



*“...winter snow pack across the Verde peaked well over 150% of normal. SRP’s Verde lakes are full and have been since early Feb.”*

—Article on Pg 4

**Verde Watershed Association**  
P.O. Box 4001  
Cottonwood, AZ 86326

Chair **Ed Wolfe** @  
ewwolfe@commspeed.net  
or Ph: (928) 776-4754  
Vice-Chair **Dan Campbell**  
Sec. Treas. **Chip Norton**

**Liaisons:**

Upper Verde **Art Coates**  
Prescott Area **John Rasmussen**  
Middle Verde **Brenda Hauser**  
Lower Verde **Greg Kornrumpf**  
Currents Editor **Valerie Trammell**  
Webmaster **Diane Joens**  
dianej@sedona.net  
(928) 634-4112  
Currents Editorial Committee  
**Loyd Barnett, Ed Wolfe**

*We're on the Web!*  
[www.vwa.org](http://www.vwa.org)

## THE NATURE CONSERVANCY ACQUIRES VERDE RIVER HEADWATERS REACH

After nearly six years, The Nature Conservancy was able to acquire the uppermost mile of private land along the Verde River. Situated right where Stillman Lake and Granite Creek meet, and the upper Verde River springs bring the river from .4 CFS to 19 CFS, TNC purchased 312 acres from Betty and Billy Wells. The new Verde River Springs Preserve is literally and symbolically the birthplace of the Verde River. It is located strategically, allowing TNC to monitor the future base flow and water quality of the groundwater coming from both the Big and Little Chino basins. As planned, TNC is transferring all but the topmost twenty acres to the Arizona Game and Fish Department, allowing them to consolidate their Upper Verde River Wildlife Area. In addition to selling the land to TNC, the Wells also donated 2,600 acres of conservation easement, bringing the total

protected area to 3,708 acres. Working together, TNC, AZGFD and U.S. Fish and Wildlife Service hope to renovate Stillman Lake, ridding it of exotic species like carp, bullhead and sunfish. The area is home to beaver, otter and several species of native fish. Unfortunately, the new property is landlocked by surrounding private lands and TNC cannot accommodate public visitation.

In conjunction with the Rocky Mountain Elk Foundation and AZ Game and Fish Department, the Upper Verde River Wildlife Area now totals 3,708 acres at the Verde Headwaters.

TNC’s new acquisition	312
TNC’s new Conservation easement	160
AZGFD’s current Wildlife Area	796
Elk Foundation Conservation Easement	2440

3708 acres total

*Prepared by Dan Campbell*

## SLUDGE DUMPING & POLLUTION IN THE UPPER VERDE

Tom Slayback, President of the Yavapai Chapter of the Sierra Club, has reported to the Upper Verde Watershed Protection Coalition that Sierra Club surveys have recorded increases of nitrogen and phosphate in the upper Verde River just below Stillman Lake as well as the presence of a common detergent compound called nonylphenol. Slayback noted that nonylphenol is an endocrine disruptor known to cause sex change in fish and hormonal changes in other organisms. The pollution may be related to disposal of municipal wastewater treatment sludge near the Verde River headwaters by a contractor who disposes of sludge generated by water treatment in Prescott and Prescott Valley. According to the Daily Courier (March 3, 2008), Sla-

back requested the Upper Verde River Watershed Protection Coalition to take the lead on resolving issues related to this sludge dumping by the company. The Coalition’s members declined to add water quality concerns to the Coalition’s mission.

The Courier reports that the company, Southwest Land Reclamation, LLC, of Paulden spreads Prescott and Prescott Valley sludge on the Big Chino Wash floodplain about half a mile above Sullivan Lake. The company has received a notice of violation from the Arizona Department of Environmental Quality for its sludge-dumping operation along Ash Creek on the Orme Ranch and has now received a notice of potential deficiencies at Big Chino site.

*Prepared by Ed Wolfe*

# BIG CHINO WATER ACQUISITION— CONTROVERSY, PROGRESS CONTINUES

## **SRP's Dec. letter to the Prescott Area Communities**

On January 1, the Daily Courier's front-page headline stated: "SRP increases pressure for mitigation plan". The article reports on a detailed letter sent by Salt River Project to Prescott, Prescott Valley, and Chino Valley officials about three weeks earlier. The full text of the letter can be seen at <http://prescottads.com/Courier-pdf-doc/pipeline2007SRP.pdf>.

SRP's letter states: "...any withdrawal of water from the Big Chino sub-basin by your communities must be offset by either: (1) a contemporaneous reduction in existing water uses from the Big Chino sub-basin in an amount necessary to avoid any reduction in Verde River flows...and/or (2) the contemporaneous augmentation of Verde River flows with new sources of water from outside the Verde Watershed in an amount necessary to avoid any reduction in Verde River flows...The result must be a 'zero loss' of water supplies to SRP's shareholders and to protect Verde River habitat from impacts resulting from the proposed pumping projects".

The letter subsequently states: "Because of the imminent impact on pumping on the flows of the Verde River your communities must put into place a scientifically sound monitoring program and actionable mitigation plan". The letter goes on to discuss in some detail SRP's view of the basic components of a monitoring plan and a variety of mitigation alternatives.

The Daily Courier article also reports that Prescott Mayor Jack Wilson supports a written mitigation and monitoring plan before any Big Chino pumping occurs and quotes him as saying "I will not support spending money on a pipeline until this issue is resolved".

## **Prescott and Prescott Valley Mayors respond**

An opinion piece by Jack Wilson and Harvey Skoog, the Mayors of Prescott and Prescott Valley, respectively, written in response to the Salt River Project was published in the February 2 issue of the Arizona Republic. It can be downloaded from <http://www.azcentral.com/arizonarepublic/opinions/articles/0202ourturn02.html>.

The opinion piece begins: "The Salt River Project says the plans of the city of Prescott and town of Prescott Valley to pump groundwater from the Big Chino Sub-basin in northern Yavapai County would dry up the Verde River, deplete downstream deliveries to Phoenix and adversely affect the watershed environment. A careful look at all the facts tells a very different story". The Mayors then pointed out that, in the interest of mitigation, their communities have undertaken substantial expense to locate the point of withdrawal remote from the Verde River (at their Big Chino Water Ranch, about 20 miles up-valley from the springs that supply ground water to the upper Verde River) and to install a ground-water monitoring network

to detect any changes in ground-water flows that might lead to impacts in the Verde. They pointed out that the two communities agreed to retire 1,100 acres of historic irrigated land and dedicate the associated water rights to mitigating any impacts of ground-water pumping and that they persuaded the former ranch owner to impose a conservation easement prohibiting water-related development on approximately 10,000 acres of adjacent private land. They registered resistance to any suggestion of using diverted Colorado River water to offset demands on the Verde River watershed: "Any attempt to divert Colorado River water would affect deliveries into the Phoenix area, jeopardizing customers of the Central Arizona Project...", and they affirmed: "...we have not wavered in our commitment to protect the Verde River".

## **SRP's January 29 letter**

As reported by the Daily Courier on February 17, the Salt River Project sent a second letter (dated January 29) to Prescott and the Arizona Department of Water Resources. The letter, which can be downloaded from <http://prescottads.com/Courier-pdf-doc/SRPpipeline08.pdf>, challenges the exemption (ARS § 45-555(E)) to the Arizona Ground-water Code's prohibition against the withdrawal of ground water for transportation to active management areas. The letter explores technicalities of subsections (1) and (2) of ARS § 45-555(E), which address the approximately 8,700 acre-feet per year that only Prescott has the right to import to the Prescott AMA and does not include importation of water obtained acquisition and retirement of historic irrigation rights in the Big Chino Valley. SRP reaches two main conclusions: (1) "...the amount of water that Prescott may withdraw and transport pursuant to this statutory exemption is limited to not more than 4,081 acre-feet" [annually]; and (2) "...we believe that ARS § 45-555(E) is a special law or local law prohibited by the Arizona Constitution, and that, therefore, Prescott is precluded from relying on this invalid enactment as the basis for any exemption from the groundwater transportation prohibition".

## **Governor calls for ADWR assistance to help resolve Big Chino issues**

As also reported in the Daily Courier on February 17, Governor Napolitano has directed the Arizona Department of Water Resources to try to help resolve conflicts relating to Prescott-area plans to use Big Chino Sub-basin water. The article quotes Arizona Department of Water Resources Director Herb Guenther as saying: "The governor was thinking this was kind of a local issue" and "we did not want to get involved in a political fracas". He also explained that his department and the Governor's

Cont'd on Pg 3

## BIG CHINO WATER ACQUISITION *Cont'd from Pg 2*

office have been closely watching the Verde River and Big Chino controversies for about a year, and that escalating anxieties, resulting in part from the recent SRP letters have prompted state officials to change their minds. Guenther suggested that the three Prescott area communities should join in only one pipeline, and it should be as far away from the river as possible. He also indicated that the three communities should complete a written mitigation plan before any pipeline construction begins, and that mitigation plan should seek to avoid any harm to the river. He suggested that stakeholders such as SRP, the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and conservation groups should be involved in creating the plan, and the communities should conduct public hearings on the draft plan.

About a month later, on March 14, the Governor signed House Bill 2692 in Prescott in a ceremony to honor State Representative Lucy Mason for her role in promoting the bill. The bill creates a water-supply development revolving fund to help rural water providers develop resources and infrastructure. The governor also took this opportunity to urge local officials to adopt a regional approach to Yavapai County's complex water issues and to consider what is best for the people as well as for the Verde River.

### **Chino Valley pursues Big Chino water acquisition and mitigation**

According to Mark Holmes, Water Resources Director for the Town of Chino Valley, the town of Chino Valley is moving ahead to both acquire Big Chino ground water for importation to the town and to develop a plan for

mitigating the impact of the ground-water extraction on the Verde River. In a presentation to the Verde Watershed Association Mark Holmes and Chino Valley Mayor Karen Fann on February 20 (see the slides from the presentation at [http://www.vwa.org/presentations/chino-valley-mark-holmes-vwa-presentation\\_2-20-08.pdf](http://www.vwa.org/presentations/chino-valley-mark-holmes-vwa-presentation_2-20-08.pdf)) as well as in later discussion, Holmes described several strategies that the Town of Chino Valley is pursuing. These include development of: (1) a regional pumping center—possibly at the CV Ranch from which all three Prescott area cities could pump ground water for transportation to the AMA via a single pipe line; (2) rigorous water-conservation standards that prohibit outdoor watering using Big Chino ground water—intended to optimize the production and return of treated wastewater; (3) possible recharge of the treated waste water to the Big Chino Valley—perhaps to a property the town has purchased in the Wineglass Ranch area near Paulden.

### **City of Prescott ready to acquire pipeline easements**

The Daily Courier reported on March 11 that property appraisals for land acquisition along the proposed Big Chino pipeline were nearly complete and that contracted right-of-way acquisition firms should be contacting the 88 property owners before the end March with appraisals and purchase offers. Prescott's project for the Big Chino Water Ranch stated: "*The current schedule is that we would be in a position to award a construction contract by January '09*". Engineers have estimated the construction cost at \$170 million; according to Holt \$5.6 million of that is budgeted for easement acquisition. *Prepared by Ed Wolfe*

## VERDE RIVER TOWNS FUND PARTNERHSIP in WELL-MONITORING EFFORT

The City of Cottonwood and the Towns of Camp Verde and Clarkdale have pledged approximately \$24,000 for the U.S. Geological Survey to begin this fiscal year a small part of the work outlined in the Verde River Basin Partnership's hydrologic science plan. Accordingly, the Partnership's Technical Advisory Group is in discussion with the USGS and the Arizona Department of Water Resources to expand the network of continuously monitored wells in the Verde River Basin.

In their decision to provide these funds, the Verde River towns have stepped up to the plate to initiate the Partnership's work while the Partnership continues to seek the funding implied in the authorizing federal legislation. The Partnership has an excellent hydrologic science plan developed in cooperation with the U.S. Geological Survey Arizona Water Science Center. It can be seen on the Web at: <http://tinyurl.com/26e3yt>. The work outlined in the plan targets acquisition of hydrologic information critical

to basin-wide water management.

The Verde River Basin Partnership was authorized under Title II of Public Law No. 109-110, the Northern Arizona Land Exchange and Verde River Basin Partnership Act of 2005, which was signed into law by President Bush on November 11, 2005. The legislation authorizes federal assistance for a "*...collaborative and science-based water resource planning and management partnership for the Verde River Basin in the State of Arizona, consisting of members that represent (1) Federal, State, and local agencies; and (2) economic, environmental, and community water interests in the Verde River Basin.*" Its purpose, as stated in the legislation, is to "*...coordinate and cooperate in the identification of comprehensive science-based policies, projects, and management activities relating to the Verde River Basin.*"

*Prepared by Ed Wolfe*

# YAVAPAI CO. WATER ADVISORY COMMITTEE (WAC) UPDATE

The Water Advisory Committee continues to work on several projects including the Central Yavapai Highlands Water Resource Management Study, long-term water use and growth Scenario Development for the USGS Northern Arizona Regional Groundwater Flow Model, and the Verde Valley Geospatial Database by NAU (These were described in the previous issue of the Verde Currents).

Other current updates include a new hire for Cooperative Extension; informal public meetings on the recent Arizona Water Adequacy Legislation, and some upcoming speakers at WAC meetings.

Ms Edessa Carr has accepted the position of Water Resource Program Coordinator for University of Arizona Yavapai County Cooperative Extension. Her office is in Prescott. The job is partially funded by the WAC. The primary roles of Ms Carr will be to continue Arizona project WET in Yavapai County schools and implement Cooperative Extension Programs such as Master Watershed Steward and water quality programs. She holds an MS degree from Northern Arizona University and has very good knowledge of local geology and water resource issues.

The Water Adequacy Legislative Rules Making process (SB 1575) is in the informal information gathering phase. The WAC hosted Doug Dunham of ADWR at the March meeting and decided to hold a series of additional meetings to "work through" the issues surround the rules process as it relates to this legislation. The WAC received a review of the legislation and the rules process which led to a discussion amongst the members and ADWR. The next meeting will focus on some of the areas of the rules to be modified. The next meeting date has not been confirmed as of the writing of this update. The informal process is scheduled to proceed through June, 2008. The Formal rule

process will proceed from July through October, 2008. The new rules are scheduled to become effective in November, 2008.

The legislation allows counties, cities and towns to require new subdivisions that are located outside of an Active Managements Area (AMA) to have an adequate water supply in order for the proposed development to be approved. It will take a unanimous vote by the County Board of Supervisors to implement this legislation. Cochise County has voted to implement this legislation as has the town of Patagonia. Much more information can be found at the ADWR website <http://www.azwater.gov/dwr/default.htm>.

At the April 16, 2008 WAC meeting the Committee will have a presentation regarding current research on emergent and persistent chemicals in treated water from Chuck Graf, Associate Director of the Arizona Water Institute. On May 21, the WAC will hear about the Salt River Project (SRP) activities in the Verde River basin, with a focus on the Verde Valley. The May presentation will be by Greg Kornrumph, Senior Analyst in the Water Rights and Contracts division of SRP. The April 16 meeting will be located at the County Building in Prescott (1015 Fair St) and the May 21 meeting will be located in the Cottonwood County Building (10 South 6th St.).

WAC meetings are typically held on the third Wednesday of each month at 2:00 PM alternating between the County buildings in Prescott and Cottonwood. Please contact the WAC Coordinator, John Rasmussen, for more details on any of the WAC activities and or if you would like to be added to the WAC email-recipient list ([john.rasmussen@co.yavapai.az.us](mailto:john.rasmussen@co.yavapai.az.us) or 928-442-5199).

*Prepared by John Rasmussen, Coordinator  
Yavapai County Water Advisory Committee*

## VERDE WATERSHED CONDITION

The recent wet winter with its abundant rain and snow across the Verde watershed have left very favorable conditions throughout the area. Since Oct. 1, the start of the water year, the Verde watershed has received nearly 12" of precipitation, or about 125% of normal. The majority of the precipitation fell in 4 major storms in Dec. and Jan. Despite the relatively warm nature of the late Jan. storm, winter snow pack across the Verde peaked well over 150% of normal. As of late March, most of the snow melted except for the highest watershed elevations.

The rain and snow this winter will have left excellent range conditions across most of the watershed as compared to previous dry winters. Throughout much of the area, lakes, ponds, streams, and springs will be replenished although it is doubtful the winter's storms have erased all of the cumulative effects of the drought. In the forested areas, the danger of catastrophic fire should be much reduced this summer; however, in the lowest Sonoran desert areas of the watershed, the risk of fire will be much greater because of the abundant annuals that soon will be tinder dry after their burst of winter and spring growth.

SRP's Verde lakes are full and have been since early Feb. This is a dramatic turn of events from early Nov. when SRP forecast both Horseshoe and Bartlett to be potentially empty by mid-Dec. Verde runoff into Horseshoe Dam since Jan. 1st is nearly 425,000 acre ft. Because total Verde storage is just 287,000 acre ft, SRP has had to release over 230,000 acre ft from Bartlett. Some of the water was put to use but spill into the Salt River at Granite Reef this season totaled 165,000 acre ft of which 14,000 acre ft came from Stewart Mountain Dam on the Salt River.

Clearly, the Verde watershed and much of Arizona can take a collective sigh of relief that the recent drought has weakened its hold on Arizona. Whether this trend holds will depend greatly on whether the coming winter is wet. Regardless, in the southwest, we should assume that every year will be dry and live accordingly; then, in a rare wet year like this, we can celebrate the abundance that nature provides. To live otherwise is avoiding the truth that water is limited in this desert home of ours where every drop should be treated like the precious resource that it is.

*Charlie Ester - Mgr, SRP Water Resource Operations* **PG 4**

# AN OVERVIEW OF SRP RESERVOIR OPERATIONS

## 1. Introduction

The Salt-Verde watershed encompasses an area of almost 13,000 square miles in central and eastern Arizona. Average annual precipitation on the watershed is approximately 20 inches. The six reservoirs operated by SRP can hold a total volume of 2.3 million acre-feet (maf) of water. Median annual inflow to the reservoirs is about 1.025 maf, and annual deliveries average 950 thousand acre-feet (kaf), including ground water. The SRP water service area comprises an area of 248,240 acres and the most recent data show that more than 85% of the annual deliveries go to serve urban use with the remaining volume serving agricultural lands.

## 2. Salt and Verde Reservoir Operations

Although both watersheds are approximately the same size, more runoff comes from the Salt portion of the watershed due to the higher elevations of the White Mountains receiving more precipitation, particularly snow in the winter. Annual median runoff volume of the Salt River is 675 kaf and the annual Verde median is 350 kaf.

Of the total storage volume of 2.313 maf, the two reservoirs on the Verde can hold only 287,400 acre feet (af), which is 12% of the total. The total storage capability of the Salt system is 2.026 maf with Roosevelt Lake holding the majority of 1.653 maf, or 71% of the combined total.

SRP tries to maximize hydrogeneration during the peak electric and water use months; so the bulk of summer deliveries (May-Sep) come from the Salt system. Water from the Verde reservoirs is used during the winter months to maintain storage space for spring runoff and minimize the probability of exceeding the storage capacity there. Both the Verde and Salt releases are supplemented with ground water pumping in the water service territory of the SRP.

During the drought years since 1996, Colorado River water was available and SRP bought, or borrowed, over 700 kaf delivered via the CAP canal. Without those additional purchases, Roosevelt Lake might have been essentially empty in late 2002.

## 3. Ground Water Use

Ground water is considered supplemental water. The 248 wells operated by SRP can supply, at most, only about one

third of the annual supply. Naturally, when the reservoirs are nearly full, SRP reduces ground water pumping to the minimum required volume. Conversely, during times of drought, SRP supplements its surface water supplies with as much as 325,000 acre-feet (af) of ground water in order to conserve and extend the availability of the remaining surface water supplies.

## 4. User Demand

Average annual deliveries have remained relatively constant over the last few decades at about 950 kaf/year despite the transition from agricultural to mostly urban use. During the mid-1980s, the annual distribution was about equal between agricultural and urban use but the latest figures show that agricultural deliveries are only 15% of the total and projections indicate that essentially no agricultural land will remain in SRP's service area by 2020.

## 5. Normal Flow

Because the dams operated by SRP impound the total flow of the Salt and Verde rivers, the lands in the Valley that belong to the Salt River Valley Water Users Association are entitled to the water that would normally flow in the Salt River were the dams not in place.

Normal Flow (NF) is a term used to refer to the natural flow of the rivers appropriated by the Water Users under the doctrine of Prior Appropriation with a priority date for the lands entitled to water under the Kent Decree. The water flow is measured every eight-day period, and lands with a priority date of 1869 are entitled to use NF water before lands with an 1870 date, etc.

The amount of NF water available to eligible lands is 48 miners inches (a miners inch is approximately .025 cubic feet per second, or cfs) of constant flow to the quarter section (160 acres) measured and delivered at the land. This means that in any 8-day NF period, the maximum amount of NF water the landowner can receive is 19.04 af per quarter section, or 0.11901 af/acre. (One acre-foot equals 325,851 gallons.)

*Prepared by Charlie Ester  
Manager, SRP Water Resource Operations*

### Membership Form for the Verde Watershed Association

Government units	\$ 100 per year
Business for profit	100 per year
Civic groups and non-profits	50 per year
Individuals	25 per year

Make check payable and mail to:

**Verde Watershed Association**  
**P.O. Box 4001**

Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Mailing Address: \_\_\_\_\_ Fax: \_\_\_\_\_

City, State, Zip \_\_\_\_\_

E-mail address to receive the Verde Currents E-Newsletter:  
\_\_\_\_\_