

Fort Huachuca Water Awareness Program

Best Management Practice Case Study #2: Information and Education Programs

The U.S. Army Fort Huachuca contracted the University of Arizona Cooperative Extension to provide comprehensive water and energy conservation awareness programs under its Water Wise and Energy Smart (WWES) program. Ongoing since 1998, this program provides outreach, education, and services to approximately 14,000 Fort Huachuca military and civilian employees and their families.

Fort Huachuca is home of the U.S. Army Intelligence Center, Network Enterprise Technology Command/9th Army Signal Command, Joint Interoperability Test Command, and the Electronic Proving Ground. The military base encompasses approximately 78,000 acres and just over eight million square feet of real property.

Fort Huachuca is located at the base of the Huachuca Mountains and adjacent to the City of Sierra Vista near Tucson, Arizona. The area has an arid climate and receives an average annual rainfall of less than 16 inches, although a drought reduced the amount of rainfall in recent years. Groundwater is the primary source of water. Fort Huachuca pledged to reduce water consumption to a sustainable level through conservation, recharge, and reuse projects.

Project Summary

The Water Wise and Energy Smart program supports Fort Huachuca through three focus areas; public outreach, youth education, and services.

Public Outreach

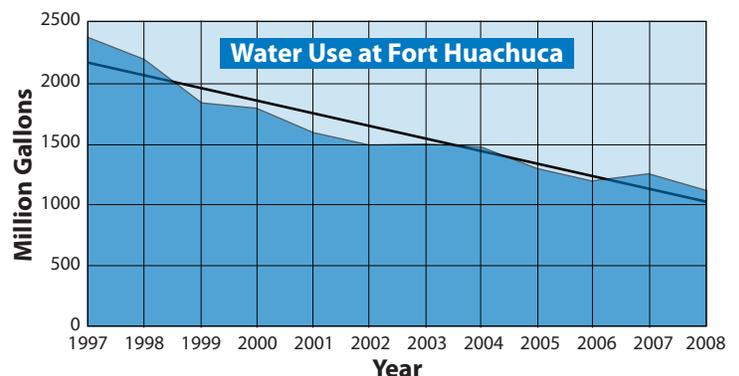
Public outreach delivers briefings, presentations, displays, and publicity from program educators. Communication efforts provide information on ways Fort personnel can conserve water and energy. These efforts reach approximately 2,500 people each year. Activities include:



Photo credit: PLX16682

FEMP acknowledges Alison Barrett, Fort Huachuca Water and Energy Conservation Education, for supporting this program and case study.

- On-demand briefings to staff covering how to be water wise and energy smart; turf, shrub, and tree maintenance; and the rich biodiversity along the San Pedro River.
- Interactive displays for special events, including safety day; morale, welfare, and recreation festivals; Community Spouses Club membership drives; Water Awareness Month; and other organized events.
- Water and energy conservation articles written quarterly for the Fort Huachuca Scout newspaper.
- Public service announcements on the Commander's Access Channel produced in cooperation with the Fort Huachuca Public Affairs Office.
- Informational Web site containing resources and materials, available at www.ag.arizona.edu/cochise/wwes/.
- Brochures and fact sheets on conservation, drought-tolerant landscapes, plant care, and post water policies.



Through innovative and wide ranging water conservation measures, Fort Huachuca reduced its water use more than 50 percent since 1993.



FEMP facilitates the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship.



Photo credit: PIX16684

Wettie the Water Drop stands at the Fort Huachuca main gate.

“Where’s Wettie the Water Drop?” is another successful campaign co-sponsored by the Fort Huachuca Scout newspaper and WWES. The newspaper features a photo of Wettie, the WWES mascot, along with a water project. Readers guess what water conservation measure Wettie is demonstrating for a chance to win prizes, such as a five-minute shower timer, leak gauge, or other water saving tools.

Youth Education

Youth education shifts student knowledge from general concepts to a deeper understanding and sense of personal connection to water as a limited resource. Three concept areas are covered; basic water science, aquifers and watersheds, and conservation. The program offers more than 30 interactive water classes taught in schools on post and in Fort Huachuca after school programs. Staff typically teach 100 classes each year with more than 2,000 total interactions with students. Some of the more popular classes include:

- **Globe Toss:** Students gain an understanding of water distribution and the limited amount of water available for human use as they toss and catch an inflatable globe and tally whether a designated finger landed on water or land.
- **Life Box:** Students brainstorm what all living organisms require to live: air, light, food, and water.



Photo credit: PIX16685

A student participates in water conservation lessons about the San Pedro River near Fort Huachuca

- **Water History Trunk:** Students examine antique items involved in procuring and using water while discussing their functions and connection to water conservation measures.
- **Create-A-Watershed:** Students demonstrate the movement of water through a watershed by creating a three-dimensional model using crumpled paper, water soluble markers, and spray bottles.
- **EnviroScope©:** Students interact with a topographic model that demonstrates the connection between land use activities and groundwater. Additional information is available on EnviroScope at <http://www.envirosopes.com/>.
- **Snap, Crackle, and Pop:** Students define energy and its different forms and then create their own miniature “lightning” through a static electricity activity.

Services

WWES services range from assessing post irrigation systems to developing drought-resistant landscapes to offering assistance on housing turf and plant care. However, the core element of WWES is a free water audit service for commercial facilities focusing primarily on existing fixtures and efficiency improvements. Audits also identify system leaks whenever possible.

Efficiency improvement recommendations are made to the facility manager during the audit. Some changes, such as exchanging faucet aerators, are often done at the time of the audit while other modifications are requested by the facility manager through service or work orders. Following the audit, WWES provides the facility manager a written summary. WWES conducted 82 facility audits leading to the replacement of high water use fixtures with more efficient urinals, toilets, sink aerators, and showerheads.

Cost and Savings Summary

The annual budget for WWES is approximately \$48,000, which includes salaries and benefits for two part-time instructional specialists managing the program, educational materials, supplies, publications, and professional development. While it was not possible to quantify the specific amount of water saved in terms of dollars spent on outreach and education, WWES efforts contribute significantly to an increase in conservation awareness. Efforts also facilitate active participation in water saving efforts and have led to a number of facility retrofits through the water audit program.

As stated by Fort Huachuca hydrologist Tom Runyon who oversees the WWES program, “WWES is at the heart of our efforts to raise water conservation awareness and improve water use efficiency post wide.”