Sponsors: City of Bisbee, Pueblo Del Sol Water Company, Southeast Arizona Association of Realtors
Office Locations: University of Arizona South, 1140 N. Colombo Ave, Sierra Vista, AZ, (520) 458-8278 Ext.2141
66 Brewery Avenue, Bisbee, AZ, (520) 366-8148 waterwise.arizona.edu
Mission Statement

Implement a community education program in Cochise County on the stewardship of our natural resources. Help residents reduce water use and implement good natural resources management practices on their land and in their homes and/or businesses.

Objectives:

a. Distribute educational material and information to the public on water conservation, water wise landscaping, irrigation efficiency, water harvesting, storm water management, erosion control, backyard wildlife habitat and other natural resource management practices.

b. Help homeowners and businesses conduct a Water Wise Audit of their property to identify ways to reduce water use and enhance natural resources.

c. Provide free on-site consultation to homeowners, businesses, developers and builders in identifying and evaluating different options for reducing water consumption, providing for on-site use of rainwater and conserving natural resources associated with their property. Tailor recommendations to the unique conditions of the property and the objectives of the property owner.

d. Maintain a Water Wise info-line and Water Wise Information Centers at different locations in the community; provide Water Wise speaker’s bureau to neighborhood and community groups; conduct workshops and other educational events; and provide public service information through local newspapers and radio.

e. Work with land developers, school, state and federal agencies and others to develop and promote demonstration projects where residents can observe different techniques for water conservation, rainwater detention and erosion control.

f. Conduct/coordinate educational programs in area schools.

Geographic Area

Although Water Wise serves all of Cochise County, the program’s main geographic area of focus is the Sierra Vista Subwatershed (SVS), an area approximately 950 square miles bordered by the Huachuca and Mule Mountains to the west and east respectively, the United States/Mexican border to the south, and by State Highway 82 to the north. U.S Census Bureau 2014 estimates the population of this area to be: Sierra Vista (43,806) and Bisbee (5,308). Also included in the SVS are communities with 2010 U.S. Census Bureau population estimates to be: SV Southeast (14,797); Tombstone (1,380); Naco (1,046); Huachuca City (1,853); and Palominas (212). Total population of these collective areas is approximately 68,402 residents.
Background

In September 1994, the U of A Cooperative Extension acquired six AmeriCorps members to initiate a natural resource education program in the Sierra Vista area. Corps members spent much of their time working with local schools.

Based on the success of this pilot program, partnership was sought with Cochise County, the City of Sierra Vista, local water companies and utilities to hire an Extension Water Conservation Instructional Specialist. Kathryn (Cado) Daily was hired September 1995 on a part-time basis (24 hours/week). In July 1999, the position was expanded to 1.0FTE. In 2000, the position was upgraded to Program Coordinator, in 2009 to Program Coordinator, Senior and in 2012 to present, upgraded to a 1.0 FTE Water Resources Coordinator.

In 1996, the Plant Sciences Center (PSC) was built by Water Wise as a project for the City of Sierra Vista’s Plant Sciences Task Force. The PSC was created as a plant salvage and research facility and was located at the University of Arizona Sierra Vista campus. In October 2014, the Cochise County Master Gardeners began converting the PSC to a Discovery Garden teaching area for MG’s and community members. The Cochise County Herbarium is also housed at the Discovery Gardens. The Herbarium is a volunteer-run repository and cataloguing of plants found in Cochise County and surrounding areas. The Cochise County Herbarium provides local plant data to Herbariums worldwide.

In July 1998, an agreement was made between the Water Wise program and Fort Huachuca to hire a part-time (20 hours/week) Water Wise and Energy Smart (WWES) Educator to work on natural resource conservation/education on Fort Huachuca. In July 1, 1999, the position was expanded to 25 hours /week. Presently, the WWES contract contains two 0.5 FTE Instructional Specialist positions with one position focusing on education and the other on energy audits.

In October 1999 to present, funding was obtained from the City of Sierra Vista and Cochise County to hire a 0.5 FTE Water Wise Youth (WWY) educator. The WWY program provides water conservation education to K-12 youth focusing on the Sierra Vista Subwatershed, along with some county programs. The program is available to area schools, after-school programs and community youth groups. Through interactive learning experiences, students learn about local water resources and issues facing the Sierra Vista and Cochise County communities.

In 2003, the Upper San Pedro Partnership, a consortium of 21 local, state and federal groups and agencies, funded a 0.8 FTE Water Wise Instructional Specialist Sr. position which was expanded to 1.0 FTE in 2004 through October 2009 when it was reduced to 0.9 FTE. The Partnership continued that funding level through June 30, 2014 with a request by Water Wise to extend the expenditure of the 2013-2014 funds to September 2017. In January 2014, the position was vacated and was filled at 0.25 FTE, September 15, 2014. The Water Wise Youth position was combined with the Partnership funded Instructional Specialist, Sr. position resulting in the combined Water Wise Instructional Specialist Sr./Youth position an FTE of 0.75. That position was expanded to 1.0 FTE (0.5 Youth, 0.5 Community Education) August, 2015.

From 2004 to 2007, the Partnership provided funding for a 0.5 FTE Industrial, Commercial and Institutional Auditor to work in the SVS. This position terminated in 2007.

From 2005 to 2011, by request from the Cochise County Board of Supervisors, Water Wise hired a 0.5 FTE Instructional Specialist to focus water conservation county outreach efforts outside of the SVS. This position terminated in 2011.
Current Water Wise Staff

Positions

Cado Daily, Water Resources Coordinator, 1.0 FTE
(Position funded by City of Sierra Vista, Cochise County, UA)

Sandra Hurlbut, Instructional Specialist, Senior, Water Wise Youth and Community Education
0.50 FTE (funded by the City of Sierra Vista and Cochise County)
 Position may spend some time outside of the Sierra Vista Subwatershed

Sierra Vista Subwatershed only
Sandra Hurlbut, Instructional Specialist, Senior,
0.50 FTE (funded by the Upper San Pedro Partnership)

UA/Fort Huachuca Water Wise/Energy Smart Program.

Ron Serviss, Instructional Specialist Senior, 0.5 FTE
Susan Bronson, Instructional Specialist 0.50 FTE

Support
Susan Pater, Cochise County Extension Director
Kim McReynolds, Natural Resource Agent
James Mustard, Director, Cochise County Herbarium
2015 Program Summary

Direct Contacts
Adult: 1811 (61% increase from 2014)
Youth: 5502 (32% increase from 2014)

Adult Educational Events: 43
Youth Educational Events: 277

Residential Community Outreach

Workshop monthly presentations: 14
  Impacts:
    New attendees: 41% of participants had not previously attended a Water Wise workshop
    Workshop Value: 84% gave a Highly Valuable rating with 65% (392) response rate

Presentations: 18
Tours: 3 (2 Rainwater, 1 Xeriscape)
Articles: 29 (Sierra Vista Herald, Southern Arizona Contractors Association, Cochise County Master Gardeners Newsletter)

Residential On-Site Visits: 81 (88% increase from 2014)
  Impacts: Post-visit follow up:
    92% contacted made changes

Information Tables: 8
Radio interviews: 2
Water Wiser Email-Tips/Contact List: 1259

Commercial Audits: 17
Estimated Annual Water Savings: 156,585 gallons

Comments

“Your visit was very helpful. We went from using 16,000 gallons/month to 3,000 gallons/month. We are happy with the results. The wattles you suggested to manage storm water also were very effective. Thank you.” Sue M.

“I rescheduled my irrigations. I am saving about $20/month in water costs.” Ida S.
Water Wise Youth Program

Direct Youth Contacts: 2823 (30% increase from 2014)
Class Sessions/Events: 157 (127% increase from 2014)
Poster Contest: 160 participants, 5 schools and 10 teachers

Teaching Impacts:
Average Knowledge Gain: 67%
(13 class sessions, 347 evaluations)

Comment: “Thanks Sandra for working with such a diverse group that span from ages K through 8. I certainly believe that our students came away from your presentation with a better knowledge about the area they live in and the need to save resources.”
Teresa Reyna, Mc Neal Elementary School Superintendent

Ft. Huachuca: Water Wise/Energy Smart

Class Sessions/Events: 120 (27% increase)
Direct Youth Contacts: 2679 (6% increase from 2014)
Energy Audits: audited in excess of 1.5 million square feet in the 2014-15 audit year achieving the Fort’s goal for the third straight year.

Teaching Impacts:
Average Knowledge Gain: 70%
(15 class sessions, 314 evaluations)

Comment: “The 4th grade students at General Myer Elementary are so fortunate to have Mr. Ron Serviss, an Instructional Specialist from the Water Wise and Energy Smart organization come to teach our children... They (the children) have become more conservative in their realization that we have to take care of our water supply... Again, we commend Water Wise and Mr. Serviss for their contributions to education our youth in our community.”
Sincerely, Lorraine Draeger, Jill Petersen, Jennifer Gennero, Judy Akers, Kari DeLuna.
4th Grade Teachers.
The Water Wise program distributes literature produced primarily by Water Wise and the University of Arizona. These research-based publications are tailored to the elevation and climate of Cochise County.

- **Maintaining Your Residential Water Harvesting System** is a four-fold brochure designed to assist the new water harvester with quick tips and system recordkeeping.
- **My Watering System** is a four-fold brochure developed by Water Wise and landscape professionals to be used by the professionals and property owners as a reference guide for understanding, auditing, repairing and maintaining their irrigation systems.
- **UA Fact Sheet: Rainwater Harvesting: Basics Components of a Rainwater Storage System**
- **UA Fact Sheet: Rainwater Collection – Passive Water Harvesting**
- **RainScapes**, a colorful four-fold brochure introduces “the next generation of Xeriscape” called “RainScapes.” RainScapes, a term conceived by Water Wise, is a new concept in landscape watering. It educates property owners on the techniques to make established landscapes exclusively reliant on rain and stormwater therefore saving potable water supplies for other uses.
- **Water Wise Landscapes in 5 Easy Steps** is a four-fold full color brochure that takes readers through five basic steps to create their own beautiful, functional and low water landscape.
- **Low Water Use Plants for Cochise County** is a plant list specific to the high desert. Local natural resource organizations, governmental agencies and nurseries collaborated with the Water Wise program to develop this easy to grow, low water use plant list. The list is the recommended plant list used by the city of Sierra Vista in its Landscaping section of the Development Code, and by Cochise County for commercial properties.
- **Cochise County Lawn Watering Guide** provides an easy to use table for fine-tuning water applications.
- **Watering Trees and Shrubs** offers simple techniques for efficient landscape watering (in revision).
- **Drip Irrigation** describes the basics for designing and evaluating a drip system.
- **Backyard Wildlife Habitat** tells how to attract birds, butterflies and other wildlife.
- **Tips on Land & Water Management for Small Farms and Ranches in Arizona**
- **When Do I Water?** (Adapted from Water, Use it Wisely)
- **I Want Nice Plants, But I Don’t Want to Water plant list**
- **Water Wise Residential Water Use Evaluation Check-List**
- **Planting Container Trees and Shrubs**
- **Books on High Desert Landscaping**
- **Cool Rules for Coolers**
- **Grazing Animals on Small Acreage**
- **How Much Water Does Your Pool Evaporate?**
- **Can I Use my Graywater?**
- **Common Graywater Questions**
- **Graywater and Your Detergent**

These bulletins are distributed countywide to individuals through Information Racks, event tables and one-on-one contact with Conservation Educators. All Cochise County Building Permit applicants and Sierra Vista newcomers receive Water Wise materials.
Information Racks: There are 26 regularly serviced information racks in public buildings and businesses in the Sierra Vista Subwatershed.

- The Cochise Water Project
- Yaqui Hay and Feed, Whetstone
- Nate’s Nursery SV
- SV Ace Hardware
- SV Food Coop
- Ace Hardware, Bisbee
- Sierra Vista Community Library
- Sierra Vista City Hall
- Liberty Water Company- Sierra Vista
- Pueblo Del Sol Water Company- Sierra Vista
- Arizona Water Company- Bisbee, Sierra Vista
- Bisbee City Hall
- Cochise County Board of Supervisors- Bisbee
- Cochise County Planning and Zoning- Bisbee
- Tombstone City Hall
- City of Tombstone Public Works
- The Nature Conservancy- Ramsey Canyon, Sierra Vista
- Wild Birds- Sierra Vista
- Home Depot- Sierra Vista
- Lowe’s Home Improvement Center- Sierra Vista
- Huachuca City Library
- Bisbee City Library
- Tombstone Library
- Friends of the San Pedro River Bookstore
- Sierra Vista Chamber of Commerce
- Sulphur Springs Valley Electric Cooperative- Sierra Vista
- City of Sierra Vista Virtual Information Rack on the “All About Water” website
Residential and Commercial Outreach
_Cado Daily, Water Resources Coordinator_
_Sandra Hurlbut, Instructional Specialist, Senior_

**Direct Contacts: 1181**

**Interpretation of Program Impacts**
Water Wise counts as a Direct Contact each time a Water Wise educator has a significant interaction with an individual. This interaction could be in a classroom session, at an information table where staff has direct contact with an individual that results in the imparting of substantive water information, at an on-site visit or at other educational venues.

**Residential On-Site Visits: 81 Direct Contacts (1.5 people average at site visits): 122**
This program provides an on-site water use evaluation and checklist for systematically inspecting a home or business and surrounding land resources. The Audit identifies cost saving alternatives for reducing water use and conserving the property’s natural resources. A Self-Evaluation Checklist is also available on the Water Wise website. Water Wise also serves as a resource for residents looking for assistance with the installation of a water conservation product or device (local rebate information, grants, etc.)

<table>
<thead>
<tr>
<th>Visits</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sierra Vista</td>
<td>41</td>
</tr>
<tr>
<td>Palominas/Hereford</td>
<td>11</td>
</tr>
<tr>
<td>Huachuca City/Whetstone</td>
<td>3</td>
</tr>
<tr>
<td>Bisbee</td>
<td>13</td>
</tr>
<tr>
<td>Tombstone</td>
<td>1</td>
</tr>
<tr>
<td>Benson</td>
<td>1</td>
</tr>
<tr>
<td>St. David</td>
<td>1</td>
</tr>
<tr>
<td>Pomerene</td>
<td>1</td>
</tr>
<tr>
<td>Step Up Bisbee/Naco</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>81</strong></td>
</tr>
</tbody>
</table>

*On-Site Visit follow-up (for a detailed list, contact cdaily@ag.arizona.edu):*

_Call Back program:_ Water Wise personnel contact the auditee 6 or 9 months after the visit for information on recommendation implementation. 72 contacts were made for this year’s report. Of those:

- 44% of contacts implemented some or all recommendations
- 33% of contacts were unreachable
- 1% of contacts had not made any changes yet
- 2% of contacts were not able to act on recommendations because of timing issues (seasonal occupancy, planting season).
- 13% recommendations to contacts were no longer applicable (contact moved or property was not developed), no recommendations made
Comments:

“Your visit was very helpful. We went from using 16,000 gallons/month to 3,000 gallons/month. We are happy with the results. The wattles you suggested to manage storm water also were very effective. Thank you.” Sue M.

“I have seen a reduction in water use. I am following your water schedule recommendations. I will be doing a test in May to understand how much the reduction is and how it compares with my past water use.” Jim F.

“I rescheduled my irrigations. I am saving about $20/month in water costs.” Ida S.

“Thank you for the follow up….Here is what we have done:
1. Purchased/installed two low water toilets …..
2. Turned off the sprinkler heads for about 60% of our rear grass.
3. Turned off the drip lines to the back hedges along the wall.
4. Rescheduled the water times front and back.
5. Redirected the water to our new low water plants in front of the attached apartment.
We reduced our water consumption by ½ to 1/3rd.”

“….In addition, I am very thankful that she (Sandra) sat with us while going through the packet of handouts from your office. WOW! Thank you is not strong enough for all of the precious and useful information. We moved here from Iowa, and our 1/2 acre lot has been vacant for over 4 years (with no care whatsoever), and Sandra actually went through all of the information with a positive attitude while helping us begin to form a vision for our space.”

“...And thanks also for your very informative and thorough visit. Now if I could just wave the magic wand and my yard would be done. lol!”

“I did indeed put up rain gutters, have two rain water tanks, 100 and 200 gallons and am using the water from them. Also, poked holes in plastic and put overrun rain hose under plastic and mesquite tree is doing beautifully. Have also erected pergola for shade and planted dozens and dozens of plants, using water wise ideas for most.” ML Stewart

“We made a big swale and berm in the area we talked about...still more to do.”

Mike and Gretchen

“Bermed back yard and seeded with turf type tall fescue (designated water saver blend) Installed shrubs all around house with adjustable drip emitters and controller. Mulched all plants with 2 inches of compost. Removed any stakes that rubbed plants. Had 6 inch gutters installed were needed (no catchment yet). Thank you for your help.” Jack R.

“It (the on-site visit) was a great meeting and left me with much clearer notions about what I want/need to do... I have worked a great deal on the back yard as far as water control. I've bermed the whole back by the alley ...The water now runs down the side of the house, through the front and out that gate, instead of piling up around the house. It’s a valuable service that you provide. Thanks again for all you expert advice and help.” Cathey C.
Monthly Workshop Series, Presentations and Tours

**Workshop Evaluation/Impacts:**

41% of workshop participants had not previously attended a Water Wise workshop (70% - 493 participant response rate).

**Presentation Value:** 65% (392) of workshop participants filled out evaluation forms on a scale of 1-4 with 4 being highly valuable:
- 84% gave a Highly Valuable rating (4)
- 14% (3)
- 2% (2)
- 0% Not Valuable (1)

**Knowledge Gain** (KG) indicates the percentage of gain of contextual information by attendees at an educational occurrence where program evaluation has been conducted. Often the KG will be over 100%. When this occurs, this simply means that there is a large difference between the level of knowledge of the attendee of the presentation topic before compared with after the presentation. If the percentage amount is low, it indicates that attendees did not gain much information from the presentation.

**Knowledge Gained:** Workshop and presentation participants had an overall average knowledge gain of 202%. 64% (396) of the total workshop and presentation participants responded to answering a knowledge gain assessment.

**Workshop Series** (coordinated by Water Wise with WW presenters or guests): 14  
- Is Cochise County Cracking up?
- Pruning Clinic
- Real World Watering
- Drip Irrigation Clinic- Lowes
- Drip Irrigation Clinic- Home Depot
- Drip Irrigation Clinic- C-A-L-S Ranch Store
- Construct a Straw Bale Garden
- Aquaponics/Hydroponics
- Water Harvesting - CAL Ranch
- Integrated Pest Management
- Super Succulents
- 20 Most Successful Plants
- Water Quality and Well Ownership
- Septic Care

**Direct Contacts:** 1194

**Direct Contacts:** 704
Presentations (presented by WW staff): 18
- A River Runs Through It (Quail Ridge RV Park, Huachuca City)
- A River Runs Through It (Tombstone RV Park)
- A River Runs Through It (Tombstone RV Park)
- Wings over Willcox: Native Plant walk
- Strawbale Gardening and Rainwater Harvesting (Sunsites Library)
- Cochise County Master Gardeners Class – RW Harvesting
- Sierra Vista Community Gardens: Watering
- SEAZ Realtors Assoc.: Rebates, Incentives
- The Nature Conservancy: Water Wise
- Water Harvesting: 15th Annual Southwest Indian Agriculture and Family Day Flagstaff
- San Pedro Kiwanis – the Water Wise Program and Conservation
- Southwest Wings Birding Festival – Native Plants
- Winter Gardening and More – ACE Hardware
- Winter Gardening and More – Copper Queen Library, Bisbee
- Rural Water, Small Acre Owners
- Native Plants – Copper Queen Library, Bisbee
- Mega Drought- Are We Prepared? Cochise College Brown Bag
- Water Wise Program – Bisbee Realtors

Tours: 3
- Water Wise collaborates with the Cochise County Master Gardeners Association (CCMGA) to conduct a free self-guided low water use tour highlighting water saving landscapes. This year, the CCMGA contributed at least 84 volunteer hours to the Tour. Docents are at each stop to assist visitors with questions on how they may create their own water saving yard.

18th Annual Water Wise/Master Gardener Xeriscape Tour
- Volunteers: 11 Master Gardeners, Tour Hosts: 5
- Total minimum volunteer hours: 84

Water Harvesting tours are offered by Water Wise in Sierra Vista, now for 12 years, and 6 in Bisbee. The tours show 4-5 sites to the public in July, and site hosts explain their systems. This year a classroom session was offered before the tour, and a city bus was rented to take participants to the tour sites.

Rainwater Harvesting “Talk and Tour”
- Direct Visitor Contacts: (SV: 30; Bisbee: 19)
- Volunteers: 5
- Total minimum volunteer hours: 10

Water Awareness Month - WAM!
- Started by Water Wise in 2001, adopted by the state in 2008!
- April weekly Water Wise Tips published in:
  - Sierra Vista Herald: Circulation: 21,800
  - Mountain View News: Circulation: 8,700
  - Bisbee Observer: Circulation: 2,200

Sierra Vista City Bus sign
Cochise College Marquis sign
Banners: All month Sierra Vista Veterans Park entrance
Other WAM events included a Proclamation of Water Awareness Month by Sierra Vista Mayor Rick Mueller and at the same City Council meeting awarded ribbons to winners of the Water Wise Youth Poster Contest. Selected posters were installed on the information posts on Sierra Vista’s Fitness/Water Cycle Ride Loop. The City of Bisbee also proclaimed April to be Water Awareness Month at an April council meeting. Water Wise Youth sponsored a Pool Party for Poster Contest participants and some posters were put on the Water Cycle Ride sign posts located on the BST Fitness Loop in Sierra Vista.

Information Tables: 8  
Direct Contacts: 495  
Direct contacts: (counted only table attendance where significant exchange occurred between WW educator and visitors):  
Cochise County Master Gardeners Association Conference  
Ag Day, Willcox  
Southeastern Association of Contractor’s Association  
SV Food Coop  
Tombstone: The Cochise Water Project Toilet Day  
Bisbee Farmer’s Market  
Sierra Vista Chamber of Commerce  
Cochise County Fair (Douglas)

Monthly Newspaper/Newsletter Articles (written by Water Wise staff): 29  
Sierra Vista Herald (readership M-Sat 21,800): 12  
Southeast Arizona Contractors Association Newsletter (2,000 printed): 10  
Cochise County Master Gardener Association Newsletter: 7

Radio: 2  
Bisbee’s KBRP (2) interviews: Water Quality, Water Awareness Month (WAM)  
Cherry Creek: Water Awareness Month (WAM) Ad Production and air time

Community Support  
Greenway School Gardens – rainwater harvesting system  
YES Fair Judging  
Desert Hort Conference, Tucson, Moderator

Step Up Bisbee – Partnership - toilet replacement assistance  
Water Wise assisted Step Up Bisbee/Naco (SUB/N), a local, volunteer group assisting low-income residents, with rebuilding projects. Water Wise introduced including a water audit at selected sites, and if merited, water conservation upgrades. This year, Water Wise obtained 33 - 0.8 gpf toilets donated by The Cochise Water Project. The toilets were installed by volunteers at residences, at the Bisbee YMCA, the Bisbee Homeless Shelter and the Verhelst Recover House in Bisbee for men. Water Wise also helped obtain funding from the Upper San Pedro Partnership to help SUB/N pay for a plumber to complete the toilet installations. In addition to toilet assistance and on-site water audits, Water Wise donated 1.0 gpm sink aerators to the selected sites.
Water Wiser Email Tips/Contact List
EList Contacts: 1259
Water Wise emails a water conservation tip once a month along with workshop notices to a growing email list.

Web Page: waterwise.arizona.edu and Facebook page: https://www.facebook.com/waterwise/
Water Wise web and Facebook page are continuously updated to reach out to residents of the San Pedro watershed and beyond.

Water Probes
In collaboration with the Cochise County Master Gardener Association hundreds of water probes have been sold to homeowners to fine tune their watering practices.

“Hot Line” Assistance
Water Wise personnel answer emails, phone inquiries, walk-ins and provide assistance on water conservation to residential, business and governing entities on a consistent basis.

Information Racks
23 regularly serviced information racks in the Sierra Vista Subwatershed

Cochise County Herbarium
The Herbarium is a volunteer-run repository and cataloguing of plants found in Cochise County and surrounding areas. The Cochise County Herbarium provides local plant data to Herbariums worldwide.

Industrial, Commercial, Institutional
The ICI program focuses on the commercial sector and provides conservation incentives through analysis of water use and specific recommendations with quantified water savings. The ICI program also assists the Upper San Pedro Partnership with their Water Conservation Grant program. Water Wise does not have a dedicated staff member focusing on ICI.

On-Site Visits: 18

Wellness Connection: SV
Naco Elementary School – storm and rainwater management
Greenway School, Bisbee - rainwater harvesting system
Hillcrest Apts., Bisbee - toilet upgrades

Results: 11 - 0.8 gpf toilets were donated by The Cochise Water Project
Estimated water savings: (1 occupant/apartment, ave 3.5 gpf toilet, full time all day occupancy): 20,075 gpy

Tombstone Territory RV Park – water harvesting systems
Tombstone Livery RV/Guest Park – water harvesting systems
Huachuca Mountain Elementary School – low water landscaping
Cochise Vista – Irrigation Inspection
Cochise Vista Office – indoor inspection

Estimated Annual Water Savings: 156,585
USPP Sloan Dual Flush Valve program:  
Estimated Annual Water Savings: 136,510 gallons
Distributed: 10 locations, 63 valve handles
Bisbee’s Copper Queen Community Hospital and Palominas Clinic, SE Arizona Realtor’s Association, Denny’s Restaurant, Applebee’s Restaurant, Uptown Cinema, Cove Aquatic Center, Culver’s Restaurant, Tombstone Courthouse – Arizona State Parks, Cochise County Government buildings.

Upper San Pedro Partnership ICI Grants awarded: 1
(water conservation grant program managed by the Water Wise program)
Step Up Bisbee: assistance for 0.8 gpf toilet installation

Funding
Upper San Pedro Partnership Instructional Specialist, Sr. support funding
2016 Arizona State Forestry Erosion Workshop Grant
2016 City of Bisbee WIFA Grant (WW subcontracting for stormwater/rainwater harvesting educational assistance)
Anonymous donor

Conference/Workshop Attendance/Special Meetings
Desert Hort, Tucson, AZ Session Moderator
Three WW staff attended a training in Tucson on “Building a Solar-Powered Water Pump” useful for rainwater collection conveyance
WW Instructional Specialist, Sr. took the Cochise County Master Gardener Course

Meetings
Huachuca Goulds Wild Turkey Federation - Wildlife Guzzlers
Watershed Management Group- Low Impact Development for Sierra Vista
Gardenroots: UA Citizen Science soil and vegetation quality research project
Arizona Town Hall “Keeping Arizona’s Water Glass Full”
Monthly or as needed:
Upper San Pedro Partnership Executive Committee
Southeastern Arizona Contractors Association
Upper San Pedro Partnership Retail Group
SE AZ Natural Resources Working Group
Quarterly:
Upper San Pedro Partnership Advisory Commission
Freeport-McMoRan Community Group
UA Staff meetings
Anually:
Sierra Vista Chamber of Commerce Annual Meetings (yearly)

Memberships/Associations
Southeastern Arizona Contractors Association
Sierra Vista Chamber of Commerce
American Rainwater Catchment Systems Association (ARCSA) (personal membership)
Cochise Chapter Arizona Native Plant Society (personal membership)
Water Wise Youth

Sandra Hurlbut, Instructional Specialist, Sr.
Serving K-12 Schools in Sierra Vista and Cochise County
Classroom Water Conservation Curriculum and Community Outreach

Direct Youth Contacts: 2823 (30% increase from 2014)
Class Sessions/Events: 157 (127% increase from 2014)

Teaching Impacts:
Knowledge Gain Quantitative Average: 67%
(13 class sessions, 347 evaluations)
Poster Contest: 160 participants, 10 teachers (not included Total Direct Youth Contacts)

The objective of the Water Wise Youth Education program is to support a water conservation education program for K-12 youth focusing on the Sierra Vista Subwatershed, along with some county programs. The program is available to area schools, after-school programs and community youth groups. Through interactive learning experiences, participants learn about local water resources and issues facing the Sierra Vista and Cochise County communities.

A primary outcome is that students will likely involve other family members and friends in their educational experiences, multiplying the effectiveness of the program by increasing water conservation awareness in the community and reducing their water use.

Schools and organizations served in Sierra Vista and Cochise County in 2015:

<table>
<thead>
<tr>
<th>4-H Summer Program - Douglas</th>
<th>Huachuca City Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bella Vista Elementary - S.V.</td>
<td>Huachuca Mountain Elementary – S.V.</td>
</tr>
<tr>
<td>Benson High School - Benson</td>
<td>McNeal Elementary</td>
</tr>
<tr>
<td>Boys &amp; Girls Club of Sierra Vista</td>
<td>Palominas Elementary School</td>
</tr>
<tr>
<td>Carmichael Elementary - S.V.</td>
<td>Pueblo del Sol Elementary – S.V.</td>
</tr>
<tr>
<td>Coronado Elementary - Palominas</td>
<td>Town &amp; Country Elementary – S.V.</td>
</tr>
<tr>
<td>Girl Scout Troop 810 – S.V.</td>
<td>Village Meadows Elementary - SV.</td>
</tr>
<tr>
<td>Girl Scouts of Sierra Vista – S.V.</td>
<td>City of Sierra Vista “Kid’s World”</td>
</tr>
<tr>
<td>Greenway Elementary - Bisbee</td>
<td></td>
</tr>
</tbody>
</table>
Classes Taught: 128
Direct Contacts: 1947

Teaching Impacts:
13 class sessions (347 evaluations)
Average Knowledge Gain: 67%

Most classes are direct or modified from Project WET curriculum and Water Wise/4H Catch the Rain curriculum:

- Everyone Comes to the Water Hole;
- Create a Watershed;
- Water Web of Life;
- The Long Haul;
- Incredible Journey;
- Poison Pump;
- Zig Zag Race;
- Intro to Water Wise Issues – Globe Toss;
- Drop in the Bucket;
- Aquabodies;
- Just Passing Through;
- Ground Water Flow Model;
- The Thunderstorm;
- One in a Million – Water Quality;
- Water Cycle;
- Rolling River;
- Zig-Zag Race;
- Water History Trunk;
- The Life Box;
- Landscape Design and Garden Ideas;
- Garden Planting and Watering;
- EnviroScape

Girl Scouts:
The Girl Scouts were given two week-long challenges: time their showers with a goal to not exceed 5 minutes per shower and encourage their family members as well.

The “Shower Timer Challenge” was put on the Girl Scout Facebook Page to encourage adult participation. Nine Facebook participants had shower times ranging from a high of 15 minutes to a low of 5½ minutes. The Facebook participant average was 8½ minutes; the mode was 8 minutes.

Of the four Girl Scouts, three were ultimately able to meet the 5 minute challenge by the end of the week. Most had higher shower times to start, 6-8 minutes. One family member (in the military) was able to shower in 2½ minutes. Another family member took a 30 minute shower!

The girls also performed dye tests on their home toilets. Two girls found leaks in the toilets they tested. In one household, two toilets were found leaking. Overall, two of the toilets will be repaired; the third one is going to be replaced.

Special Events (class sessions): 29

Brown Canyon Ranch Open House
Carmichael Elementary Field Trip to San Pedro River
Cochise College, SV, Math and Science Experience
Cochise College – Douglas, Earth Day
Carr House – “Water History Trunk” Carmichael School
Movies in the Park – Sierra Vista
Bisbee Copper Queen Library – Water Heroes Program
Willcox Library - Water Heroes Program
Veritas Christian School - EOP Field Trip
4-H – Douglas 7 week Summer Program
Sierra Vista Boys & Girls Club
Girl Scouts
Western Heritage Days at Brown Canyon Ranch Science & Nature Program
Village Meadows Mini Water Festival
Water Awareness Month Poster Contest “Celebrate Water, Celebrate Life”: 160 entries, 10 teachers
Participating schools: Bella Vista Elementary, Huachuca Mountain Elementary, The Center for Academic Success, Pueblo del Sol Elementary, and Town and Country Elementary. Awards were given by Mayor Rick Mueller at a Sierra Vista City Council meeting. Selected posters were installed on the information posts on Sierra Vista’s BST Fitness/Water Cycle Ride Loop. Poster contest participants were treated to a pool party at the Cove in Sierra Vista.

Presentations:
Youth Program Presentation to Faculty:
Bella Vista Elementary School
Village Meadows Elementary School
Carmichael Elementary School

Meetings:
Assessment Needs Staff Meeting
Cochise County Community Development, Highway & Flood Plain Division
USDA Coronado National Forest
Sierra Vista Youth Commission
Girl Scouts of Southern AZ
Sierra Vista School Board Awards for 2015 Water Wise Poster Contest
Youth Commission Radio Ad Production at Cherry Creek Radio
Sierra Vista City Council Awards for 2015 Water Wise Poster Contest
UA STEM Curriculum Discussion
Palominas Recharge Curriculum
EnviroScape Training
Village Meadows Mini-Water Cycle event planning
Extension Staff Meetings
Comments:
“The instructor (Sandra Hurlbut) was very well informed and delightful to learn from. She listened to student questions and comments, and redirected beautifully. Extremely knowledgeable and well versed in teaching children. Both 4th grades are planning for further education from this instructor. Thank you so much.” – Patricia Stickler – 4th Grade Teacher, Town & Country Elementary, Sierra Vista

“Thanks Sandra for working with such a diverse group that span from ages K through 8. I certainly believe that our students came away from your presentation with a better knowledge about the area they live in and the need to save resources.” – Teresa Reyna – Mc Neal Elementary School Superintendent

“This (Create a Watershed) was an excellent presentation which helped the students understand what a watershed is, first and foremost, but also taught them about the importance of town, waste disposal, etc. placement in real life and gave them an appreciation for the work that went into placing these vital sites in locations that are safe and a much greater appreciation for our own San Pedro River and San Pedro River Valley.” – Ashley Stanton – 4th Grade Teacher, Greenway Elementary School, Bisbee

“Hi Sandra, Our class has really enjoyed your lessons and it has really enriched our discussions in class. Thank you so much!...” – Sandra Martinez – 4th Grade Teacher, Huachuca City Elementary, Huachuca City

Fort Huachuca Water Wise and Energy Smart Program

Ron Serviss, Instructional Specialist, Sr. (0.5 FTE)
Susan Bronson, Instructional Specialist) (0.5 FTE)

Class Sessions/Events: 120 (27% increase)
Direct Youth Contacts: 2679 (6% increase from 2014)
Energy Audits: Achieved the Fort’s audit goal for the third straight year
WWES audited in excess of 1.5 million square feet in the 2014-15 audit year
The U.S. Department of Defense contracts with the University of Arizona Cochise County Cooperative Extension to provide Fort Huachuca with the Water Wise and Energy Smart Program (WWES). The Cooperative Extension has been providing this service since 1997. The WWES Program provides water and energy conservation education and related support to U.S. Army and civilian employees who work and/or live on Fort Huachuca, Sierra Vista, Arizona, and to students attending schools on the installation. The overall objective is to increase the awareness of water and energy conservation to the military mission, along with identifying and assisting in carrying out specific measures to accomplish the conservation.

ENERGY PROGRAM

Fort Liaison

Supervision of the program on Fort Huachuca has shifted from the Fort hydrologist to the Fort’s Energy Manager, to reflect an increased emphasis on energy conservation measures and to accomplish the Army’s mandate to conduct a Level One Energy Audit on each of its buildings every four years. This assists the Fort in meeting its Net Zero requirement by 2025. Consequently, the WWES program increased activities in the energy conservation aspect of the contract.

Energy Audits: Achieved the Fort’s audit goal for the third straight year.

WWES audited in excess of 1.5 million square feet in the 2014-15 audit year

The Fort uses a July 1 – June 30 year to calculate its annual audits and it is Army policy that achieving 70% of the goal is considered meeting this goal. It also looks at a four-year cycle, rather than an annual period. More specifically, the Fort has 6 million square feet of building that must be audited every four years. There is an informal goal of 1.5 million square feet each year to help achieve their four-year 6 million square feet goal.

Impact

Overall energy use on Fort Huachuca continues to decline, in part due to the efforts of WWES contributing towards the Fort’s meeting the Army’s mandate to reduce energy costs. The energy audits conducted in Audit Year 14-15 have made low cost/no cost recommendations which, if fully implemented, have the potential to save significant energy costs. The audits also provide the necessary documentation for Fort Huachuca to receive additional funding for energy saving projects.

EDUCATION PROGRAM

Classes taught: 121

Direct student contacts: 2679

Teaching Impacts: 15 class sessions (314 evaluations), Average Knowledge Gain: 70%

WWES provides classroom lessons water and energy conservation to the Fort’s two elementary and one middle school. They also provide training to the Building Energy Monitors (BEM) during the auditing process and to other adult groups when there is an opportunity.

School program: 118 classes (27% increase from 2014 classes)

Direct contacts: 2,524

Special Events (class sessions); After School/ Summer, Fort Huachuca Schools STEAM event, Field trips to San Pedro River
Other Education Activities

Assisted with staffing the Cooperative Extension booth at the County Fair

Article for Huachuca Scout newspaper on energy conservation

WWES has developed a very positive relationship with many of the teachers on Fort Huachuca. Ron Serviss meets regularly with the Third, Fourth, and Fifth Grade teachers at General Myers Elementary School to develop curriculum-focused schedule for the school year. He had met regularly with the Sixth Grade science teacher at Smith Middle school up until her retirement in June.

Comments:
Letter sent to Chalk Talk, Sierra Vista Herald, 11/3/2015:

“The 4th grade students at General Myer Elementary are so fortunate to have Mr. Ron Serviss, an Instructional Specialist from the Water Wise and Energy Smart organization come to teach our children. He is truly an asset to our community. The children and teachers love when he comes to give his lessons. We’ve learned about the amount of fresh water available to us in his The Drop in a Bucket lesson. At the end of the lesson, he puts a drop in the bucket to illustrate how much water is available for drinking. The students realize how precious of a resource that water is nowadays. They have become more conservative in their realization that we have to take care of our water supply. In his Groundwater lesson, we learned how fast or slow water can move through clay, pebbles, sand and bigger rocks. Again, we commend Water Wise and Mr. Serviss for their contributions to education our youth in our community.”

Sincerely, Lorraine Draeger, Jill Petersen, Jennifer Gennero, Judy Akers, Kari DeLuna. 4th Grade Teachers.