



WMG Updates

Demonstration Sites Completed

This spring, WMG completed its final two of six demonstration sites for water harvesting. From the time the program started in the fall of 2006, we have run more than 20 weekend workshops with volunteers to implement 6 different sites. One of the final sites, Greenlots at Broadway and Country Club, was the site of our 2008 Earth Day celebration. Seventy people gathered at the vacant lot to create a haven for native plants and wildlife by digging, planting, creating pathways, and mulching. The event ended at noon with folk music and a catered feast made of local produce. Everyone involved, including the musicians and caterers, came together in the



Creating water harvesting earthworks while celebrating Earth Day at the Greenlots! Demonstration Site.

spirit of volunteering for the Earth.

Our final demonstration site aimed to improve the lives of disabled veterans.

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School Yard Water Education Program — A Success!

By **Elena Rotondi**, WMG Community Outreach Coordinator

As schools take a break for the summer, so does our School Yard Water Education Program. The mission of the School Yard Program has been to reach a younger audience and teach our stewards of tomorrow the importance of water conservation through harvesting rainwater. We strongly believe that these educational efforts will lead students towards a greater understanding and care for their natural resources and ultimately influence the conservation practices in their households.

Over the last year WMG has worked with two schools: Rivera Elementary and Miles Exploratory Learning Center.

Rivera Elementary

Rivera Elementary, in South Tucson, serves a student population that is 99% Hispanic with most students either English language learners or first generation American. WMG conducted lessons with 90 third grade students on water conservation practices and water harvesting principles. Following the student activities and lessons, WMG conducted a student-parent workshop to cre-

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Special Requests:

- **Volunteers to assist with upcoming fundraising events**
- **Volunteer assistance with coordinating Water Harvesting Co-op Program**

Please contact Lisa Shipek:
lisa@watershedmg.org or 396-3266

Grow Your Local Food Security

By **Catlow Shipek**, WMG Board Chair

Rising fuel costs, growing global population, natural disasters, and the increasing production of biofuels all have led to food insecurity issues globally. Here in the U.S. we are being impacted by dramatic rises in food costs. One response to increasing food costs is to grow more food locally, for example in small-scale urban farms¹ or backyard gardens².

Backyard gardeners have increased over the last several years not only due to high food prices, but also because of environmental and health concerns². By producing food in your own backyard there are no additional costs of transporting and packaging food. Not only can families save money, but they can reduce their carbon footprint in the process. In addition, backyard gardeners do not have to be concerned about pesticides or contamination of food.

New urban farmers are cultivating vacant urban lots and

Sonoran Kitchen Gardens

By **Jaime M. De Zubeldia**, Co-executive Director of Sonoran Kitchen Gardens.

Sonoran Kitchen Gardens (SKG), a Tucson, Arizona based non-profit organization, realizes that the future health and food security of our society depends upon the incorporation of local food production into all education levels. SKG recently formed to make sure every school in the Sonoran bioregion (southern Arizona and northern Mexico) has a drylands kitchen garden linked into the local food economy. SKG seeks to put the power of efficient food production back into the hands of community and school-aged gardeners by facilitating the education process.

Sonoran Kitchen Gardens is made up of local and regional permaculture thinkers, gardeners, and native food chefs. Currently, SKG is working to provide educational opportunities about native food production, water harvesting features, permaculture design, and cooking with locally-grown produce.

SKG plans to accept harvested dried mesquite bean pods as a form of payment for its services from those who lack the resources to pay in traditional currency. Mesquite beans have historically been used in Arizona as a primary source of high quality sustenance. The beans have a wide variety of food uses, from mesquite flour to

marketing their produce locally¹. Backyard and urban gardens may not grow large quantities of food, however, they can supply a fresh and healthy alternative to depending entirely on distant food supplies. Smaller kitchen gardens can supplement other local food production systems such as community supported agriculture and farmer's markets. Just think of all the fuel saved by producing food locally—food often travels 1500 miles³ or more from the farm to the dinner table in the U.S.!

Just about anyone can grow produce. If you lack space for your garden, consider obtaining a lot in a community garden, using window sill planters or converting the rooftop into a productive space.

¹[New York Times](#); ²[Christian Science Monitor](#); ³[Leopold Center for Sustainable Agriculture, 2003](#)

Support WMG by running in the Saguaro National Park Labor Day Run

When: Monday, September 1st, 2008

Where: Saguaro National Park East, Tucson, AZ

What: 8 mile run or 2 mile family run/walk

For more info visit:

<http://www.azroadrunners.org/events/saguaro.html>

A portion of the proceeds will directly benefit Watershed Management Group

...Sonoran Kitchen Gardens seeks to put the power of efficient food production back into the hands of community and school aged gardeners...

tea, while being particularly beneficial in regulating blood-sugar levels in native American populations that tend toward adult-onset diabetes. Ultimately, the dried mesquite beans will be converted into a healthy supplemental flour to be packaged and marketed to the public.

To learn more about the organization and our work, visit: www.sonorankitchengardens.org

Our Sincere Thanks

A Special Thanks To:

- SCF Arizona for generously designing and printing 1,000 Water Harvesting Co-op color brochures.
- Nighthawks Nursery for the donation of over 200 plants for Greenlots! Demo site.
- Janet Loeb and Natanya Siegel of Sonoran Kitchen Gardens for cooking lunch for 70 people at WMG's Earth Day celebration.
- Greater Tucson Leadership Class for their assistance with developing fundraising strate-

gies for the Water Harvesting Co-op program.

Corporate / Business Donations:

- The Food Conspiracy Co-op
- Trees for Tucson
- Desert Survivors
- Ace Hardware (at E 9th St)
- Trader Joes
- Sunflower Market
- Tucson Botanical Gardens
- Tucson Community Supported Agriculture (CSA)

Individual Donations:

Flowing River Level:
Kim Afinowich

Ed Thompson

Silver Raindrop Level:

Christopher and Lucy Peerenboom

Dewdrop Level:

Evan Canfield

Material/Services Donations:

- Jane and Ken Canada— plant donations
- Todd Shipman and Esther Kim—plant donations
- Emmy Creigh—organizing WMG Earth Day celebrations
- All the musicians at the Earth Day Event!

Sustainable Living Tip

Tip # 5: Start a Front Yard Produce Garden

Often fruit and vegetables are relegated to the backyard, like they are too unkempt for the neighbors to see. Most front yards have purely ornamental plants, and some of these ornamentals may be high water users. Why not use this space and water for edible plants? For example, take out some of the orna-

mentals and replace with fruit and nut trees, vegetable plots, herb gardens, or edible native plants. A produce garden in the front yard will not be easily forgotten because you see it every day as you go to and from your house.

Want to get to know your neighbors better? What better way than to spend time working on your produce garden in the front yard. It's a great

conversation starter and you can share produce with neighbors.

Remember to start small, learn from others, and find out what varieties are best for your region and the season.

Always think about your water sources before your plant. Match high water users like fruit trees with greywater sources and get creative in utilizing rainwater.

Resource Management 101

Question: What are characteristics of 'healthy' soil?

Answer: Soil health is vital for sustained productive ecosystems and gardens. Characteristics of healthy, productive soil include:

Structure - soil particles combined into larger cohesive aggregates provide air space, promote water infiltration and drainage, and reduce susceptibility to wind and water erosion. Repeated deep plowing, compaction, and erosion ruin soil structure, therefore to build or pro-

tect structure, minimal disturbance is best.

Organic material - incorporation of organic material into the soil can provide slow releases of nutrients needed for plant growth, increase water infiltration, increase the water storage capacity, and promote beneficial soil microbe activity. Organic material is naturally incorporated into soil as litter from vegetation breaks down and organisms incorporate it into the soil.

Beneficial organisms - beneficial

nematodes, earthworms, and insects help breakdown organic material in the soil which then allow associated nutrients to be taken up by plants. Beneficial organisms work the soil below ground to improve soil structure and the ability to infiltrate water.

Generally, practices which promote increased infiltration of rainwater and native plant cover are best. Over time, the plants will improve specific soil characteristics to become a 'healthier' soil.

WMG Updates (continued)

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High school students taking a brief pause as they create an infiltration basin.

We partnered with Esperanza en Escalante, a transitional housing facility for veterans struggling with substance abuse or occupational disabilities. Forty high school students from Massachusetts descended upon the desert for their spring break to help transform the site. They worked diligently to create a series of large catchment basins with shade trees and understory vegetation. In addition, this was our first demonstration site that included a greywater system on a common laundry machine to grow fruit trees. All six demonstration sites are listed on our [website](#) and are free to the public.

Community Xeriscape Award

In Tucson's annual Xeriscape contest, Executive Director Lisa Shippek was awarded the 2008 Community Xeriscape Leader award. Lisa was awarded the honor based on her achievements in promoting water harvesting and native landscaping in the Tucson community. The contest, organized by the Arizona Department of Water Resources in partnership with the Tucson Botanical Gardens, was concluded in an evening ceremony at the Tucson Botanical Gardens on May 15th. Stated contest officials, "Lisa is one of Tucson's unsung heroes who hasn't been in the limelight, but who has been in the trenches. For the past five years Lisa has worked tirelessly to spread the word about water harvesting to people and organizations throughout our community. She doesn't just talk about it, she gets out there and DOES water harvesting!"

Water Harvesting Grant for Low-Income Community

A recent grant from Arizona Community Foundation, will enable WMG to start the Water Harvesting Co-op

program with low-income neighborhoods. We are partnering with Toltecalli Academy, a high school in southern Tucson, to make their campus a demonstration site in sustainable water use and gardening. The program will teach practical skills to high school juniors and seniors fulfilling their community service hours. Once the demonstration is completed on campus, the



High school students on Spring Break complete infiltration basins for rain and greywater at the Esperanza en Escalante demonstration site.

surrounding community will be invited to learn about the project and participate in WMG's new Water Harvesting Co-op program. Arizona Community Foundation funds will enable WMG to offer full and partial subsidies for 10 to 15 low-income households to install water harvesting systems at their home.

New Board Members

This spring we welcomed in five new board members: Elizabeth Desser, Gina Chorover, Ross Bryant, Torey Ligon, and Pierre Bondoumbou. The new board members bring a variety of skills to the board including community outreach, international development, grassroots organizing, and business administration. To learn more about our new board members, read their bios on our website at <http://watershedmg.org/content/view/27/40/>.

WMG Accepting Applications for Water Harvesting Apprenticeship Program

Watershed Management Group (WMG) is pleased to announce the Water Harvesting Apprenticeship program, a hands-on training course to earn certification as a Water Harvesting Instructor. The goal of the apprenticeship program is to train water harvesting instructors for the greater community and train instructors to hire for WMG's residential Water Harvesting Co-op program. To learn more about the Co-op program, visit WMG's website at: <http://watershedmg.org/content/view/102/57/>.

To learn more about the apprenticeship program and application process, visit WMG's website at: <http://watershedmg.org/content/view/153/32/>.

School Yard Water Education Program (continued)...

(Continued from page 1)

ate a water harvesting and pollinator garden on the Rivera Elementary campus. The primary function of the garden is to create an outdoor learning space for the school community. In addition, it serves as a unique place on the school campus that attracts wildlife and harvests thousands of gallons of roof run-off and channels it into the garden to sustain native plants.

The student-parent workshop allowed students to implement the principles they learned while teaching family members about water conservation and water harvesting. The workshop at Rivera was attended primarily by students and their mothers along with one grandmother and a couple of energetic fathers. Attendees moved loads of heavy rock, created beautiful rock work around the basin

Jose chose to work outside, to work hard – digging holes for plants and trees, and to shovel mulch instead of staying inside to play video games.

trees, and to put into practice the principles he had learned. This workshop was not a class requirement, no one, not his teacher, his grandmother (who he lives with), or myself told him he must be there.

This third grader chose this for himself. Jose chose to work outside, to work hard – digging holes for plants and trees, and to shovel mulch instead of staying inside to play video games. This type of dedication was what we were hoping for, what we knew to be true. Even in today's culture, where our children are spending more and more time inside, if given the choice to create something, to be a part of something, they very well may choose to participate in their community.

Miles Exploratory Learning Center

WMG also worked with Miles Exploratory Learning Center located in central Tucson and home to the largest population of hearing impaired students in all of Tucson's public schools. At Miles, WMG worked with the landscaping class comprised of 25 6th – 8th graders. Our education included a take home water audit to complete with their families, a "walking tour" of water harvesting sites in the community, and a pollinator garden in their schools central courtyard to be cared for by the students.

The parent and community involvement at Miles was simply amazing. For the Miles student-parent workshop, we expected 10 – 15 parents and students, but attendance was around 30 – 35. Curious parents and students from another activity at the school came by and ended up helping out wherever they were needed to create the garden. Many parents communicated the importance this kind of environmental education has for their children, and encouraged WMG to continue the School Yard Water Education program with other schools throughout Tucson.

The workshop at Miles was a great success; the garden will now cap-



A special thank you to our dedicated volunteer Leona Davis for giving so much of her time to ensure the success of this program.

for erosion control, planted shrubs and trees, and mulched the entire garden. Several volunteer Spanish translators were on hand to ensure that the lessons learned were understood by all workshop participants.

The following anecdote illustrates the success of this program in its pilot year. One third grade student, Jose, mentioned the day prior to the workshop how excited he was about coming. He said he would bring a shovel to the workshop. I asked him if he would be bringing a family member. He said no, that he would come on his own. There he was bright and early that Saturday morning, shovel slung across his shoulder, walking across the school campus to the workshop. He chose to come and work outside that Saturday, to build a garden, to plant



3rd-grade students at Rivera Elementary School planting during a workshop.

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School Yard Water Education Program (continued)...

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Student-parent water harvesting workshop at Miles Exploratory Learning Center

ture over 15,000 gallons of water a year! Prior to the installation of the water harvesting and native pollinator garden, water would run off the roof of one classroom structure (with a roof span of around 3,000 sq.ft) and flood the student eating area and basketball court. Now water from the roof will collect in the new garden and support the native pollinator vegetation, creating a cool, inviting area for students to examine nature and witness the principles of water harvesting.

As the garden received its finishing touches, I enjoyed observing how students interact with the improved space. The newly created pathway which meanders through the garden is now consistently used by students, instead of the concrete pathways that border the garden. On any



A parent and teacher adding mulch to a basin at Rivera.



A student planting at Miles.

given day you can find students sitting under one of the trees, reading a book, or interacting with the new environment.

One of the great lessons of this program is just how easily children can be positively influenced. The concepts of water conservation and water harvesting are inherently beneficial for people and the whole planet, and children understand that. By giving our children the information and the environment they need to learn and make informed decisions about their resources, they will choose the right path and encourage others to join them along the way.



Parents at Miles planting in a newly created basin.

Many thanks to the students, teachers, and parents of Rivera Elementary and Miles Exploratory Learning Center for all of your hard work, support, and enthusiasm during the year!

A heartfelt thanks to **Trees For Tucson** for generously supporting the School Yard Water Education Program through the donation of trees. Trees for Tucson has been an important partner for WMG's water harvesting demonstration sites, by donating and delivering a variety of native trees. A special thanks to Doug Koppinger for all his assistance.

Trees for Tucson works to encourage and facilitate desert-adapted tree planting in the Tucson metropolitan area. Trees help beautify the community, conserve energy by shading buildings, provide habitat for wildlife, absorb air and water pollutants, control stormwater runoff, and block soil erosion and wind.

To learn more about Trees For Tucson please visit: <http://www.tucsonaz.gov/tcb/tft/>

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Watershed Moment is a quarterly newsletter written by Catlow Shipek and edited by Lisa Shipek. To subscribe visit us online and click on the “newsletter” link or contact us.

The mission of Watershed Management Group is to improve rural and urban livelihoods by integrating community development and conservation. We provide local residents and community groups with the knowledge and skills necessary to sustainably manage their natural resources.

www.watershedmg.org

Support Watershed Management Group Today!

Watershed Management Group is a 501(c)3 not-for profit organization based in Tucson, Arizona. All donations are tax deductible.

Suggested Individual Contribution Levels:

- ◇ Dewdrop: \$15
- ◇ Silver Raindrop: \$50
- ◇ Flowing River: \$100
- ◇ River Basin: \$500
- ◇ International Watershed: \$1,000

Suggested Business Contribution Levels:

- ◇ Rillito River: \$500
- ◇ Santa Cruz River: \$1,000
- ◇ Gila River: \$5,000
- ◇ Colorado River: \$10,000

WMG Wish List

- ◇ Pickup truck
- ◇ Ladder
- ◇ Garden tools (shovels, pick axes, hand trowels, etc.)
- ◇ Office space or storage space in central Tucson area
- ◇ Projector
- ◇ Laptop or desktop computer

You may also make your tax deductible donation online at www.watershedmg.org on our Contributions page.



WMG board member, Emmy Creigh, and fellow band members entertain during lunch on Earth Day at the Greenlots demonstration site.



A Rivera Elementary student moving landscaping rock at a student-parent workshop