Jan-Mar 2012

Volume 16, Issue 1



Verde Watershed CURRENTS

VERDE WATERSHED ASSOCIATION

"This program will result in the creation of more than 20 new restoration jobs in the Verde River watershed during the coming year."

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THE VERDE WATERSHED RESTORATION COALITION A Collaborative approach to Watershed Restoration

Introduction

The Verde River is treasured for its wildlife habitat, water supply, recreational opportunities, and natural beauty. It is one of the most substantial free-flowing rivers in Arizona. Although the river corridor primarily supports native riparian vegetation, invasive species—particularly Russian olive (*Elaeagnus angustifolia*), tree of heaven (*Ailanthus altissima*) giant reed (*Arundo donax*), and saltcedar (*Tamarix* spp.)—threaten the health and sustainability of these communities. Other invasive plant species persist in the system with the threat of expanding their ranges; in some cases, there are no known effective control methods for wildland settings.

Project Background

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The Verde River Greenway extends from Clarkdale to Beasley Flat, below Camp Verde. Since 2008, the Friends of the Verde River Greenway (FVRG) has organized and managed river cleanup and invasive plant removal projects along this reach. During 2009–2010, FVRG focused on cooperative management projects that involved partnerships between various agencies, communities, and organizations. After realizing that improving riverside habitat within the Greenway would best be accomplished under a broad, watershed-wide cooperative effort, FVRG sought and secured funding from the Walton Family Foundation to develop a formal plan with a twofold purpose:

To develop a strategic approach for controlling invasive plants in all of the riparian corridors of the Verde River watershed—an approach that will enable stakeholders to prioritize, develop, and implement restoration actions, and

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• To increase the level of collaboration and communication among stakeholders, thereby enhancing information transfer, adaptive management, and basin-wide success

In June of 2010, FVRG engaged Fred Phillips Consulting, an environmental consulting firm, to develop the plan. As an initial step in plan development, the first Verde River Habitat Improvement Workshop was held on July 20, 2010, in Camp Verde. Stakeholders included federal and state agencies, private companies, and



nonprofits. The goals of this workshop were to:

• Initiate a cooperative effort for identifying priority invasive species

• Develop methods for site and species prioritization

• Unify the best management practices (BMPs) for coordinating the management of invasive plant species within the Coconino, Maricopa, and Yavapai County FEMA floodplain areas of the Verde River watershed

The Cooperative Invasive Plant Management Plan (CIPMP) originated from that meeting. FVRG had already begun formulating a strategy for working with private landowners to remove invasive plant species and initiate land conservation. After several months of working with stakeholders, the Plan was completed in April 2011.

Work crews remove giant reed (Arundo donax) from a demonstration project site.

Project Area

This Plan covers the Verde River from its headwaters to Sheep's Crossing above Horseshoe Dam, where flow decreases or ceases. In total, it includes 459.2 miles of the Verde River and its major tributaries — 336.1 miles within federal lands, 20.8 miles within state lands, 4.2 miles within Tribal lands, and 98.1 miles within private lands. It delineates the river into three major reaches:

- Reach 1: Headwaters (near Paulden) to Clarkdale
- Reach 2: Clarkdale to Beasley Flat
- Reach 3: Beasley Flat to Sheep's Crossing

Reach 1: Headwaters (near Paulden) to Clarkdale

Reach 1 contains lands that are primarily managed by The Nature Conservancy, Arizona Game and Fish Department, and Prescott National Forest, as well as state trust lands. It lies primarily within Yavapai County, although a portion of Sycamore Creek is in

Coconino County. Populated areas include Chino Valley, Paulden, Perkinsville, and Clarkdale. Most of the

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land is publicly owned, primarily by Prescott National Forest.

Reach 2: Clarkdale to Beasley Flat

Reach 2 includes lands primarily owned or managed by private entities, the Yavapai-Apache Nation, the Coconino and Prescott National Forests, the National Park Service, and The Nature Conservancy; it also includes state trust and state park lands. It occurs within Yavapai County. Reach 2 has the highest density of private lands within the project area and includes the towns of Clarkdale, Jerome, Cottonwood, and Camp Verde. Beaver Creek, a tributary to the Verde, includes a designated wilderness area. Surface water is diverted during the summer months, reducing flows.

Reach 3: Beasley Flat to Sheep's Bridge

Reach 3 is managed primarily by the Coconino, Prescott, and Tonto National Forests. Private lands include the small towns of Strawberry and Pine in the Fossil Creek watershed. The reach from Beasley Flat to Red Creek above Sycamore Creek, including Fossil Creek, is designated as Wild and Scenic under the authority of the 1968 Wild and Scenic Rivers Act: the Scenic area extends from Beasley Flat to below Childs, and the Wild area extends from Childs to Red Creek. The Wild section flows through the Mazatzal Wilderness. Fossil Creek. one of the tributaries in this Reach, has a designated wilderness area.

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Vision and Guiding principles

VWRC's vision is:

The Verde River and its tributaries comprise a diverse, self-sustaining and resilient riparian ecosystem in which invasive plant species are controlled through cooperative stakeholder participation.

The guiding principles for the execution of the vision include: 1) approach this work collaboratively, 2) select techniques and management practices that will provide successful results, 3) provide education and outreach for the local community and public, and 4) implement a system-wide approach.

Five-Year Goals

The Plan establishes ecological, social, economic, and management goals for the next 5 years:

- Ecological: Reduce invasive woody and herbaceous plant species through various control methods within the Coconino, Maricopa, and Yavapai County FEMA floodplain areas
- Social: Educate the local community and public about the economic and social value of a healthy river system, and the prevention and removal of invasive species, their detrimental effects, and the services and funding that are available to remove invasive species on their land
- Economic: Give local communities economic incentives and employment opportunities to remove invasive species on their properties
- Management: Establish a multi-stakeholder group to accomplish the ecological, social, and economic goals and to monitor the project's long term success.

Recommendations

Site and species approaches should be used to prioritize areas within the floodplain for removing invasive plants. Efforts should focus on eradicating Russian olive and giant reed, reducing saltcedar and tree of heaven to less than10 percent of the canopy cover, removing or remediating biomass, removing priority invasive herbaceous and grass species, controlling secondary weeds, and revegetating (if necessary). Specific recommendations for 2012 follow:

• Conduct a workshop to determine how and where to initiate mapping and inventory efforts and to consolidate existing mapping efforts



Coconino Rural Environmental Corps (CREC) preparing for first day of work on Clear Creek Demonstration Project

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VERDE WATERSHED RESTORATION COALITION

- Prioritize actions using the site and species approaches and the information gained from the inventory and mapping effort
- Define the total acreage of priority sites for invasive plant control within the Verde watershed
- Define which sites where invasive plant removal is infeasible due to lack of accessibility, landowner approval, funding, permits, or capacity
- Determine how many acres per year must be treated to achieve the 5-year Goals
- Initiate processes for implementation, including permit acquisition, landowner access agreements, fundraising, and capacity building
- Formalize the Verde Watershed Restoration Coalition with a Memorandum of Understanding by all stakeholders
- Implement demonstration projects
- Create a multi-stakeholder steering committee to develop the structure for implementing future projects
- Develop an education and outreach strategy
- Develop a site monitoring and maintenance strategy

Current VWRC Status

- A cooperative management collaborative, the Verde Watershed Restoration Coalition (VWRC), was formed to implement the Plan.
- A Memorandum of Understanding (MOU) is being finalized as a means of formalizing this partnership among stakeholders.
- A multi-stakeholder steering committee meets monthly



Nature Conservancy intern Selena Pao and Program Coordinator Anna Schrenk set up monitoring transects



CREC sawyer removes Tree of Heaven (*Ailanthus altissima*) from US Forest Service land on the Clear Creek Demonstration

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• Subcommittees (Fundraising, Planning and Implementation, Monitoring and Research, and Community Outreach and Education) have been formed and are meeting on a regular basis.

• Four staff members have been hired; a Program Coordinator, Program Administrator, GIS Specialist, and part-time Community Outreach Director.

• Site prioritization guidelines have been established for the coming year and project planning has begun

• A draft monitoring and maintenance plan is under review

• An education and outreach strategy is currently under development by the Community Education and Outreach subcommittee

• The first phase of demonstration projects were completed in March, 2012.

• A GIS Specialist is developing an interactive watershed map and database for the Verde River watershed

• Since September, 2011, nearly \$800,000 in funding and over \$200,000 of in-kind support from participating partners has been secured to build institutional capacity and implement VWRC projects.

• This program will result in the creation of more than 20 new watershed restoration jobs in the Verde Valley during the coming year.

Invasive Plant mapping for the Clear Creek Demonstration project site. All mapping was performed by The Nature Conservancy and volunteer labor

Submitted by Chip Norton

UPPER AND MIDDLE VERDE RIVER USGS STREAMGAGE RECORDS







Yavapai County Water Advisory Committee (WAC) Update

The Yavapai County Water Advisory Committee (WAC) is focused on completing the alternative formulation phase (Phase 3) of the Central Yavapai Highlands Water Resource Management Study (CYHWRMS), with the Arizona Department of Water Resources (ADWR) and U.S. Bureau of Reclamation. Additionally, the WAC is formulating a plan to work with the USGS to understand and appropriately utilize the recently released Northern Arizona Regional Groundwater Flow Model.

The CYHWRMS Technical Working Group (TWG) is compiling information for each alternative that has been identified to meet unmet future water demands in the study area. Publication of an alternatives analysis report and associated summary tables is expected in the next few months. The report and tables will describe and summarize the alternative evaluation as done by the TWG and be a basis for policy makers to compare and evaluating potential water supply alternatives. The evaluation criteria include environmental, economic, legal and institutional analyses as well as Reclamation's four tests-of-viability (completeness, effectiveness, efficiency and acceptability). Upon completion of the alternatives analysis, the WAC and communities will decide whether to pursue an alternative(s) further through a feasibility analysis. The WAC website has additional information on the study (http:// www.co.vavapai.az.us/Content.aspx?id=20562).

The Technical Working Group (TWG) typically meets on the first Thursday of each month at 10:30 following the meeting of the Technical Committee of the WAC.

The USGS, ADWR, the WAC and others have contributed significant resources to develop data sets and a regional groundwater flow model that includes the Verde watershed. The Model Report for the current USGS Northern Arizona Regional Groundwater Flow Model has been released and is published on the USGS website (http://pubs.usgs.gov/sir/2010/5180/). The Technical Committee (TAC) of the WAC is creating a work plan with the USGS to investigate the model as it is currently constructed and also to evaluate potential effects of changes to the underlying conceptual model. This is part of an ongoing critical review process with the purpose of aiding in understanding appropriate use and confidence in the model.

The TAC will present an "adaptive investigation" approach to the WAC at the WAC April meeting. The idea is to address priority issues related to model sensitivity and construction in a series of short investigations which can shed light on issues and future investigation. The TAC will continue hold monthly technical sessions with the USGS regarding the model. The TAC usually meets on the first Thursday of each month at 9:00 AM.

Please contact the WAC Coordinator, John Rasmussen, for more information, meeting dates, or if you would like to be added to the WAC emailrecipient list (john.rasmussen@co.yavapai.az.us or 928-442-5199).

Submitted by John Rasmussen

VERDE RIVER CONDITIONS—MARCH 2012 UPDATE

WINTER 2012: A DRY WINTER ON THE VERDE

Sea-surface temperatures over the equatorial Pacific (La Niña/El Niño) stand out as the most significant climate indicator for wintertime precipitation over the Verde watershed. El Niño winters typically result in above normal precipitation while La Niña winters usually translate into below normal precipitation. Unfortunately for the Verde watershed the winter of 2012 was the second of back-to-back La Niña events. With the winter season over, we can see just how dry it was. The Verde watershed measured a total of 4.68 inches of precipitation during the December through March period, which is 66% of normal and is 1.48 inches less than last year. Much like last year, December was wet and January was dry; however this year, February ended up being nearly as dry as January and March only had one precipitation event.

The lack of precipitation resulted in low Verde River flows this winter. Stream flow volumes for the January through March period added up to just over 50,000 acre-feet of water, which is about 20% of normal. Stream flow forecasts indicated that only about 20,000-acre feet of additional volume is expected through May. If the forecast holds, the runoff season of 2012 will be quite a bit lower than the meager 125,000-acre feet of water that was received last year during the same period.

This leads us to the big question, what does the North American Monsoon have in store for the Verde watershed. An old rule of thumb suggests that a dry winter translates into a wet summer. However, historic data does not always agree. Summer rains are a given, but to get above normal monsoonal precipitation, small scale disturbances are needed to enhance the daily thunderstorms. Climate indicators do not work very well with disturbances of this scale; therefore, there is no clear direction for predicting monsoon rains. This shrug of the shoulders is echoed in the National Weather Service's seasonal forecast for the summer, which indicates equal chances of below normal, normal, or above normal rain for the Verde watershed.

Prepared by the Salt River Project

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