

Environmental Indicators 2009: Rainwater Harvesting (RWH)

In the Sonoran desert, water conservation is critical to our sustainability equation. The rainwater harvesting (RWH) ethic is growing with leadership and grassroots efforts. A mosaic of local sites provide a promising RWH future for our region, from parking lots, right-of-ways, schools, parks, municipal buildings and businesses to homes.

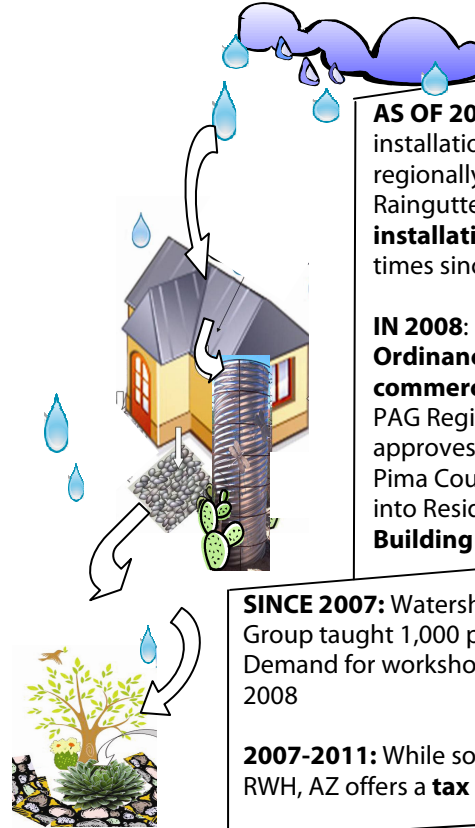
Rainwater harvesting is capturing rain-flows and putting it to beneficial use on site. RWH can slow floodwater and prevent runoff. Otherwise, stormwater can pick up pollutants in the streets and take them to our fragile washes. Rainwater can be actively stored in cisterns or by contouring the landscape into earthworks to help vegetation thrive.

Tucson is a hub for RWH information and business:

- Authors / Guidebooks / Experts
- Installation / Vendors / Co-ops
- Education / Workshops / Certification
- Grants / Assistance/ Volunteering
- Demonstration Sites / Tours

With about 12 inches of rainfall per year in the region, we can harvest 15,000 gallons per year from the rooftop of a 2,000 square foot house.

Rain collected into a landscape can reduce over 1/3 of potable use at a residence because irrigation is no longer needed.



AS OF 2008: 60-70 RWH installations per month, regionally. Southern Arizona Rain gutters **cistern installation** increased 50 times since 2006.

IN 2008: Tucson issues RWH **Ordinance for new commercial construction** and PAG Regional Council approves RWH **Resolution**. Pima County integrates RWH into Residential **Green Building Program**.

SINCE 2007: Watershed Management Group taught 1,000 people in **workshops**. Demand for workshops up four times in 2008

2007-2011: While some states outlaw RWH, AZ offers a **tax rebate incentive**.

SINCE 2006: **Books**, Rainwater Harvesting for Drylands, Vol. 1 & 2, written by Brad Lancaster: 14,000 sold: Sales double each year since.

IN 2006: International Rainwater Harvesting Conference held in Tucson. Hundreds attend.

IN 2005: Tucson issues Water Harvesting **Guidance** manual to incorporate RWH best practices into the detention/ retention requirement.

SINCE 2000: The Tucson Botanical Gardens, Tucson Audubon and the Arizona Department of Water Resources **award and certify** RWH landscapes in annual xeriscape **contests**.

IN 1998: Harvesting Rainwater for Landscape Use **booklet** issued by the Cooperative Extension and ADWR. Since '98, 3,500 people have taken SmartScape RWH **workshops**.

SINCE 1989: 60,000 **trees** planted by Trees for Tucson using RWH best practices – 100 million gallons of **runoff** reduced.

Our Future

POLICY and DESIGN: Rainwater harvesting becomes integrated into flood, drainage, stormwater, conservation and transportation plans.

CASE STUDIES: Demonstration sites are promoted and monitored throughout region; public properties set the example.

BUSINESS/ RESOURCES: Passive RWH becomes mainstream landscaping industry, meeting demand.

INCENTIVES and REGULATION: Retrofits on single family housing, the largest outdoor water users. We can provide RWH barrels through bulk city purchasing programs.

SET GOALS and ASSESS PROGRESS: We can map active and passive RWH sites, count gallons of water saved, and calculate storm-flows reduced.

1990 1995 2000 2005 2006 2007 2008

FUTURE DIRECTION...

Rainwater Harvesting Grows Through Time



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Sources: Watershed Management Working Group (Lisa Shipek), Brad Lancaster, Southern Arizona Rain Gutters, PAG, City of Tucson Office of Sustainability (Ann Audrey), Tucson Clean and Beautiful (BJ Cordova), Pima County Cooperative Extension SmartScape (Kathryn Hahne), Arizona Department of Water Resources (ADWR)