plan for Upper Verde River Watershed protection, restoration and management have been the priorities. The list of partners and collaborators serving on the Watershed Task Force is impressive.

A scenario planning effort in 2014 brought together the best and brightest from around the state working in the field of natural resource management to refine elements of the watershed plan. Complete late in 2014, the Upper Verde River Watershed Restoration and Management Project Plan is the UVRWPC guiding document. The word project is important. Task force members wanted to ensure the plan was a document that could be followed and lead to "boots on the ground" work to protect and restore the watershed.

Positive results from this effort were almost immediate with receipt of a more than $1 million grant awarded by the United States Department of Agriculture Natural Resources Conservation Service (NRCS) for brush management in the watershed. The grant was written in partnership with Arizona Game & Fish, a member of the Watershed Taskforce. It is being implemented through the NRCS Prescott Valley office, also a member of the Watershed Taskforce.

During the same timeframe, UVRWPC members, recognizing the occurrence of a catastrophic wildfire in the forest and wood lands will cause irreparable damage to the watershed, signed on as a member of the Arizona State Forestry led Woody Biomass Team. Arizona State Forestry (ASF) is a member of the Watershed Taskforce. The biomass team is tasked with assisting organizations throughout the state in acquiring the data and engineering required to establish forest-based enterprises in their regions, including central Yavapai County. Restoration of the Upper Verde River Watershed is complex, and developing an industry base to utilize the by-products of forest thinning activities is critical to continued progress and sustainability of efforts. Successful invigoration of a forest products industry will also provide a significant boost to the local economy.

A Biomass Committee, an offshoot of the Watershed Task Force and with ASF support, was established in October 2015. Committee participation spans the spectrum including entrepreneurs representing the forest products industry, transportation professionals, natural resource managers, economic developers, foresters and elected officials. Members are forging ahead with implementation of the forest health and vegetation management project included in the Watershed Restoration and Management Project Plan.

With a modest budget and honoring the taxpayer investment in its work, the UVRWPC is using the power of partnerships to tackle what many consider the most pressing issues facing the region – high risk of catastrophic wildfire in the watershed and the resulting long-term damage a major fire will have on water supplies.

In a recent letter to Arizona Governor Doug Ducey, facilitated by the UVRWPC and signed by state and local elected officials, the undeniable link between water supply security and forest health was aptly cited.

"Rural communities are particularly affected because not only are forests and woodlands our primary source of water, but we are also often directly impacted by high intensity wildfire," they wrote.

With a modest budget and honoring the taxpayer investment in its work, the UVRWPC is using the power of partnerships to tackle what many consider the most pressing issues facing the region – high risk of catastrophic wildfire in the watershed and the resulting long-term damage a major fire will have on water supplies.

Forest health is not the only arena where collaboration and the sharing of resources are making a difference. UVRWPC members, with approval from the Executive Board, recently entered into a partnership with the Prescott Active Management Area (PrAMA) Groundwater User's Advisory Committee (GUAC) for outreach and education. The GUAC is a governor appointed committee comprised of local scientists, private citizens, elected officials and municipal managers charged with advising the Arizona Department of Water Resources on water management issues specific to the PrAMA. Communication is designed to build awareness of the GUAC role in the PrAMA, provide information on the PrAMA 4th Management Plan, conduct outreach to the business community and residents, and forward water conservation education through the UVRWPC WaterSmart program.

Without the commitment, guidance and assistance from UVRWPC partners, the exciting work that is unfolding in the watershed would not be possible.

PrAMA Groundwater balance within reach, state says

The Prescott Active Management Area (PrAMA) 4th Management Plan has been completed by Arizona Department of Water Resources (ADWR) and goes into effect January 1, 2017. It is good news for Yavapai County communities located within the water management area.

According to the 4th Management Plan, ADWR developed and analyzed scenarios that show the PrAMA can achieve the water management goal of safe yield by the state designated deadline of 2025.

In 1999, ADWR issued a groundwater mining declaration (out of safe yield) for the PrAMA, which includes the City of Prescott; Town of Prescott Valley; Yavapai-Prescott Indian Reservation; the Towns of Dewey-Humboldt and Chino Valley; and portions of Yavapai County. The PrAMA is the only area within Yavapai County that must comply with state water regulations enacted with passage of the Arizona Groundwater Management Act (GMA) in 1980.

"It is possible for the PrAMA to achieve safe yield by 2025, and safe yield can be maintained in the PrAMA as far into the future as about 2070 (at projected growth rates)," as written in the plan preliminary draft "but it will require importation and use of Big Chino groundwater, or some other supply; a diligent commitment to increasing the proportion of the population on central sewer; increasing the efficient use of all water supplies; and careful management of the storage and recovery of reclaimed water; as well as direct or indirect use of locally available surface water."

According to John Munderloh, Water Resources Manager for the Town of Prescott Valley PrAMA communities, both individually and collaboratively, work to achieve Safe Yield.

"Our communities have constructed systems that recycle reclaimed water back to the aquifer, and are working cooperatively with Salt River Project to import water from the Big Chino

See Groundwater Balance page 8

Groundwater Management

Continued from page 1

verifiable evidence of a 100-year water supply before they can be approved. Large water providers in the PrAMA are the City of Prescott and Town of Prescott Valley.

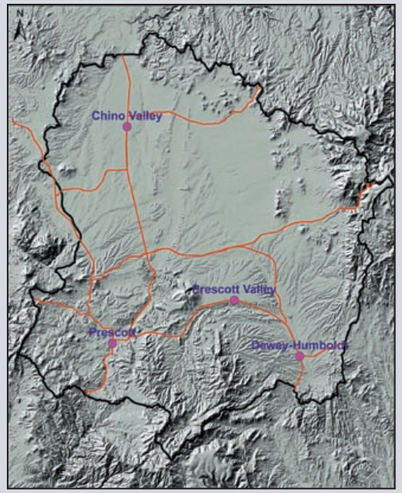
Since declaration of groundwater mining (out of Safe Yield) by the ADWR in 1999, no new residential subdivisions are permitted to assure a 100-year water supply with existing groundwater resources. *See related water for growth story on page 2.

Attaining Safe Yield by 2025 is the primary water management goal established by the ADWR for the PrAMA. It is defined in Arizona statute as "a groundwater management goal which attempts to achieve and thereafter maintain a long-term balance between the annual amount of water withdrawn in an active management area and the annual amount of natural and artificial recharge in the active management area." In simpler terms, Safe Yield is the desired condition where annual groundwater use is equal to the amount of water recharged into the aquifer.

The PrAMA 4th Management Plan, in effect through 2020, charts the path to reaching Safe Yield. It was completed by the ADWR, with advice from members of the local governor-appointed Groundwater Water Users Advisory Committee (GUAC).

Current annual groundwater withdrawals in the PrAMA are approximately 18,000 acre feet, down 2,000 acre feet from a high of 20,000 when groundwater mining was declared. Annual groundwater overdraft is about 9,000 acre feet.

Communities in the PrAMA work collaboratively to attain Safe Yield. The Upper Verde River Watershed Protection Coalition, a formal intergovernmental partnership between PrAMA com-munities, has a mission to protect the base flows of the Upper Verde River by balancing the reasonable water needs of businesses that operate and residents who live within watershed boundaries. Its goals including implementing pro-jects and water conservation programs that support attainment of Safe Yield. The PrAMA is wholly located within the larger Upper Verde River Watershed.



Prescott Active Management Area

More detailed information on the PrAMA and 4th manageme nt plan is available on the ADWR website at http://www.azwater.gov/AzDWR/Watermanagement/AMAs/PrescottAMA/default.htm.