

YAVAPAI Water Smart™ NEWS

UPPER VERDE RIVER
WATERSHED PROTECTION COALITION

WATER SUPPLIES &
WATERSHED MANAGEMENT

Nexus between water supply security and watershed health

by Lora Lee Nye,
Executive Board Chair

The Upper Verde River Watershed Protection Coalition (UVRWPC) is a project-based workgroup that uses planning and proven scientific principles to restore, manage and protect our watershed and its forested lands. Watershed and forest health and the safety and security of our water supplies are forever linked in the natural world.

Over the last three years, the UVRWPC and its many partners and stakeholders have embarked on a complex process to restore our watershed and bring our forested lands back to a healthy state. Healthy water supplies depend on a healthy forest.

We use our Watershed Restoration and Management Project Plan to guide our efforts in support of our priority issues and goals including forest health, optimizing natural recharge, and promoting and adopting practices that support water conservation for all water users. And let us not forget implementing projects that forward attainment of Safe

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Hydrology of the Upper Verde River Watershed and Prescott Active Management Area

The Upper Verde River Watershed, is made up of the Big Chino and Little Chino Sub-basins, both contributing storm run-off and spring flow to the Upper Verde River located east of Paulden.

Included in the 485 square-mile Prescott Active (Water) Management Area (AMA), the Little Chino Sub-basin is the source of groundwater for the City of Prescott and Town of Chino Valley. Also inside Prescott AMA boundaries, but outside of the Upper Verde River Watershed, the Upper Agua Fria Sub-basin provides groundwater for the Towns of Prescott Valley and Dewey-Humboldt.

The Prescott AMA aquifers are estimated to hold around three (3) million acre-feet of groundwater. Groundwater pumping over the



decades has removed more water than has been replaced or recharged; the term often used is “groundwater mining.” To put this condition in

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Water supply management and regulation

The level of management and regulation of water supplies in the Upper Verde River Watershed depends on whether or not the water user is located in the Prescott Active Management Area (AMA).

Municipal water providers and large agricultural and industrial water users located in the Prescott AMA are subject to strict regulation as defined in the Groundwater Management Act (GMA) of 1980, and oversight by the Arizona Department of Water Resources (ADWR).

The GMA is widely considered

to be one of the most stringent groundwater management codes in the country. Arizona was recognized by the Ford Foundation for its foresight in adopting the GMA, largely a set of consumer protection laws that set standards for and regulate the use of groundwater supplies in identified active water management areas throughout the state.

With the passage of the GMA, residential developers had to prove to ADWR that they had a 100-year assured water supply. Prior to the declaration of groundwater mining

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Vegetation management impact on natural recharge

This is a key issue for the Upper Verde River Watershed Protection Coalition (Coalition) as it and many partners move forward on a number of projects to return area watersheds to more historic conditions.

The US Geologic Survey determined that less than two percent (2%) of the total precipitation received in the Upper Verde Watershed found its way into the regional aquifers (Blasch, et.al, 2006). Another one to two percent (1-2%) runs off during big storms leaving the largest majority of our precipitation to be consumed by plants and through evaporation from the soil surface.

Over one hundred years of fire suppression has led to overgrowth of woody vegetation in woodlands and invasion of woody plants into historic grasslands. The Coalition is working to reduce the density of woody species while restoring native grass habitat to protect the soil and slow runoff. The most immediate need is to protect watersheds from high-intensity wildfires that sterilize soils and lead to disastrous floods. Lora Lee Nye, Chairman for the Coalition, has explained: "Watershed restoration is water preservation."

What is not clear is if reducing woody vegetation will increase water supplies. To address this question, the Coalition conducted two systematic literature reviews that focused on natural recharge and the potential water benefits from vegetation management in pinyon/juniper (PJ) and chaparral woodlands. Although individual studies contained findings about specific environments, once taken as a body of work, they were either contradictory or so specific as to not be applicable to the Upper Verde River Watershed study area. The only conclusion that could be drawn from these literature

reviews is that the case is still open on whether aquifer recharge will increase due to vegetation restoration efforts, and more applied scientific investigation is required.

Two very important elements of previous studies not considered in the literature being reviewed were



seasonal variability and weather pattern oscillation. Another way to put this is significant aquifer recharge only occurs in the Upper Verde River Watershed during the occasional wet winter. Winter is also when native grasses are dormant, but evergreen woodland species, such as PJ, are still using water. Long-term annual averages were used to draw conclusions in the literature reviewed. Previous studies did not take into account the variable nature of precipitation specific to this region, information that is critical to understanding the impact of vegetation management on recharge in the Upper Verde River Watershed.

How does aquifer recharge work?

Groundwater recharge occurs when water saturates the soil profile to a depth below plant roots and influence from soil evaporation. However, where grasslands and woodlands are rooted in deep soils, it is nearly impossible to fill the dry soil profile, meet plant water demands and still have water percolate below the root zone. In this type of wet soil environment, ad-

ditional rainfall tends to run off rather than infiltrate. Instead, most recharge originates as runoff into the various ephemeral washes where water is concentrated for a period of time. Washes also contain coarse material like sand and gravel which allows for faster percolation. For example, the Prescott Active Management Area (PrAMA) Groundwater Flow Model (Nelson, 2014) shows that most of the aquifer recharge originates from sustained runoff in major washes like Granite Creek and Lynx Creek. According to the model, runoff in washes contributes about 75 percent of the total recharge, even though these washes may only run once every 10 years,

while the remaining 25 percent occurs at the mountain fronts during periods of snow melt. The model indicates that virtually no recharge occurs from the grasslands located throughout the PrAMA basin. So why would more grasslands and less woodlands provide additional aquifer recharge?

Natural recharge mechanisms are simple to understand and only require water, a place for it to accumulate and time for it to infiltrate. Recharge from vegetation management likely will not occur directly beneath grasslands. However, dormant winter grass cover will allow for a wetter soil (compared to evergreen woodlands) that will increase the volume of runoff while the grass itself slows the release of that runoff and increases the total volume available and the opportunity time for recharge to occur. This is hypothesized to yield benefits to Upper Verde River Watershed aquifers. Ultimately, this is the normal functioning condition that existed in our watersheds before the mix of vegetation was altered by human activities

Upper Verde River Watershed Protection Coalition

The Upper Verde River Watershed Protection Coalition (UVRWPC) was established in 2006 as a regional group of government stakeholders. Its members include the City of Prescott, Towns of Prescott Valley and Chino Valley, Yavapai County, and Yavapai-Prescott Indian Tribe.

Identified goals include:

- Integrate science-based planning to forward responsible utilization of water resources.
- Identify and promote effective conservation practices for all water users.
- Efficiently manage projects that lead to the safe yield or the long-term equilibrium between the amount of groundwater withdrawn from the aquifer, and the annual amount of natural and artificial recharge to the aquifer.

- Operate in an environment that fosters public participation and open and honest dialog. In 2011, the UVRWPC Executive Board adopted the Watershed Initiative setting the priority for planning across the watershed. A multi-stakeholder Watershed Taskforce was established, and by 2014, the Watershed Restoration and Management Plan was complete.

Watershed restoration uses scientific principles to restore or alter critical watershed characteristics with the goal of optimizing ecosystem function and protection. Watershed management assures long-term sustainability of the watershed following restoration to desired conditions.

Management considerations

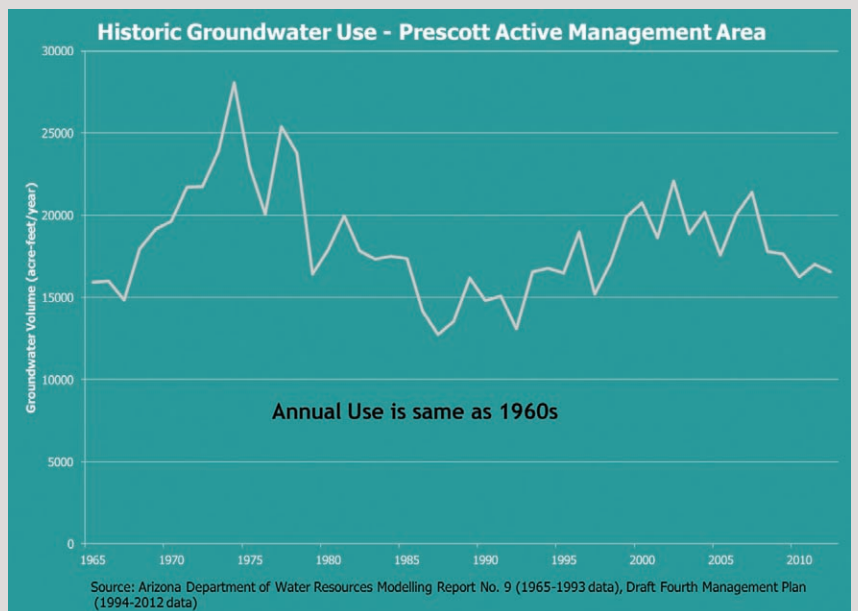
within the UVRWPC project area include adequacy of water supply, natural recharge, vegetation management, forest health, and water rights. In addition to watershed restoration and management, the UVRWPC provides water conservation education and supports projects that lead to attainment of Safe Yield in the Prescott Active Management Area.

The Upper Verde River Watershed includes 125,000 residential and commercial water users, and combined 39,400 municipal service connections and 12,000 independent private service and exempt wells. Average per capita per day use is less than 125 gallons, not including water use for agriculture, industry and golf courses.

Hydrology, Continued from page 1

perspective, net groundwater mining from this aquifer is around eight (8) thousand acre-feet per year, over and above recharge, or about 0.2 percent of the total aquifer volume. Located outside of the Prescott AMA, the Big Chino Sub-basin contains the northern portion of the Williamson Valley Corridor, and the unincorporated communities of Paulden, Ash Fork and Seligman. Its total groundwater in storage has been reported to be five times that of the Little Chino at an estimated 15 million acre-feet, and is the planned future water supply for Prescott AMA communities.

Only about 2 percent of total annual precipitation reaches and naturally recharges aquifers in the Upper Verde River Watershed. Most of the precipitation (around 96 percent) is consumed by plants or evaporates, while the remainder runs off into the Verde River. Natural aquifer recharge occurs during the occasional wet winter when runoff in the various ephemeral streams is sustained by snowmelt and persistent rains. Summer monsoon rains typically do not recharge the aquifer since water use by plants is at its peak, and stream runoff is usually spotty and short-lived.



It is a primary objective of the Upper Verde River Watershed Protection Coalition to identify and implement practices that have the potential to increase the amount of annual precipitation that reaches watershed aquifers. Promising practices include vegetation management on forestlands, storm water management, and rainwater harvesting for aquifer recharge.

Timeline of Water Events

DATE	EXPLANATION
1863	Gold rush near Prescott, water appropriations begin, including Del Rio Springs for first territorial government and military
1864	Prescott established
1864	First State Water Code (Howell Code) passed by Territorial Legislature in Prescott
1865	Camp Verde established, irrigation in Verde Valley begins
1867	Jack Swilling and miners from Prescott start irrigating in Salt River Valley to raise crops for Prescott-area miners and settlers
1881	Shallow wells dug on courthouse square for fire fighting
1884	Miller Creek and Mt. Vernon reservoirs constructed for fire protection
1898	Prescott passes bond for Potts and Aspen Creek reservoir (but were never built). President McKinley designates Prescott Forest Preserve for watershed protection for the City reservoirs.
1900	Prescott downtown burns down, main town well was out of service and unavailable for fire-fighting
1901	Pumping from Del Rio Springs to Prescott begins
1902	Newlands Reclamation Act initiates SRP and Roosevelt Dam
1911	Roosevelt Dam Completed
1916	Hassayampa Canal Company formed, construction begins on Granite Creek Dam (Watson Lake) to irrigate in Chino Valley
1919	State Water Code enacted
1922	Colorado River Compact – Arizona refused to ratify until 1941
1929	Prescott builds lower Granite Creek infiltration gallery well for municipal supply, pumping from Del Rio is discontinued
1931	Southwest Cotton case begins – first groundwater/surface water decision
1933	Prescott constructs Goldwater Dams for Municipal water supply
1940's	Large-scale groundwater pumping begins, Big and Little Chino
1948	Critical Groundwater Basins delineated, registration of agricultural wells implemented
1948	Prescott drills deep wells in Chino Valley for municipal water supply. Replaces surface water sources near Prescott
1963	Arizona v. California decision in Supreme Court determines Arizona's right to CAP water
1966	Prescott Valley Inc. begins selling lots in Prescott Valley
1968	Central Arizona Project (CAP) authorized by US Congress for Central Arizona
1970	Town of Chino Valley is incorporated
1973	Adequate Water Supply Rules initiated as a result of land fraud cases throughout Arizona
1973	Construction begins on CAP to bring Colorado River water to Maricopa, Pinal and Pima Counties
1976	SRP files a petition to adjudicate water rights on the Verde River system
1977	President Carter puts CAP funding on hold
1977	Prescott begins looking to Big Chino for water supply
1978	Town of Prescott Valley is incorporated
1980	Groundwater Management Act, ADWR established, CAP funding ensured
1983	ADWR allocates CAP water to Prescott and Yavapai Prescott Indian Tribe – 7,667 af
1985	First CAP water delivered to Harquahala Valley Irrigators
1990	Prescott purchases Dugan Ranch and Weber Ranch in Big Chino for importation project
1991	Arizona Legislature passes Groundwater Transportation Act – codifies rights to import water from Big Chino Sub-basin to Prescott AMA
1996	Municipal water use exceeds water use for Agriculture in Prescott AMA
1999	ADWR declared Prescott AMA to be in a state of groundwater, moratorium placed on new subdivisions using groundwater
2004	Prescott purchases Big Chino Water Ranch, forms partnership with Prescott Valley
2006	Upper Verde River Watershed Protection Coalition formed to help reach Safe Yield and protect flows in Upper Verde River
2009	Prescott prevails in challenges to Big Chino water rights, final decision is 8,067 af in 45-555(E)
2010	SRP, Prescott and Prescott Valley sign settlement agreement on water rights to the Big Chino
2012	SRP, Prescott and Prescott Valley sign supplemental agreement to increase hydrologic monitoring network in Big Chino Sub-basin and to correct the USGS regional groundwater model.
2012	Upper Verde River Protection Coalition launches the Watershed Restoration Initiative
2013	ADWR releases update of Prescott AMA Groundwater Model
2014	ADWR releases Fourth Management Plan for Prescott AMA
2015	Upper Verde River Protection Coalition receives grant for watershed restoration efforts in Big Chino Sub-basin

History of Big Chino water rights

The idea of importing additional water to central Arizona goes back to the 1920s with the inception of the Central Arizona Project (CAP) as a way to sustainably support population growth in Arizona. The CAP, like most water projects, took nearly half of a century to get through legal and administrative hurdles before construction was underway. By the early 1980s, the Arizona Department of Water Resources had allocated water rights to various communities in Arizona, including the City of Prescott and the Yavapai- Prescott Indian Tribe (YPIT). Although a canal was constructed to deliver water to the Phoenix and Tucson areas, the CAP never intended to deliver water directly to communities in northern Arizona. Rather the plan was for these communities, including Prescott, to draw their water directly out of the Verde River and exchange CAP allocations to one of the downstream users of Verde River water. This would allow for any impacts to downstream water supplies to be made whole by the direct delivery of the CAP allocation. As environmental compliance laws became more stringent in the late 1980s, it became impractical for Prescott to take a direct diversion from the Verde River to fulfill their CAP allocation. Instead, a number of

events in the early 1990s allowed Prescott to exchange the CAP allocation for groundwater rights in the Big Chino Sub-basin.

- 1990 – Prescott purchased the Weber and Dugan Ranches in the Big Chino Sub-basin near Paulden as a future groundwater supply
- 1991 – Arizona Legislature passed the Groundwater Transportation Act recognizing Prescott’s right to up to 14,000 acre-feet of water from the Big Chino Sub-basin, including water necessary to meet obligations to a Federal Reservation (YPIT).
- 1994 – Prescott and other parties settled the water rights claims to the YPIT. As a result, Prescott has the obligation to meet current and future water needs for the YPIT.
- 1994 – City of Scottsdale purchased Prescott’s and the YPIT’s CAP allocations. The funds are held in a trust fund by ADWR to be used for future water acquisition costs by Prescott and on behalf of the YPIT. In the late 1990s, with these elements in place, Prescott planned to move forward on a pipeline to bring

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BIG CHINO WATER RANCH

Prescott Active Management Area water supply future

The two largest communities in Yavapai County are working with the largest water provider in the Phoenix area to protect the Upper Verde River. Prescott and Prescott Valley previously were at odds with Salt River Project (SRP), headquartered in Tempe, over plans to pump water from the Big Chino Sub-basin. SRP supplies water from the Verde and Salt Rivers to customers in the Phoenix area and expressed reservations about the long-term impact of groundwater pumping from the Big Chino Sub-basin on those supplies.

According to initial estimates by the US Geological Survey (USGS), groundwater in the Big Chino Sub-basin may provide up to 80 percent of the spring flow in the Upper Verde River and from 10 to 25 percent of the water supply in the Verde Valley. In the early 1990s, the City of Prescott purchased property about four miles away from the Upper Verde Springs as a location to withdraw water from the Big Chino Sub-basin. Then in 2004, the City of Prescott and Town of Prescott Valley purchased a ranch property located about 20 miles away from the Upper Verde Springs to avoid impacts on the river.

After several years of legal disputes, the three parties decided to settle their differences and joined forces to protect the Upper Verde River from pumping impacts. However, hydrologic experts working with the three parties, including the USGS and Arizona Department of Water Resources realized that better hydrologic information is needed in order to create that protection plan. Improving that hydrologic understanding requires additional hydrologic data.

Since 2013, the three parties have been installing hydrologic monitoring equipment and recently hired Golder Associates to construct a numerical groundwater model of the Big Chino. The groundwater flow model, along with continuous monitoring of hydrologic conditions, will form the basis of a feasible plan to import water from the Big Chino Water Ranch property, while avoiding impacts to the Upper Verde River.

The Prescott Active Management Area (AMA) is currently in a state of groundwater mining, and introduction of additional water supplies from the water ranch

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Critical need for grassland vegetation

Wide open vistas, pronghorn, strong winds, intense sun, seasonal extremes of heat and cold are all descriptors that people use when describing grasslands. Most often these harsh conditions lead people to enjoy views of Arizona's wide open grassland landscapes through the windshield of their car on the way to more highly visited forest areas. As a result of heightened recreational interest and press related to wildfires, awareness of the activities required to maintain healthy forests is higher than it is for grasslands.

However, like prescribed fire, forest thinning and understory treatments implemented to maintain healthy forests; grasslands must also be restored and maintained to protect the many benefits they provide Arizonans. They provide critical habitat and food for many types of wildlife, including; pronghorn, burrowing owls and black-footed ferrets. Grasslands help maintain and control flows to numerous stretches of perennial streams like the Verde and Agua Fria Rivers. They also sustain the ranching industry, which provides numerous economic benefits to rural communities and businesses.

Unfortunately, we face a real problem in Arizona as juniper trees have expanded their historic range and are leading to widespread conversions of grasslands to woodlands. We have lost an amazing 70%, or 15 million acres, of native grassland to shrub and tree encroachment, erosion and invasive, non-native plants due to current climate regimes, fire suppression, and land use practices.

Recently, federal, state and local agencies, as well as, private industry and land owners have come together through the Natural Resource Conservation Services, Regional Conservation Partnership Program to expand activities related



to grassland restoration. Many of you have probably seen some of these activities as you travel through Yavapai County. Activities include prescribed burning, mechanical removal of juniper trees, prescribed grazing, fencing and livestock and wildlife water developments.

As you travel through these incredible grassland landscapes and observe some of these activities please remember that grasslands, like forests and woodlands provide a unique set of benefits and the diversity they add to our area are critical to many species of wildlife, rural business and local communities.



Importance of watershed management

On July 20, 2010 a heavy monsoon rain hit the 15,000 acres ravaged by the Schultz Fire located northeast of Flagstaff Arizona. Governments and landowners tried to prepare for the coming flood with sandbags and berms, but experts underestimated the coming devastation. Coconino County estimates that the direct costs to various government agencies was around \$60 million and the total financial impact was more than \$130 million.

The cause of the flood devastation was due to the impact on the watershed from a high intensity forest fire. According to Keith Klassen, a Captain with the Summit Fire District responsible for the area burned by the Schultz fire, the Schultz pass area had long been considered a fire threat. Well before the fire, the Coconino National Forest had planned to thin the area, but an injunction filed by the Southwest Center for Biological Diversity delayed the thinning project for more than a year. By the time the injunction was lifted, the economic downturn was in full force and contractors that were once interested in the thinning project had moved on.

Years of fire suppression and mismanagement had created a forest that was unnaturally dense, allowing the Schultz fire to burn at such an intense level that the soil surface looked and acted like tar paper, shedding water

rather than allowing it to soak in. When the rains came, the energy created by the fast moving water dislodged soil downstream, cut gullies and created a lahar-like mass of muddy, ash-filled floodwater.

We're lucky that recent events such as the Doce Fire and the Yarnell Hill fire in Yavapai County did not create similar circumstances. Although these fires burned with lethal intensity, the high percentage of granite rock in these areas helped keep the soil in place and reduced runoff intensity. Counting on luck is not a responsible strategy. Starting in 2012, the Upper Verde River Watershed Protection Coalition implemented a comprehensive

Starting in 2012, the Upper Verde River Watershed Protection Coalition implemented a comprehensive approach to managing our watersheds. In addition to mitigating wildfires, the Coalition is also focused on improving the amount of precipitation that reaches our aquifers.

approach to managing our watersheds. In addition to mitigating wildfires, the Coalition is also focused on improving the amount of precipitation that reaches our aquifers.

Continuing to ignore our watersheds is no longer an option, the negative consequences are simply too large. We need to restore about 1 million acres in Yavapai County within the next 20 years. This means that about 50,000 acres per year need to be addressed to have a chance of success. Less than 5,000 acres per year are currently being restored. Increasing the rate of restoration tenfold will require the assistance of many partners, including private industry and private landowners. The National Association of State Foresters best describes the approach as "All Hands, All Lands."

(The following references were used in writing this column.

http://frontrangeroundtable.org/uploads/Roundtable_News_06313_Schultz_Presentation_Recovering_After_Disaster_.pdf; <http://www.firefighternation.com/article/features-0/schultz-fire-subsequent-flooding>)

Water Supply Management, Continued from page 1

in the Prescott AMA in 1999, that supply typically was groundwater. Since the declaration, developers can no longer use groundwater supplies to prove a 100-year water supply, unless they extinguish a pre-existing groundwater right. Other water supplies that can be used to prove a 100-year assured water supply include reclaimed water, surface water and groundwater from the nearby Big Chino Sub-basin. All options are more expensive, contribute to the high cost of housing in the Prescott AMA, and must also be approved by ADWR.

Another GMA requirement is the water management goal to reach safe yield in the Prescott AMA by 2020. Safe Yield is a groundwater management goal which attempts to achieve and maintain a long-term balance between the amount of groundwater annually withdrawn and the amount annually recharged. This increases the importance of artificial recharge facilities, as well as the need to conserve water, and explore ways to optimize natural recharge.

Upper Verde River Watershed communities located outside of Prescott AMA are not subject to requirements in the GMA or oversight by ADWR. There are no state restrictions on groundwater use or aquifer depletion. Although a developer may be asked to prove a 100-year water supply by their community, no prohibitions against groundwater mining exist.



Reclamation and aquifer recharge contribute to water supply security

Communities in the Prescott area are making good use of a water resource that used to be considered a waste product. Waste water treatment plants operated by the City of Prescott and the Towns of Prescott Valley and Chino Valley clean up wastewater, or reclaimed water, and apply that water to offset groundwater uses or recharge the groundwater system.

Most of the area golf courses that at one time depended on groundwater now receive reclaimed water to meet their water needs. This still leaves about 66 percent of reclaimed water available to recharge the aquifer.

Communities are able to recover between 50 and 65 percent of the potable water they deliver to customers as reclaimed water. This has become a vital resource to achieve Safe Yield by 2025 in the Prescott



Active Management Area (PrAMA) groundwater basin. Safe Yield occurs when groundwater tables in the PrAMA groundwater basin are no longer in decline.

Mechanics of the recharge process are simple; reclaimed water is put into basins and held until it seeps into the ground and eventually

works its way to the aquifer. The process is highly regulated by the Arizona Department of Water Resources and Arizona Department of Environmental Quality to ensure that water quality meets national standards and that the recharged reclaimed water is accounted for. In all, about 55 percent of the groundwater pumped for municipal uses in the PrAMA is regenerated as reclaimed water to offset groundwater use and to recharge the aquifer.

History Big Chino

Continued from page 5

groundwater from the Dugan Ranch near Paulden into Prescott. Verde Valley communities raised concerns about possible impacts to the Upper Verde River Springs (UVS) from pumping groundwater from about four miles away. After much debate and public input, Prescott purchased a water ranch (the Big Chino Water Ranch or BCWR) much further away from the UVS in a remote portion of the Big Chino Sub-basin. Pumping water an additional 16 miles away, and purchasing another ranch property substantially increased the cost of importing water, and, in 2004, Prescott partnered with the Town of Prescott Valley with a 46 percent cost share in exchange for an equal percentage of the water.

In 2008, Prescott applied for a re-designation of its assured water supply determination from ADWR to include the Big Chino Water Ranch supplies. This public process included objections in the form of lawsuits and administrative hearings to potentially prevent Prescott from importing water from the BCWR, in spite of the earlier transfer of CAP allocations.

Objections were led by the Salt River Project (SRP), the largest raw water provider for the Phoenix area and a senior user of Verde River water.

In 2010, Prescott, Prescott Valley and SRP settled these various lawsuits out of court. The 2010 settlement among the three parties resulted in unwinding the ongoing litigation, modifying A.R.S. §45-555(E) to limit the amount of water Prescott could transport from the Big Chino to 8,068 acre-feet per year and a number of other general stipulations including an agreement that pumping by Prescott and Prescott Valley would not harm the UVS.

Currently, Prescott, Prescott Valley and SRP are focused on the monitoring and modeling efforts that will lead to a mitigation program, if necessary, to ensure that future pumping does not harm the Upper Verde System.

This Agreement in Principle led to a subsequent agreement to increase the hydrologic monitoring network in the Big Chino Sub-basin and to construct a detailed groundwater model to determine how to best evaluate groundwater withdrawals. Currently, Prescott, Prescott Valley and SRP are focused on the monitoring and

modeling efforts that will lead to a mitigation program, if necessary, to ensure that future pumping does not harm the UVS. Agreements and annual progress reports are completed and posted on <http://www.prescot-az.gov/services/water/chino.php>.

Local council safeguards water resources, advises state



The Prescott Area Active Management Area (AMA) Groundwater Users Advisory Council is a five-member governor appointed committee comprised of local scientists, municipal managers, elected officials and private citizens charged with advising the Arizona Department of Water Resources (ADWR) on issues specific to water management in the Prescott AMA.

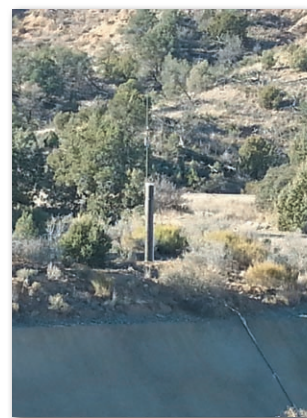
Establishment of the council was mandated in state statute with passage of the Groundwater Management Act of 1980. The primary water management goal is attainment of Safe Yield in the Prescott AMA by 2020. Specific responsibilities include:

- Serve as a voice for citizens living in the Prescott Active Management Area



- Make recommendations to the ADWR for policies and programs
- Assist the ADWR on the development and implementation of water management plans
- Operate in a public environment that encourages citizen input
- Work in partnership with other organizations and agencies to safeguard water resources, promote water conservation and provide public education
- Manage a stream gauging network in partnership with the Yavapai County Flood Control District

For more information on the GUAC and Prescott AMA, including water management planning, visit the website at <http://www.azwater.gov/AzDWR/Watermanagement/AMAs/PrescottAMA>.



Safeguarding your groundwater resources

- **Mandated in state statute**
- **Monitored by the Arizona Department of Water Resources**
- **Managed subdivision growth**

Water Ranch

Continued from page 5

outside of the water management area will reduce the overdraft and subsequent stress on the existing groundwater resource.

The plan to import water from the Big Chino Sub-basin began when the Secretary of Interior allocated 1.5 million acre feet of Colorado River water to central Arizona users, including the City of Prescott and Yavapai-Prescott Indian Tribe, but had no intention of building the infrastructure that would deliver the water to the Prescott area. It was expected that the CAP allocation would be traded to a downstream user in exchange for the right to pump and equal amount of water from the Upper Verde River.

The Big Chino Water Ranch project is an outgrowth of the statewide focus on augmenting central Arizona water supplies. The City of Prescott's right to augment local supplies resulted in the current plan to pump groundwater far away from the Verde River in the Big Chino sub-basin. By 2004, the Town of Prescott Valley had become a partner and by 2010 issues with SRP were well on their way to resolution.

This approach to groundwater development is methodical, scientific and accountable. Citizens living in Prescott AMA communities both demand and deserve secure water supplies provided in an environmentally responsible manner.

The agreement with SRP and other progress reports are available at the City of Prescott website at <http://www.prescott-az.gov/services/water/chino.php>

PRESCOTT ACTIVE MANAGEMENT AREA

Groundwater balance within reach, state says

The final draft of the Prescott Active Management Area (PrAMA) 4th Management Plan has is available for download on the Arizona Department of Water Resources Website. And the results are positive for Yavapai County communities located within the water management area.

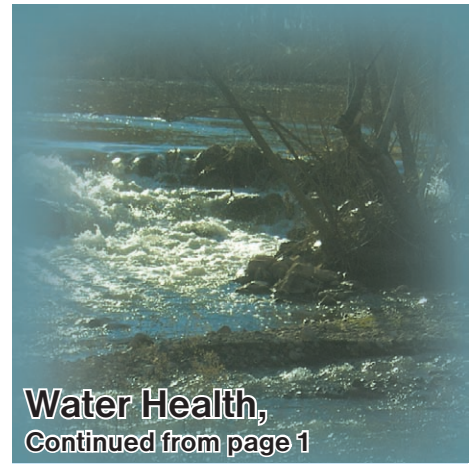
PrAMA boundaries encompass the City of Prescott; Town of Prescott Valley; Yavapai-Prescott Indian Reservation; the Towns of Dewey-Humboldt and Chino Valley; and portions of Yavapai County. The Prescott AMA is the only area within Yavapai County that must comply with State water regulations.

According to the 4th Management Plan, ADWR developed and analyzed scenarios that show the PrAMA can achieve safe yield by the state designated deadline of 2025. In 1999, ADWR issued a groundwater mining declaration (out of safe yield) for the PrAMA.

“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.”

Lora Lee Nye chairs the Upper Verde River Watershed Protection Coalition (UVRWPC) Executive Board and is a Town of Prescott Valley Council Member

“We are pleased that a lengthy analysis by an independent agency has yielded this positive result,” she said. “Our communities have committed millions of dollars and countless hours of personnel resources to tackling our tough water supply and management issues.”



Water Health,
Continued from page 1

Yield in the Prescott Active Management Area. We all look forward to the day when we are no longer depleting our aquifers.

This special edition of the UVRWPC Water Smart News is all about our water supply and watershed management. It details our water supply, where our water comes from, and the comprehensive efforts our municipalities are undertaking to assure our forests are safe and water supply secure.

More information on the UVRWPC can be found on our website at www.yavapaiwatersmart.org.

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