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Water Resources Research Center

College of Agriculture and Life Sciences



Securing Water for the Environment: Establishing Pilot Programs

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Presentation Overview

- Conserve to Enhance – The Concept
- Alternative Mechanisms
- Establishing Pilot Programs
- Stakeholder Involvement
- Implementation Considerations

Background

- Environmental enhancement projects need funds to secure water supplies

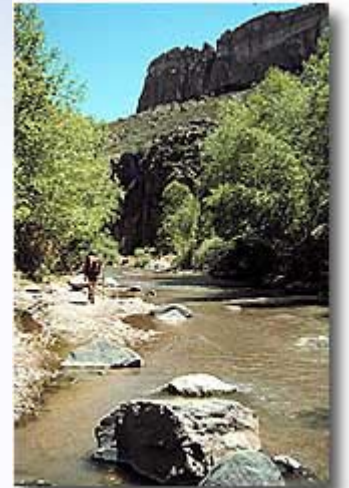
(Megdal et al, 2006 "Projects to Enhance Arizona's Environment")

- Public interest in preserving and enhancing riparian areas

(Katz, 2006)

- Water conservation as a source of water for environment

(Schwarz and Megdal, 2007)



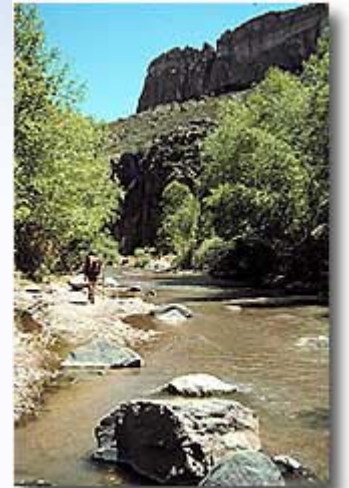
Aravaipa Canyon, Arizona



Verde River, Arizona

Goals: Conserve to Enhance

- Provide water to environmental enhancement projects
- Environment as a water customer
- Increase water conservation
- Connect individual conservation to environmental concerns
- Create a simple accounting mechanism
- Create a reliable funding source



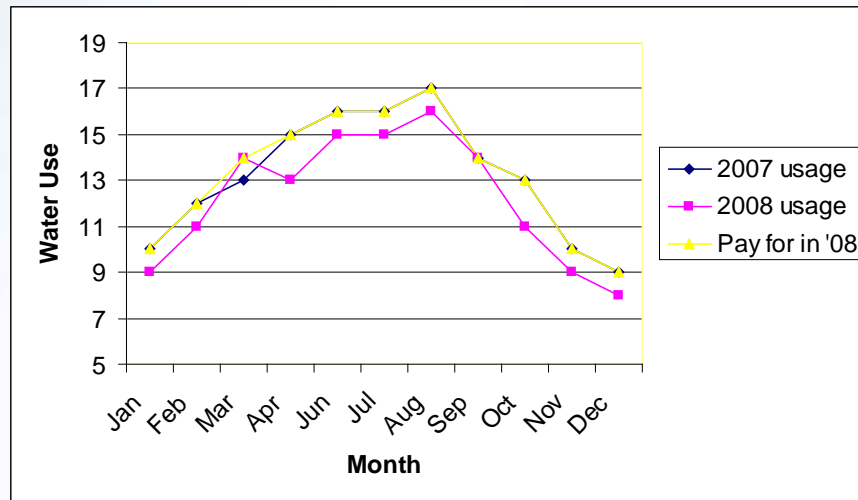
Aravaipa Canyon, Arizona



Verde River, Arizona

Conserve to Enhance

- Voluntary reductions in water consumption
- Water savings translate into money savings
- Savings translated into donations for water for environmental enhancement projects



Encourage Participation

- Connect to environmental concerns
- Subsidize water conservation
- Link with existing conservation programs
- Match donations
- Set tangible goals



Manage Funds

- Develop fund management processes
 - Partner with existing organizations
 - Makeup of oversight body
 - Degree of discretion in decision making



Verde River, Arizona (Jeanmarie Haney, TNC)



Esperanza Ranch, Arizona

Donations Can Go Toward...

- Purchase supplemental water
 - Reclaimed water/Effluent
 - Groundwater
- Lease water
- Secure instream flows
- Acquire easements and retire pumping
- Recharge groundwater



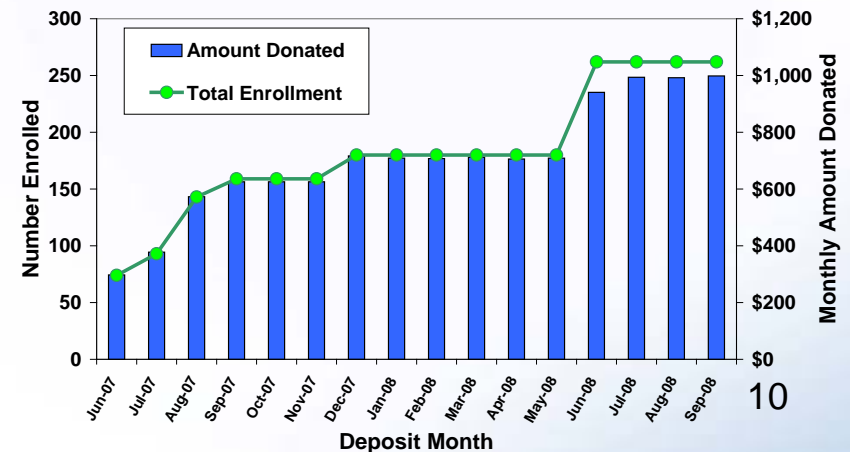
An Alternative Mechanism

- Check-box donation programs
 - Exists in three communities
 - Does not connect donations to conservation actions
 - Demonstrates support for environmental water supply
 - May be useful for first phase of project
 - Limited billing system modifications



Lessons Learned from Checkbox Programs

- Don't go it alone!
 - Initiated through partnerships between cities/water utilities and local environmental organizations.
- Water can be hard to find!
 - Limited availability of water for lease in some basins.
- Demonstrate results!
 - On website
 - In annual report

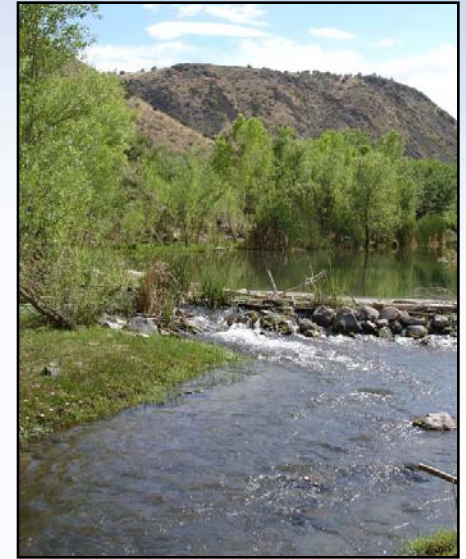


Roles of Partners

	City	Water Utility	Non-profits	Citizens	Businesses
Manage program	X	X	X		
Advertise program	X		X		X
Make donations	X		X	X	X
Serve on Advisory Board	X	X	X	X	X

Establishing Pilot Programs

- Building partnerships
- Identifying funding sources
- Implementing pilot programs
- Sharing the concept
- Evaluating interest



Verde River, Arizona (Jeanmarie Haney, TNC)



Esperanza Ranch, Arizona

Stakeholder Involvement

- Outreach efforts have included roundtables, presentations, workshops, one-on-one meetings, and surveys with:
 - Utilities
 - City and county officials
 - Environmental groups
 - Homeowners/residents
 - Professors
 - Hydrologists
 - Water conservation professionals



Stakeholder Feedback

When asked *how they would like to contribute* to a fund supporting water for environmental enhancement or riparian restoration, respondents (n=137) chose:

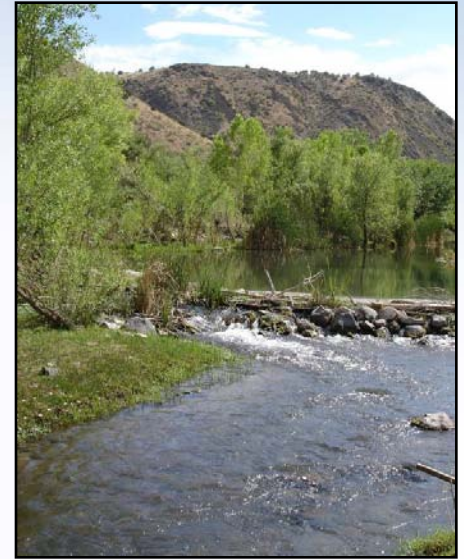
- Tax on water use (59%)
- Money saved through conservation (42%)
- Voluntary donation on utility bill (41%)

Stakeholder Feedback

- Value of program as educational tool
- May stimulate existing water conservation programs
- Variations on original mechanism:
 - Conservation calculator linked to donation
- Concerns:
 - Costs for utility vs. costs for customer
 - Lost revenues from reduced demand
 - Increased competition for limited supplies

Considerations

- Utility billing systems
- Water available for purchase
- Simple messages/explanations
- Accountability
 - Tracking contributions
 - Tangible, local benefits
- Encourage partnerships and broad participation



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Questions?



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Conserve to Enhance

References:

- Megdal, Dr. Sharon B., Bate, Joanna, and Andrew Schwarz. June 2009. *Securing Water for Environmental Purposes: Establishing Pilot Programs*, Intl. Journal of Environmental, Cultural, Economic and Social Sustainability 5.*
- Schwarz, Andrew and Dr. Sharon B. Megdal. January 2008. *Conserve to Enhance*, Journal of the American Water Works Association 100 (1): 42-53.
- Megdal, Dr. Sharon B. Jan-Feb 2008. *Conserve to Enhance*, Arizona Water Resource Public Policy Review.*
- Schwarz, Andrew and Dr. Sharon B. Megdal. 2007. *Water Conservation Banking: Municipal Water Conservation to Support Environmental Enhancement*. WRRC and US Bureau of Reclamation, Tucson, AZ.*
- Megdal, Dr. Sharon B., Lacroix, Kelly Mott, and Andrew Schwarz. 2006. *Projects to Enhance Arizona's Environment: An Examination of Their Functions, Water Requirements, and Public Benefits*. WRRC and US Bureau of Reclamation, Tucson, AZ.*

*Available on WRRC website: <http://cals.arizona.edu/azwater/publications.php>