



SEPTEMBER 2008 REPORT

 **CONSERVATION & EDUCATION**
BROOKLINE RANCH & SAN JOSE RANCH



Local ranchers within the Sierra Vista Subwatershed have completed numerous rangeland restoration projects. These progressive projects have reduced water use and have recharged significant amounts of water. Mike Hayhurst, Hereford Natural Resources Conservation District, has restored approximately 5,000 acres of rangeland. This project consisted of the aerial application of Spike 30 which effectively reduced overgrown tar brush, white thorn and creosote without adversely affecting the herbaceous vegetation. Chemical removal, rather than mechanical removal, was necessary to protect the existing topsoil. The removal of these plants saves water because these plants are deep-rooted varieties that can access water deeper within the aquifer and they access water during times of drought. The removal of these brushy overgrown plants eliminates the water used to sustain them and allows grasses to take root in the soil which prevents soil erosion. The grasses also assist with the percolation of water into the aquifer. Mr. Hayhurst's ranch is located proximate to the San Pedro River and in an area that was historically comprised of grasslands. Water savings that occur on land located in close proximity to the river are hydrologically more beneficial to the river than more distant lands. Consequently, Mr. Hayhurst's conservation efforts are particularly beneficial to the preservation of the baseflow of the San Pedro River.

Similarly, the San Jose Ranch, now operated by the Ladd's, has restored up to 4,800 acres of rangeland by removing overgrown brush. The soil conditions on the San Jose Ranch permitted the mechanical removal of invasive mesquite. This method involves grubbing or root-plowing to remove the Mesquite and reseeding with grasses. As a result, compacted soil is broken up; thus, enhancing infiltration of rain and stormwater runoff into the ground and ultimately the aquifer. A further benefit of this management practice is that, because of decreased runoff, sediment which would have been carried to the San Pedro River remains on the ranch.

The San Jose Ranch also constructed an additional stormwater system in the washes and draws that are tributaries to the San Pedro River. The system consists of earthen dams which impound stormwater runoff and earthen dikes which divert stormwater runoff for irrigation of pasture land. This system again benefits the San Pedro River by depositing the sediment contained in the stormwater runoff on the ranch instead of in the river. Also, stormwater rather than groundwater is used for irrigation. The San Jose Ranch began construction of this stormwater management system in the 1940's and has expanded and maintained its operation to the present.

These extensive rangeland restoration and stormwater management practices are expensive and labor and time intensive. They demonstrate the strong commitment of our area ranchers to the wellbeing of the land and the San Pedro River.

[COCHISE COUNTY GREEN BUILDING CODE](#)

The Cochise County Planning Department is preparing a Green Building Code for consideration by the public and by the Board of Supervisors. The proposed code contains numerous water conservation measures including incentives for rain water harvesting systems, gray water reuse, EPA WaterSense plumbing fixtures, EPA WaterSense irrigation systems and pervious driveways and walkways.



[WATER WISE//MASTER GARDENER XERISCAPE TOUR](#)



On September 7th, Water Wise sponsored a low-water landscape tour in the Sierra Vista area. Approximately 170 people attended. The featured gardens used various water saving practices including natural yards with smaller landscaped areas, rainwater catchment containers, stormwater management techniques, a rainwater-fed fountain, colorful hardscape features, and brilliantly blooming native plants.

U WATER PROJECTS

CITY OF SIERRA VISTA-TRIBUTE WASTEWATER TREATMENT PLANT

Tribute, a master-planned community, is slated for development within the Sierra Vista area. The land is privately owned and, as such, the property owners enjoy the full bundle of private property rights associated with the land including the right to develop. However, in an effort to mitigate the water that will be used by the development, the City of Sierra Vista negotiated a Development Agreement with the developer that includes strict water conservation, reuse and recharge measures. The provisions of the agreement include a requirement that the developer provide treated effluent for the irrigation of the Pueblo Del Sol Golf Course within three years of the construction of the treatment facility. This treated effluent will be used for irrigating the golf course in lieu of irrigation with groundwater as is the current practice. The effluent will also be used for the landscape irrigation of parks, school sites and commercial areas within the development. At build-out, the development's projected water mitigation is as follows:

- Effluent Reuse on Public & Commercial Areas: 400-600 ac ft/yr
- Effluent Reuse on Golf Course: 450 ac ft/yr
- Post Development Recharge into Washes: 75 ac ft
- Reduced Evaporation Losses at Environmental Operations Park: 400-500 ac ft/yr

In total, between 1325 -1625 acre feet of water per year are estimated to be saved.

FORT HUACHUCA-HUACHUCA CITY EFFLUENT TRANSFER PROJECT

Fort Huachuca has completed the final engineering design of its section of the project. Vernadero, an environmental consulting firm, has been selected to prepare the project-wide Environmental Information Document. Entellus Engineering is completing the engineering design of Huachuca City's section of the project.



LOCAL AUTHORITY: SAN PEDRO WATER DISTRICT

WATER DISTRICT SEPTEMBER MEETING

The Water District continued its discussion regarding the Scope of Work with the Arizona Department of Water Resources. The discussion focused upon the development of a Comprehensive Plan with Measurable Objectives. The following Measurable Objectives were proposed:

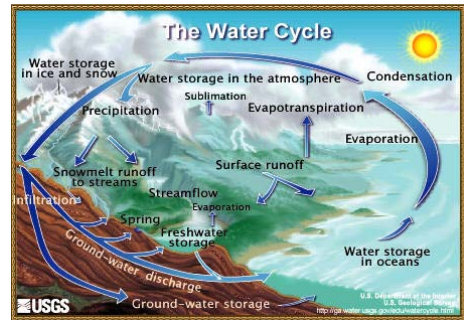
- Maintain or improve the groundwater levels within the District, measured at the San Pedro Riparian National Conservation Area boundaries. The groundwater levels shall be the average of the measured depths to water of the recent years as determined by the Board.
 - Ensure perennial flows are maintained in at least seventeen miles of the San Pedro River within the District's boundaries.
 - The Measurable Objectives may be adjusted by the Board to account for the impact of climate variability including long-term drought and changes in river flow characteristics caused by entities outside of the jurisdiction of the District.
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PLANNING, RESEARCH, MONITORING & REPORTING

U.S.G.S. 321 REPORT

The United States Geological Survey timely completed the 2008 321 Report. The USPP Partnership Advisory Commission forwarded the 321 Report to the U.S. Department of the Interior in compliance with Section 321 of the Defense Authorization Act of 2004. The report describes the actions that have been taken to reduce the water overdraft and restore the sustainable yield of ground water in the Sierra Vista subwatershed.



THE NATURE CONSERVANCY/BLM WET/DRY MAPPING

During the third week in June, The Nature Conservancy, the Bureau of Land Management and numerous volunteers mapped the wetted length of 120 miles of the San Pedro River. These maps are now available online at: Azconservation.org. The maps provide valuable data on the extent of the perennial flows within the San Pedro River during the driest time of the year and also provide comparisons of the water flows from year to year.



COMMITTEES & WORKGROUPS

MEXICO WORK GROUP



The membership of the Mexico Work Group expanded significantly within the last month. The group proposes to host its Mexican counterparts with site visits to various rural stormwater management projects within the Sierra Vista subwatershed including rock check dams, rooftop capture projects and thousands of acres of rangeland restoration.

*There are three matters over which Western men will fight;
water, women and gold, usually in that order.*

Barry Goldwater

