

Greening Urban Watersheds: A Grassroots Approach to Water Harvesting and Resource Conservation

Lisa Shipek, Catlow Shipek, Jared Buono

Watershed Management Group, Inc.

PO Box 65953, Tucson, AZ 85728

(ph) 520.396.3266 www.watershedmg.org



ABSTRACT

A Tucson-based non-profit organization, Watershed Management Group (WMG), is pursuing the sustainable development of local resources with the long-term vision being an improved quality of life for the greater community. WMG has developed several public demonstration sites around Tucson through outreach workshops involving local businesses, community organizations, schools, homeowners, and many others. The demonstration sites showcase rainwater harvesting efforts integrated with native landscaping, local food production, energy conservation, waste reduction, and community building. Public response to participate in the workshops has been excitingly overwhelming; not only are homeowners and businesses interested in harvesting water, there is also a substantial number of Neighborhood Associations who are seeking avenues to implement water harvesting techniques. The substantial response from the community to participate in the demonstration sites indicates the need to provide more participatory educational opportunities to the community, and in particular to improve low-cost methods of urban resource conservation to ensure integration of these principals in lower income neighborhoods.

INTRODUCTION

There are many responses to growing water scarcity in the Southwest. WMG believes that improved water conservation and water management is an essential method to achieve water sustainability. Yet, you cannot separate out water management from other natural resources, or even political, social, and economic factors.

WMG initiated the Greening Urban Watersheds (GUW) program to create sustainable urban landscapes in Tucson that support healthy human communities. The program focuses on water conservation and rainwater harvesting but also addresses native landscaping, local food production, energy conservation, waste reduction, and community building. Under this program, WMG received funding from the Bureau of Reclamation, to implement six public demonstration sites on water harvesting and native landscaping.



Site: TNC, workday – cistern installation

APPROACH

The goal of WMG's water harvesting demonstration sites is to increase public awareness of outdoor water conservation techniques. In addition, WMG strives to reach a diverse audience and provide them with the tools they need to improve outdoor water use on their own property. To achieve this goal, WMG will implement a total of six public demonstration sites coupled with public workshops over a period of two years. All of the workshops and public events are free to the public, to ensure that no one is excluded from the educational opportunity. While the volunteers are learning how to implement water harvesting techniques and native landscaping, they are also providing valuable labor to complete the project tasks.

At each site, WMG utilizes a participatory planning and design process that involves WMG staff, the property owners, technical advisors, and local volunteers. Together we develop an integrated water harvesting plan that includes removal of invasive species, planting native species and creating native wildlife habitat, creating shaded areas, composting, and production of local food.

Once each project is completed, WMG conducts a show-case event, to share the demonstration site with the public. The effectiveness of the water harvesting demonstration sites is assessed through participant evaluation surveys, the number of people reached through our workshops, and an estimated amount of water conserved at each site.



Site: The Nature Conservancy Campus



Site: Originate Building Materials Showroom



Site: Ward III Council Office

RESULTS

Three of the six demonstration sites have been completed and currently have ongoing monitoring and maintenance. Each of the sites reaches a different audience; our current demonstration sites are located at Originate Natural Building Materials Showroom, Argentina Polo and Leather Furniture Store, The Nature Conservancy's Tucson Office, and Ward III City Council Office. Two more sites are planned for a K-12 school and a low-income neighborhood.

Public response to participate in the workshops and attend show-case events has been excitingly overwhelming. Through 14 Saturday workshops, we've worked with approximately 130 volunteers. Participants are interested in water harvesting to conserve water, reduce flooding, and to produce food. In general, there is more interest in installing cisterns than installing passive water harvesting earthworks; however, earthworks are easier and cheaper to implement than cisterns. Not only are homeowners and businesses interested in harvesting water, there is also a substantial number of Neighborhood Associations who are seeking avenues to implement water harvesting techniques.

Many of the workshop participants have reported they are starting to implement water conservation features since attending WMG's workshops. Additionally, our site partners have relayed to us the public interest being generated from the demonstration sites. Local businesses and site partners are eager to donate materials to the projects including plants, mulch, tools, and food. The collaborative nature of the project helps to keep costs low and builds relationships among diverse stakeholders.



Site: Argentine Polo and Leather, during workshop



Site: Argentine Polo and Leather, after

CONCLUSIONS AND RECOMMENDATIONS

The water harvesting demonstration sites are proving vital to communicate a new vision for urban landscaping and conservation here in the semi-arid southwest. These sites will continue to serve as models as we collaboratively develop this new vision through our Greening Urban Watershed program. The rainwater harvesting demonstration sites will provide us with knowledge to improve and adjust our vision as we continually reassess and evaluate their effectiveness.

Future work is needed to creatively develop and improve low-cost methods of urban resource conservation to ensure integration of these principals in lower income neighborhoods and communities. The overwhelming response from the community to participate in the rainwater harvesting demonstration sites indicates the receptiveness and need to provide more participatory educational opportunities to the community.



Site: TNC, during workday



Site: TNC, after

ACKNOWLEDGEMENTS

Our project is currently being supported through funds from the Bureau of Reclamation, and donated trees from Trees for Tucson. In addition, we are working with the following community partners to establish each demonstration site: Sustainable Tucson, The Nature Conservancy, Pima County Agricultural Extension, Satori Charter School, Originate Natural Building Materials Showroom, and the City of South Tucson. We are grateful to all of our generous volunteers who have shaped these sites by hand.