



Watershed Management Group

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# Watershed Moment

## WMG Updates...

The highlight of the summer was a **water harvesting exposition** on a mid-summer's evening. The event, led by WMG, was held at The Nature Conservancy's (TNC) Tucson campus. Outgoing Board Chair, Jared Buono, gave an informative presentation defining the mission and vision of WMG as well as sharing the grassroots accomplishments of our flagship **Greening Urban Watersheds Program** in the last year.



WMG staff and board members give tour of water harvesting features at The Nature Conservancy's Tucson Campus.

Following the presentation, tours were given of the various water harvesting features implemented through WMG's volunteer workshops at the TNC campus. A social hour complete with donated catering services from Chef Steven Gendel, A Perfect Occasion

Gourmet Catering, rounded out the evening. The casual social hour provided the participants, including representatives from Tucson city government, other non-profit organizations, and busi-

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## Can organic food production methods feed the world?

By Catlow Shipek

Proponents of industrial agriculture claim that industrial farming is the only way to feed the world's growing population. They claim industrial agriculture is more productive than traditional farming or organic agriculture. As more and more environmental problems emerge from industrial agriculture, society is questioning whether it is really sustain-

able. Industrial agriculture is generally water intensive, and adds to non-point source pollution (see pg. 2, Resource Management 101), soil degradation, and loss of biodiversity.

Results from a recent study from the University of Michigan challenges the notion that industrial agriculture is needed to feed the world's population.

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### WMG Announcements:

- Seeking applications for 2 more partners to host water harvesting demonstration sites (See homepage of WMG website)
- Seeking partners for the School Yard Program (see homepage of WMG website)

## Organic Food Production Methods (continued)...

The study compared yields from conventional farming and organic farming practices in both developed and developing nations. The study found that organic agriculture produced yields equal to or greater than conventional methods. Using yields of surveyed organic farms, the study modeled global levels of organic agricultural production. Model results indicated a more than sufficient supply of food for the current or larger population without the need to expand the area of land under production. [Badgley et al. 2007. Organic Agriculture and the Global Food Supply. *Renewable Agriculture and Food Systems*. 22: 86-108.]

A shift to naturally grown/organic production systems will benefit people and their environments through the reduction or elimination of toxic chemical application em-



Conventional pineapple farm being irrigated in Costa Rica

ployed by conventional agriculture.

Additionally, in water scarce regions, naturally grown produce can use significantly less water than conventional methods. A certified 'naturally grown' farm in central Arizona reports water consumption is less than 3 acre foot per acre per year, which is substantially less than conventional agriculture or a subdivision (Tucson CSA Newsletter 104).

Lastly, organic agriculture works to promote stable and healthy soils which are fundamentally necessary to sustain us.

## Sustainable Living Tip

### Tip # 4: Reduce flooding in your neighborhood.

You can be part of the solution to reduce flooded streets after rainstorms, by reducing the amount of water that flows off your own property. Capturing rainwater on your site, and allowing it to be infiltrated into landscape features or stored in

**Start by simply observing how water flows on your property during a rainstorm.**

a cistern, is called Rainwater Harvesting. Start by simply observing how water flows on your property during a rainstorm. You can retain some or all of this water by creating

sunken planted areas in your yard, creating earthen berms to slow surface flow, and installing cisterns or rain barrels to capture roof runoff. In addition to reducing flooding, you are providing a sustainable source of water for your landscape and reducing non-point source pollutants which pollute water ways.

## Resource Management 101

**Question:** What is non-point source pollution?

**Answer:** Non-point source pollution is the term for pollutants such as chemicals, heavy metals, or sediment that is carried by the flow of water into water bodies such as rivers, lakes, and oceans. A common source of non-point source pollu-

tion in rural areas is agricultural fields where sediment and/or chemicals are transported by water flowing across the land to a downstream point. Common urban sources of non-point pollutants include stormwater runoff from parking lots, construction sites, and junkyards.



Urban street runoff carrying pollutants downstream

These pollutants accumulate downstream affecting water quality, wildlife, and recreational activities.

# Our Sincere Thanks

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## A Special Thanks To:

- ◇ Chef Steven Gendel for donating catering services from A Perfect Occasion Gourmet Catering Service
- ◇ Jim Cook and The Nature Conservancy for hosting our Harvest the Flow Event
- ◇ Kim and Jim Afinowich for donating a digital camera
- ◇ Tucson Botanical Gardens for donating native plants to the Ward III demonstration site.

## Thanks to the following individuals who have generously donated to WMG:

River Basin Level:  
Jill and Paul Grimes

Flowing River Level:  
Kim Afinowich  
Janet Hill  
Ed Thompson  
City of Tucson

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Mr. and Mrs. Alex Dely  
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Gay Townsend

Dewdrop Level:  
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Nancy Evans  
Marty Ryan  
Dorothea Warner

# Cities Utilize Water Harvesting

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By Ari Posner

Cities around the world are using the same principles as homeowners to harvest rainwater. In the context of regional stormwater detention, rainwater harvesting serves many roles: to treat runoff reducing pollution of local water bodies, reduce peak flood volumes, create wildlife habitat, and improve the aesthetics of our regional stormwater management network. In more humid regions, these efforts often take the form of constructed wetlands.

Stormwater managers may use a number of structures to harvest rainwater including: detention basins, bioretention swales, porous pavement, vegetation planting, and

grading. In more arid regions such as southern Arizona, sporadic and distributed rainfall make wetlands unfeasible. However, the Pima County Flood Control District in Southern Arizona has made efforts

Go out and explore what is going on in your watershed; follow that drop of water...

to design and implement rainwater harvesting projects appropriate to the region.

One example is the Rillito River Swan Wetlands in Tucson, AZ. The project is a combination of vegetation planting (with irrigation from reclaimed water to establish plants), removal of non-native plants, and construction of small water harvest-

ing basins. The project will remove cement lining of the wash banks and re-contour the stream to slow water travel.

By combining our efforts with those of local stormwater managers, we can reduce our dependence on groundwater and/or imported water and reduce stress on our local infrastructure. In turn, this reduces the need for capital expenditure on building new water infrastructure.

Go out and explore what is going on in your watershed; follow that drop of water that overflows from your property. Where does it end up? How does it get there? Hopefully, you will encounter lots of micro-habitats where water is captured to feed into our precious riparian areas.

# WMG Updates (continued)...

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nesses, a chance to ask questions, network, and socialize with WMG staff and Board members.

The newest feature of the Greening Urban Watersheds Program is a

project to bring hands-on water conservation activities to K-12 students. The project, called the **School Yard Water Education Program**, will pilot activities with two Tucson schools. Students will participate in activities that teach concepts of outdoor water conser-

vation such as rainwater harvesting, through the capture of rainwater in sunken earth basins and cisterns. The water conservation activities will also enhance school yards through the development of native and vegetable gardens.



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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 select the "newsletter" tab or contact us.

[www.watershedmg.org](http://www.watershedmg.org)

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.

## **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.

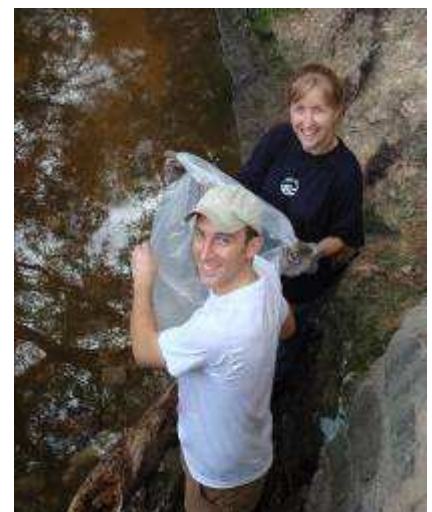
### **Suggested Contribution Levels:**

- ◇ Dewdrop: \$15
- ◇ Silver Raindrop: \$50
- ◇ Flowing River: \$100
- ◇ River Basin: \$500
- ◇ International Watershed: \$1000

### **WMG Wish List**

- ◇ 4 ft x 8 ft hauling trailer
- ◇ Ladder
- ◇ Garden tools (shovels, pick axes, hand trowels, etc.)
- ◇ Office space or storage space in central Tucson area
- ◇ Projector and projector screen

You may also make your tax deductible donation online at [www.watershedmg.org](http://www.watershedmg.org) on our Contributions page.



Adam Springer, WMG Board Member, led a cleanup along an urban wash in Tucson, AZ with other volunteer groups.