



Conserve to Enhance: Linking water conservation and environmental benefits

Emily Brott & Candice Rupprecht

**January 9, 2012
Pima County Local Drought Impact Group**

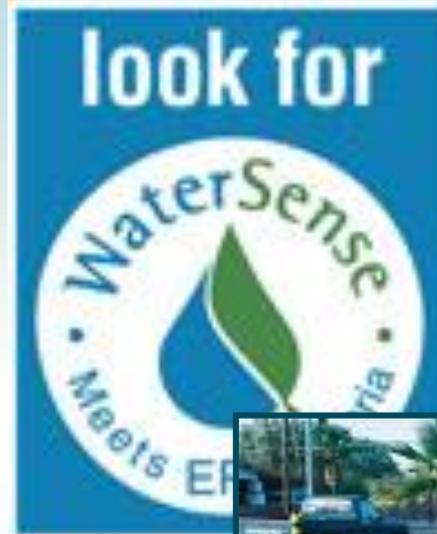
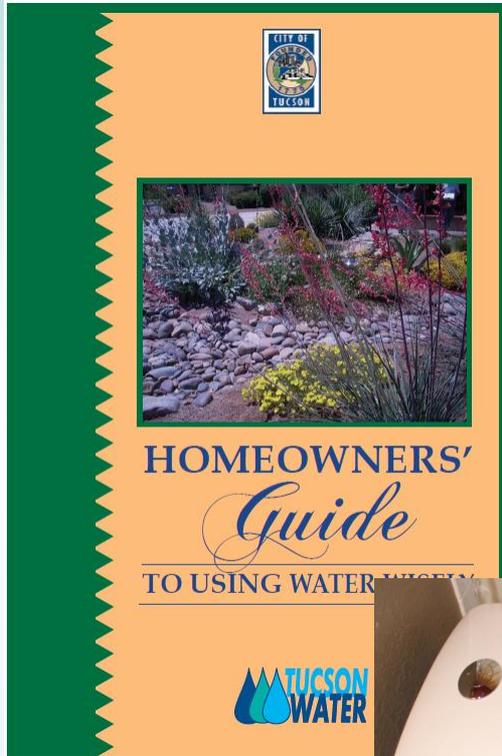


Presentation Outline

- Water conservation & the environment – an untapped potential?
- How is Conserve to Enhance responding to the conservation challenge?
- How can C2E benefit a community?
- C2E Pilot results
- C2E Community Enhancement Grants



Traditional Approaches to Conservation



Motivation to Conserve Water

- Why should I save water?
- How do I save water?
- How are these things connected?
- The environment can be a significant motivator that makes these connections.



Conserve to Enhance (C2E): An Innovative Voluntary Mechanism



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Benefits of C2E

1. Water conservation with environmental benefits
2. Money and water to environmental projects
3. Education & Awareness
4. Simple accounting and reliable funding source
5. Quality of life, opportunity & good will



Program Benefits:

1. Water Conservation

- Program results in measurable water conservation that would not have occurred otherwise
 - Extends water supplies
 - Lower infrastructure costs
- Water is becoming more scarce – conservation is no longer an option

Program Benefits:

2. Environmental Enhancement

- Meaningful, new funding for local projects
 - Instream flows, green infrastructure, stream restoration – whatever a community is interested in
- Projects benefit local water supply
 - Increase water security, more livable community



Beaver Creek, AZ. Photo credit: Brittany Choate

Program Benefits:

3. Education



The Deschutes River has been called the lifeblood of central Oregon, yet nearly 98% of the water from the Deschutes just north of Bend is diverted through irrigation canals during the summer. Drastic seasonal fluctuations in streamflow erode streambanks and result in water quality problems and habitat degradation in our river. This problem affects all of us in the community. The solution?

GIVE BACK TO THE DESCHUTES RIVER WITH BLUEWATER

Blue Water is the result of an innovative partnership between Avion Water Company and the Deschutes River Conservancy (DRC), a local non-profit. 100 percent of your gift to Blue Water supports DRC programs that improve streamflows in the Deschutes River. Your small donation can make a huge difference. Choose from the monthly donation levels below.

- RIVER OTTER \$6.40
- BLUE HERON \$4.80
- RAINBOW TROUT \$3.20
- SPOTTED FROG \$1.60

What does my monthly donation do? It helps sustain the quality of life we all enjoy. Additional water in the river boosts water quality, streamside vegetation, fish, wildlife, scenic and recreation opportunities. Fill out the enrollment form on the reverse side and return it with your Avion bill or contact Avion Water Company at 541.382.5342. For more information on DRC programs visit www.deschutesriver.org.

Your Water CONNECTION

Link Your Water Savings to Enhancing Local Washes

Did you know your water savings can benefit local rivers, streams, and washes? Thanks to a new program – Tucson Conserve to Enhance (C2E) – Tucson Water customers can donate money saved on their bill to support enhancement of riparian areas in the utility's service district.

Your water bill's "Open Space" checkbox will soon be the "Open Space and Riparian" checkbox. Donations made through the checkbox this year will support the Atterbury Wash restoration project.

Public participation is essential to assisting Tucson Water in navigating the future and in making our community water sustainable. Residential customers living in neighborhoods inside and outside the City limits, business owners, and representatives from trade groups, professional organizations, and non

profits help to shape Tucson Water's future.

"Participation" comes in many forms: attending a town hall, sitting on an advisory group, filling out an online comment form, speaking with a customer representative or taking time to answer a survey. Your involvement has helped Tucson Water staff to develop programs and rebates

Have a question or a suggestion? Call us at 791-4324

— Andy Quigley, INTERIM DIRECTOR, TUCSON WATER

Program Benefits:

4. Funding Source

- Savings-based donations can create a reliable funding pool for C2E projects

| Participant A | | | | | | |
|---------------|--------------------------------|-------------------|-------------------|-----------------------|-------------------------|-------------------------------------------|
| Month | Historical/ Baseline Use (Ccf) | Current Use (Ccf) | Water Saved (Ccf) | Water Saved (gallons) | \$ value of water saved | Conservation-based Quarterly Contribution |
| Jan-11 | 7 | 3 | 4 | 2,743 | \$5.65 | |
| Feb-11 | 6 | 3 | 3 | | \$4.62 | |
| Mar-11 | 6 | 4 | 2 | 1,496 | \$3.08 | \$13.35 |
| Apr-11 | 9 | 2 | 7 | 4,987 | \$10.27 | |
| May-11 | 13 | 6 | 7 | 5,236 | \$10.78 | |
| Jun-11 | 14 | 7 | 7 | 5,485 | \$11.29 | \$32.34 |

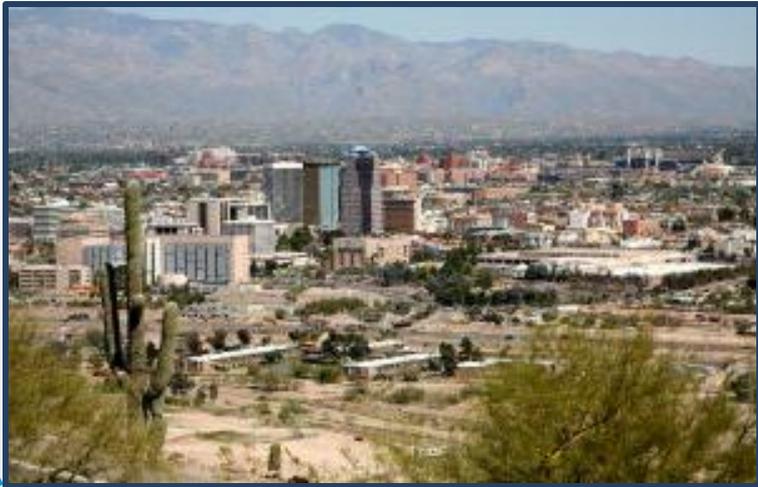
Program Benefits:

5. Multiple Community Benefits

- Water providers and corporations are stewards/environmental leaders
- Quality of life improves
 - Reduced runoff & storm water flows
 - Increased shade & habitat through vegetation
 - Food production
 - Energy savings

3 Keys of C2E: Lessons from Tucson

1. Local Partners
2. Accounting Mechanism
3. Enhancement Opportunities

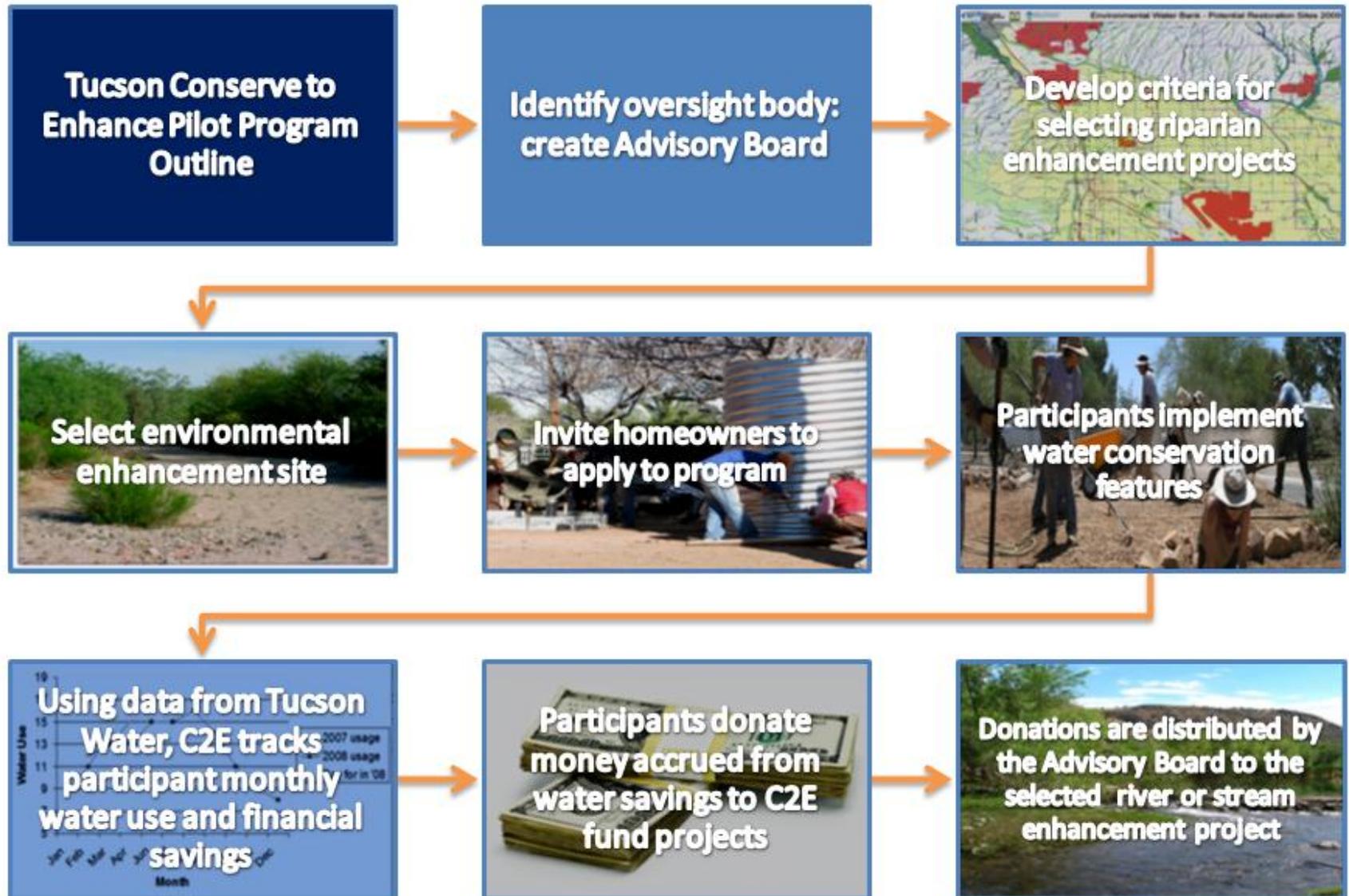


Atturbury Wash, Tucson, AZ (Candice Rupprecht)

Tucson Pilot Program Partners



C2E Tucson Development

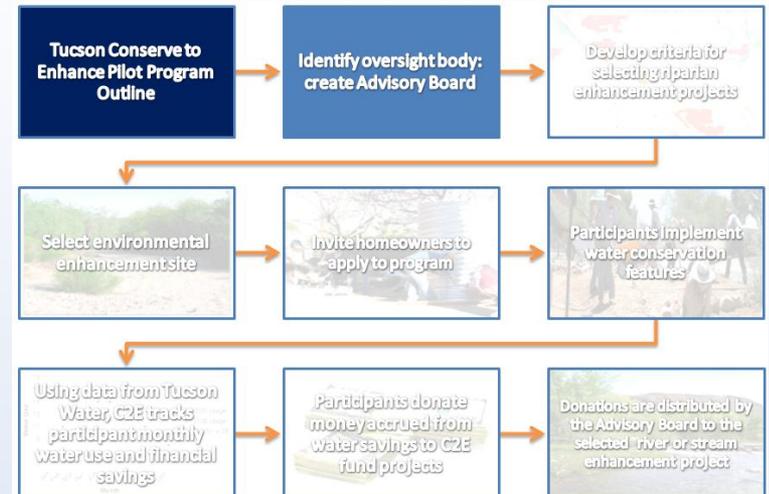


Tucson Pilot Program

Tucson Conserve to Enhance Pilot Program Outline

**Identify oversight body:
create Advisory Board**

12 active board members from agencies, NGOs, businesses, university and utility sectors

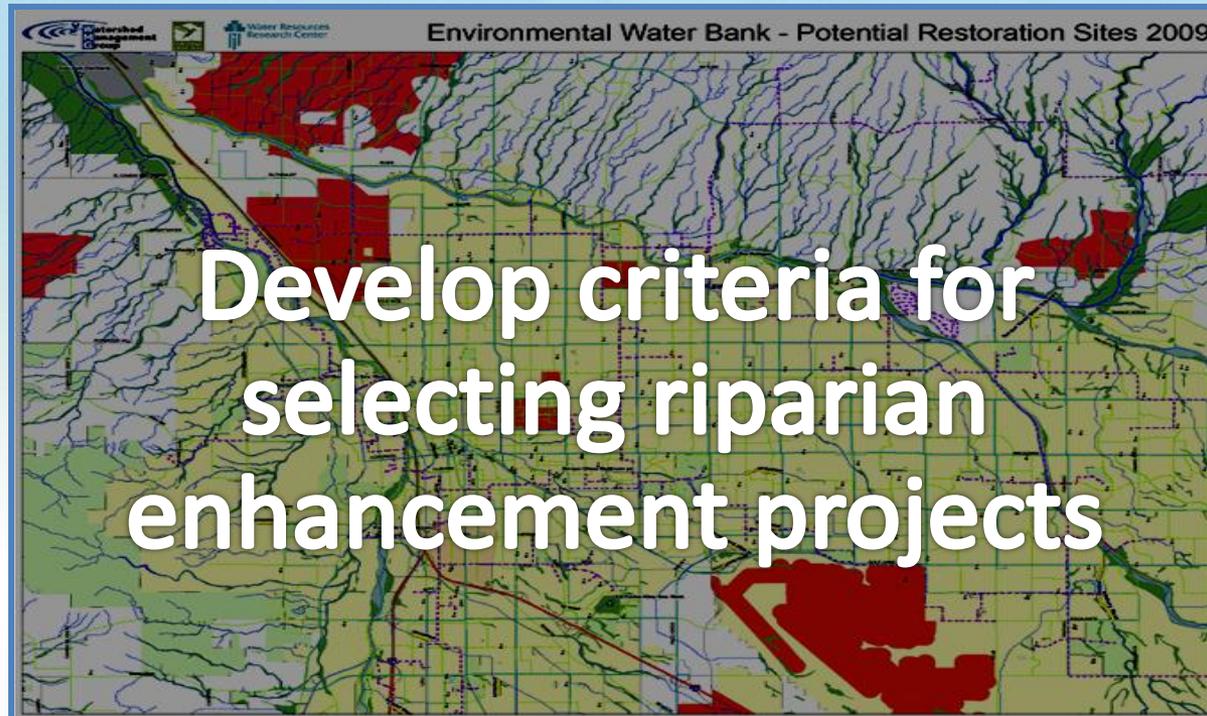


Advisory Board Member Orgs.

- ◆ **Sonoran Institute**
- ◆ **Watershed Management Group**
- ◆ **University of Arizona WRRC**
- ◆ City of Tucson
 - ◆ Attorney's Office
 - ◆ Office of Conservation & Sustainable Development
 - ◆ Ward One Office
- ◆ Ecosystem Services
- ◆ Pima Association of Governments
- ◆ Pima County
 - ◆ Regional Wastewater Reclamation
 - ◆ Office of Conservation Science and Environmental Policy
- ◆ Tucson Audubon Society
- ◆ Tucson Water
- ◆ University of Arizona Campus Planning

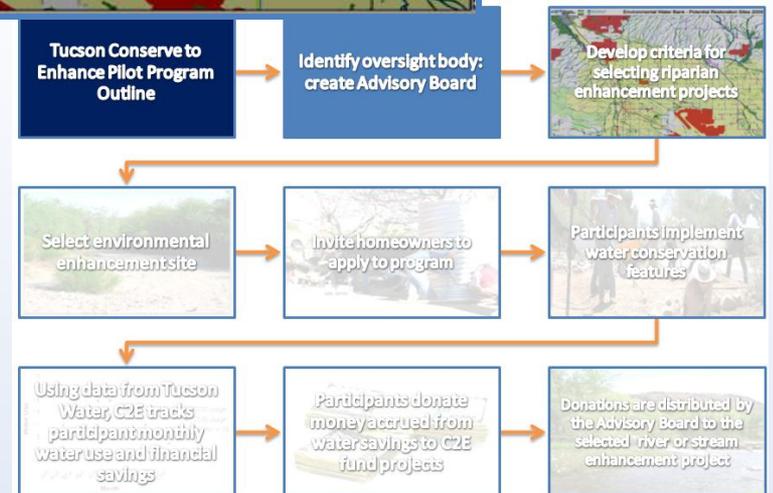
Core Team Orgs. In Bold





Watershed Management Group, Sonoran Institute, Water Resources Research Center

Identified 18 active restoration projects and received applications from 3 sites to use C2E funds



Select environmental enhancement site

Atturbury Wash, Tucson, AZ (Candice Rupprecht)

After an RFP selection process by the C2E Advisory Board, Atturbury Wash was selected as the recipient enhancement site.





Watershed Management Group

60 pilot participants selected from throughout Tucson to commit water savings to the C2E fund.



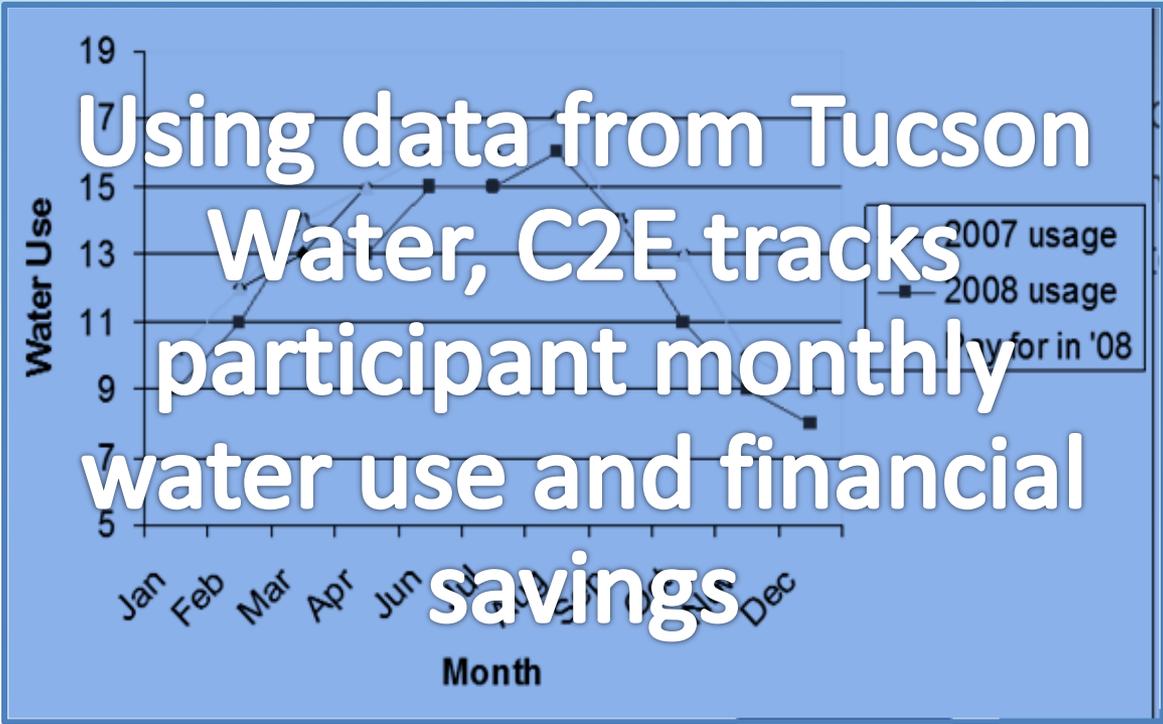


Participants implement water conservation features

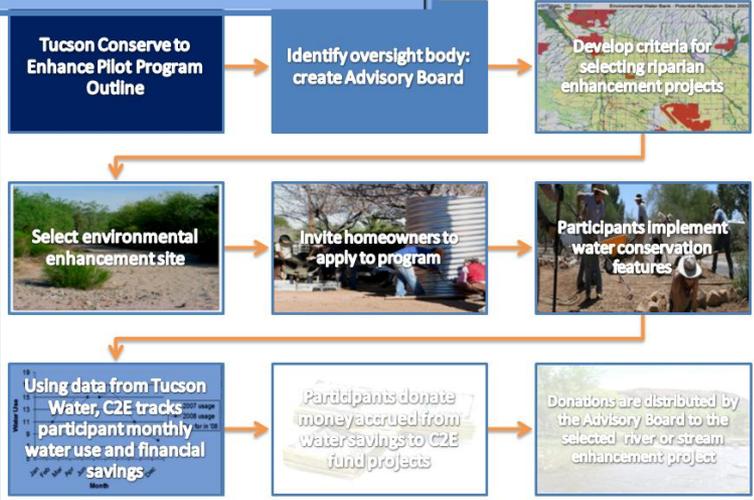
Watershed Management Group

45 participants received subsidies (\$500 - \$1000) for rainwater harvesting installations. 29 projects were completed.





1.9 million gallons of water conserved
 5.8 acre feet
 (Jan. 2011 – Sept. 2012)



Participants donate money accrued from water savings to C2E fund projects

Microsoft PowerPoint ClipArt

Actual donations: \$1,700
~\$3.60 per person, per month

(Jan 2011 – Sept 2012)



Donations are distributed by the Advisory Board to the selected environmental enhancement project

Photo Credit: Candice Rupprecht

In 2012, \$12,000 was invested in Atturbury Wash (near Lincoln Park) for a restoration project led by Tucson Audubon.



2012 Atturbury Wash Project

- 1 acre restoration & demonstration site
 - 25+ native trees & shrubs planted to connect habitat w/ wash
 - 3 basins dug & raised path created to capture runoff and create walking path





UTILITY SERVICES STATEMENT

BANK DRAFT - PLEASE DO NOT PAY

Tucson Water Customer Service Office
Phone: 520-791-3242
Outside Tucson: 800-598-9449
www.tucsonaz.gov/water

Account Name:
Account Number:
Service Address:
Bill Date: 08/03/2011
Service Period: 07/05/2011 to 08/02/2011
Hours: 8:00 am - 5:00 pm MST (Mon-Fri)



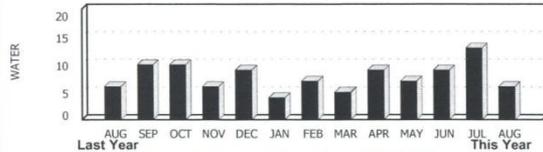
Pima County Regional Wastewater
Reclamation Department
Phone: 520-740-6609
www.pima.gov/wrr

City of Tucson Environmental Services:
Phone: 520-791-3171
www.tucsonaz.gov/esd

| Last Bill | Payments (Credits) | Deposits Applied | Adjustments | Balance Forward | New Charges | ACCOUNT BALANCE |
|-----------|--------------------|------------------|-------------|-----------------|-------------|-----------------|
| \$74.83 | -\$74.83 | \$0.00 | \$0.00 | \$0.00 | \$65.33 | \$65.33 |

| METER INFORMATION | | | | | | |
|-------------------|--------------|------------|----------|--------------|---------------|--------------------|
| Meter number | Service Type | Start Date | End Date | Current Read | Previous Read | Consumption (Ccfs) |
| | WA | 07/05/11 | 08/02/11 | 2141 | 2135 | 6 |

| ACCOUNT ACTIVITY | |
|-----------------------------|----------|
| LAST BILL | \$74.83 |
| TOTAL PAID SINCE LAST BILL | -\$74.83 |
| ADJUSTMENTS | \$0.00 |
| BALANCE FORWARD | |
| NEW CHARGES | |
| ENVIRONMENTAL SVCS FEES | |
| SEWER VOLUME | |
| WATER VOLUME | |
| MISCELLANEOUS | |
| TOTAL NEW CHARGES | |
| ACCOUNT BALANCE | |
| DRAFT AMOUNT ON: 08/23/2011 | |



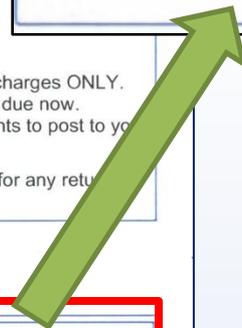
IMPORTANT MESSAGE

On July 5, 2011 Water rate changes approved by Mayor & Council became effective. Questions? Please call 791-3242; outside Tucson, 1-800-598-9449.
* On July 1, 2011 an increase in sewer rates became effective as approved by the Pima County Board of Supervisors. Questions on the sewer charge portion of your bill, call (520) 740-6609.
* Environmental Services charges reflect a fuel surcharge and an increase in the groundwater protection fee.

Due date applies to current charges ONLY.
Any balance forward is due now.
Please allow 7 days for payments to post to your account.
A \$28.00 fee will be charged for any returned check.

Tucson Water bill with check box program highlighted

| | |
|------------------------------------------------------|--------------------------------|
| DRAFT DATE: | 08/23/2011 |
| DRAFT AMOUNT: | \$65.33 |
| Open Space / Riparian Contribution (optional) | |
| AMOUNT PAID: | BANK DRAFT - DO NOT PAY |



BANK DRAFT - PLEASE DO NOT PAY



UTILITY SERVICES
PO Box 28804
Tucson, AZ 85726-8804

Please fold on perforation before tearing and return bottom portion with your payment.

| | |
|------------------------------------------------------|--------------------------------|
| Account Number: | |
| Service Address: | |
| DRAFT DATE: | 08/23/2011 |
| DRAFT AMOUNT: | \$65.33 |
| Open Space / Riparian Contribution (optional) | |
| AMOUNT PAID: | BANK DRAFT - DO NOT PAY |

Your tax-deductible contribution to "Open Space or Riparian Enhancement" will support the preservation of biologically-rich open space and the Conserve to Enhance program, an effort that links local river and wash enhancement with individual water conservation efforts. Visit www.tucsonaz.gov/water/checkbox to learn more. Your contribution will not affect service fees.

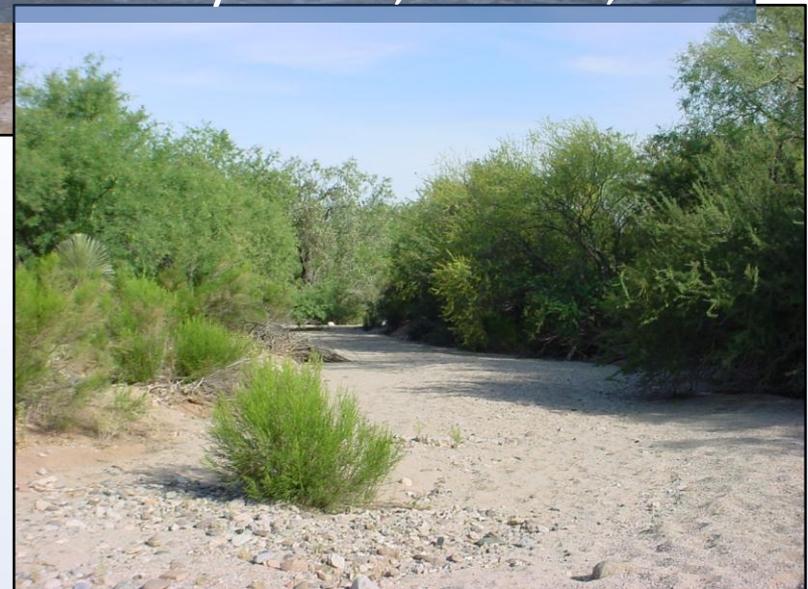


Tucson C2E Projections

- If C2E is scaled up to the entire Tucson Water service area:
 - 12,500 participant estimate (~5% of TW customers)
 - 850+ ac/ft water conserved per year
 - \$500,000/year for local environmental enhancement projects
 - Estimates based on start-up years, so may be low



Atturbury Wash, Tucson, AZ



Tucson C2E Phase Two – 3 Ways to Engage!

- **Save water:** Become a C2E participant. Sign-up at www.watershedmg.org/c2e
- **Donate:** On the Tucson Water check box or online at www.watershedmg.org/c2e
- **Become a leader – Apply for a grant:** Neighborhood-scale projects to improve the watershed and community



Community Enhancement Projects Grant Overview

C2E Program Goals

- Enhance quality of life
- Restore ecosystems
- Improve biodiversity



Application Details

- Due February 8, 2013
- Can submit paper or electronic copy to WMG
- 4 components:
 - Application
 - 3 main elements
 - Budget
 - Planning
 - Timeline
 - Map
- Projects selected by C2E Advisory Board
- One-year projects will start late spring 2013

Projects C2E Will Fund

- Green Infrastructure along streets, parking lots, parks, or public spaces like churches and schools
 - Prioritize projects within 400 feet of neighborhood wash
 - Prioritize projects in areas of concentrated flow or flooding
- Habitat restoration along/near washes
- Restoration in tributary washes or upland drainages



Photo credit: WMG

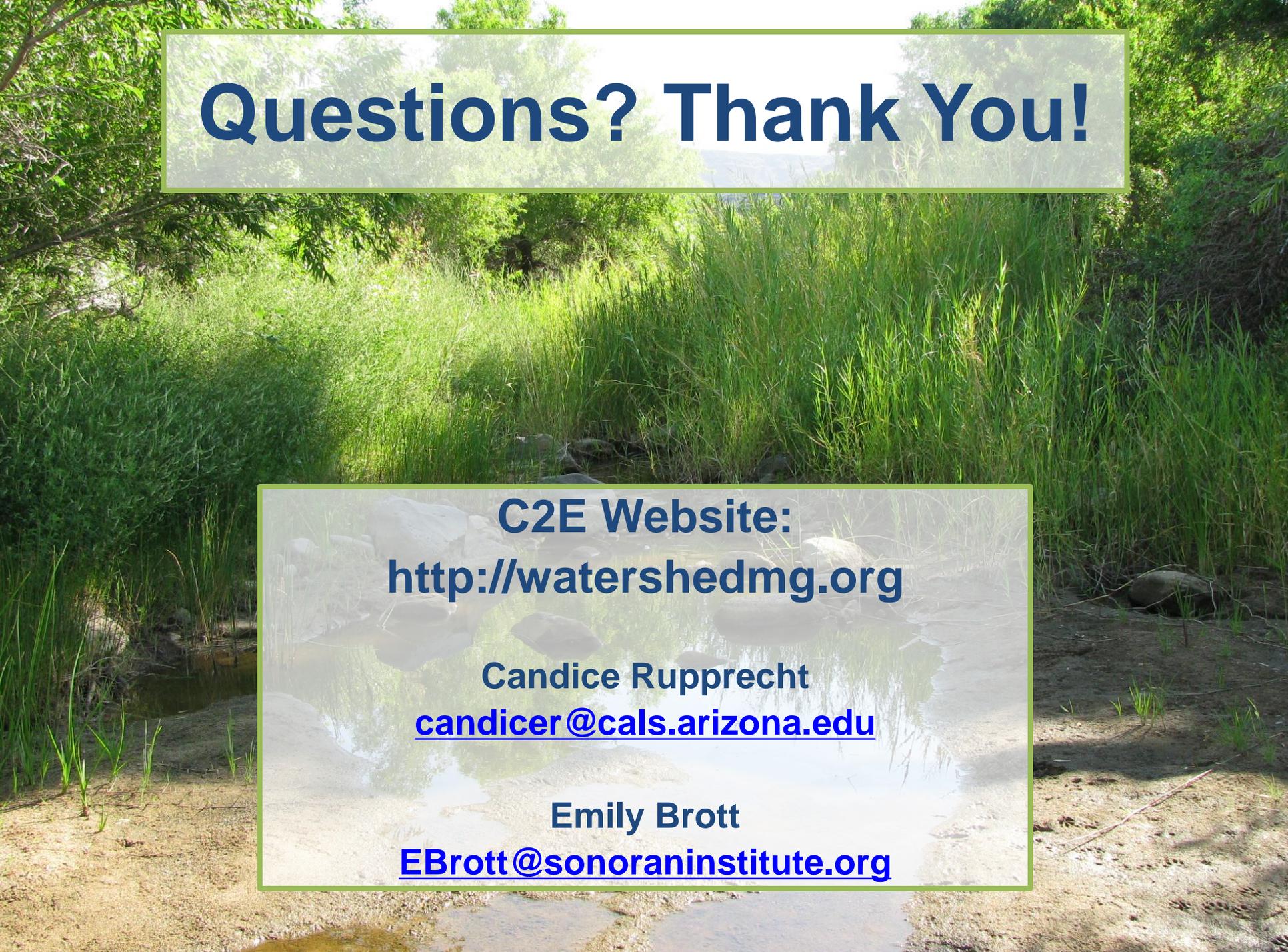
Goals of Neighborhood C2E Projects

- Increase native vegetation near washes and rivers to expand habitat, cool temperatures, and slow and sink stormwater
- Increase soil moisture near washes/streams to support native habitat plants
- Reduce runoff and associated pollutants that ends up in washes
- Beautify areas near neighborhood washes to create a community resource
- Reduce erosion and sedimentation in smaller tributaries



Photo credits: WMG





Questions? Thank You!

C2E Website:
<http://watershedmg.org>

Candice Rupprecht
candicer@cals.arizona.edu

Emily Brott
EBrott@sonoraninstitute.org