



P.O. Box 65953  
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April 23, 2009

## **WMG Water Harvesting Certification**

Watershed Management Group (WMG) is pleased to announce the *WMG Water Harvesting Certification* program, a hands-on training course towards certification in water harvesting design and implementation. Our goal at WMG is to effectively transfer best practices and know-how to new communities through a rigorous training course. The aim of the certification program is to provide the highest quality training in integrative water harvesting offered in the nation. This program is made possible by a grant from the Center for Watershed Protection.

### **Program Description**

The WMG Water Harvesting Certification program is an intensive hands-on training program held in Tucson, AZ. The program is geared towards educators, professionals, and community organizers seeking comprehensive instruction in water harvesting systems design and construction. This year marks our second year of the program, but unlike last year we are offering the program in a condensed timeframe to allow participants from many different fields and regions to join the program. Last year's course was targeted to training water harvesting instructors, and included a practicum in leading workshops with community members. This year the practicum is strictly optional, and participants may request to add the practicum to their training at a later date.

Two levels of courses will be offered: WMG Water Harvesting Certification (Level 1) and WMG Advanced Water Harvesting Certification (Level 2). The curriculum will focus on design in retrofitting urban areas. Participants will be trained in all aspects of planning, installation, and maintenance.

Level 1 is comprised of an intensive 9 day training program, and Level 2 consists of an intensive 8 day training program.

All topics covered during training will be taught through actual work done by implementation water harvesting systems and evaluating systems at pre-existing demonstration sites in Tucson. A typical day will include 4 to 7 hours of outside, hands-on work combined with 1 to 2 hours of indoor lectures. Outside activities will take place in the morning hours (7am to 11am) and in the evening hours (5pm to 8pm) to avoid the hottest part of the day. Inside lectures and presentations will be given typically between 1pm and 3pm. A one to two hour break will be given for lunch.

The certification program will include the following:

- Hands-on training workshops with local experts in water harvesting practices
- Lectures from instructors on each major topic
- Reading assignments to solidify knowledge gained in the hands-on workshops

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- Final exam to earn certification

Training workshops will include site design and implementation on residential and/or commercial properties in Tucson. Maintenance workshops will be done at sites WMG has implemented in the last 2 years.

### **What does Certification mean for me?**

The certification course is designed and administered by WMG teaching staff with assistance from Tucson instructors and an advisory board made up of licensed contractors, consultants, and designers who create water harvesting systems.

Certification signifies that the participant has received a thorough training and demonstrates a basic level of proficiency (assessed via written examination) in the following topics:

Participants who complete the Level 1 WMG Certification will learn how to:

- Integrate water harvesting systems with other design considerations (energy conservation, aesthetic design, food production, wildlife habitat, etc.)
- Calculate runoff potential of catchment areas and run soil percolation tests
- Create a water budget and match water harvesting systems with appropriate landscaping
- Choose, size, and build appropriate earthworks features for different applications (basins, berms, swales, French drains)
- Build gravity-fed greywater system from laundry machine wastewater to irrigate landscape
- Size and build steel-culvert cistern
- Design all of the above systems while incorporating safety and health considerations

Participants who complete the Level 2 WMG Certification will learn how to:

- Choose, size, and build appropriate erosion control features for hill slopes and small washes
- Choose, size, and build appropriate stormwater harvesting features along residential streets
- Hook up cistern to drip irrigation system
- Build ferrocement cistern and learn applications for potable use
- Build blackwater harvesting system from kitchen sink with simple filtration
- Design all of the above systems while incorporating safety and health considerations

### **Training Schedule**

Level 1: July 18<sup>th</sup> – July 26<sup>th</sup> 2009

Level 2: August 8<sup>th</sup> – August 15<sup>th</sup> 2009

### **Program Cost**

The Level 1 training program has an estimated value of \$1,200 and is being offered at a reduced rate of \$500 through a grant from the Center for Watershed Protection. The Level 2 training program has an approximate value of \$1,200 and is being offered at a reduced rate of \$450. Additionally, WMG is offering several course fee subsidies to applicants on a per need basis for each of the two levels.

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## **Program Requirements**

If you are selected to participate in the certification program, you must commit to the following:

1. Participating in the entire training program. If you need to miss a training, you will be required to make up the training at a later date to earn certification.
2. Completing reading assignments. Reading assignments will be provided prior to the training dates.
3. Paying the program fee by July 1<sup>st</sup> for Level 1 and by July 24<sup>th</sup> for Level 2. Program fee is nonrefundable after these dates.

## **Applying to Program**

To participate in the program, please submit an application and one page resume. The application and resume are due by May 18<sup>th</sup>, 2009. Availability is limited to only ten people in each program. Participants will be notified by June 1<sup>st</sup>, 2009.

If you have any questions about the training program, or application process, please contact Lisa Shipek by email at [lisa@watershedmg.org](mailto:lisa@watershedmg.org) or by phone at 520-396-3266. You may learn more about Watershed Management Group by visiting our website at [www.watershedmg.org](http://www.watershedmg.org).

## **Training Curriculum**

### Level 1 Curriculum:

1. Integrated Systems Design
2. Designing and Installing Passive Rainwater Harvesting
  1. Basins, berms, and swales
  2. French drains
3. Harvesting greywater for landscape use
  1. Laundry machine
  2. Bathroom showers & sinks
4. Designing and Installing Cistern Systems
  1. Steel
  2. Plastic
5. Sustainable Landscaping
  1. Native plants
  2. Fruit and vegetable gardens
  3. Soil development
  4. Calculating water budgets
6. Maintenance

Level 2 Curriculum:

1. Advanced Integrated Systems Design
2. Advanced Cistern Design and Construction
  1. Ferrocement
  2. Irrigation hookups
3. Streetscape Stormwater Harvesting
  1. Right-of-way features
  2. Parking lot features
4. Harvesting blackwater from kitchen sink for landscape use
5. Erosion Control Design and Construction
  1. Check dams
  2. Hill slope terrace