

An evaluation of changes in water conservation habits of homeowners in the Upstate of South Carolina



Abstract

The purpose of this poster is to present the development, implementation and preliminary evaluation of an education and outreach workshop aimed at reducing stormwater runoff and promoting water conservation. This workshop has been delivered in several counties statewide within South Carolina through many partnerships including Clemson Extension, Carolina Clear, county public works and parks departments, Master Gardener Associations, community groups and non-profit organization. As of the date of this submission, more than 100 state residents have participated in this exercise, and there is often a waiting list to meet demands.

The "Build Your Own Rain Barrel" workshop was developed to educate the public about stormwater, while responding to drought conditions experienced throughout the state. Registered attendees at each workshop participated in a classroom session, which introduced attendees to stormwater pollution, habits that homeowners can modify to reduce pollution from their own yard, and the real impacts of stormwater in their own community. In the second part of the classroom session, the benefits of rain harvesting and the positive effects that it has for stormwater management were discussed.

Participants then spent the afternoon of the workshop building their own rain barrel. Barrels were acquired through commercial suppliers and the plumbing of rain barrels was directed by Extension staff and implemented by the individual attendees, often working in pairs.

Attendees evaluated the effectiveness of the workshop immediately after completion. Furthermore, participants were provided with an evaluation several weeks after the workshop to assess any changes in their behaviors at home. The goal of this type of outreach activity is to educate homeowners on real local issues pertaining to stormwater, provide tools for homeowners to get involved in stormwater pollution prevention, and to initiate behavioral change in the individual's practices leading to greater conservation of our water resources.



Situation

Stormwater management in the upstate region of South Carolina has become a more pertinent issue as more counties and communities are being permitted. The Upstate has also had other water related issues in recent years due to several summers in drought condition. In response to this situation, Clemson Extension, through its stormwater education programs, has developed a "Build Your Own Rain Barrel Workshop" for homeowners in the region. The workshop addresses rain harvesting as both a drought and stormwater mitigation technique.

Learning Objectives

Participants will:

- Identify sources of general stormwater pollution and mitigation techniques
- Understand the positive impact rain harvesting has on stormwater
- Construct a rain barrel
- Implement rain harvesting and other stormwater mitigation strategies at their home

Program Overview

- Morning Classroom Session
 - What is stormwater?
 - How we contribute to stormwater pollution
 - What homeowners can do to help
- Afternoon Session
 - Rain barrel design introduction
 - How to make your rain barrel work the best for you
 - Rain barrel construction

Follow-Up

Workshop participants were contacted after the completion of the workshop to evaluate whether or not they were using the rain barrels created during the workshop. The follow-up evaluation also asked the amount of time installation required, suggestions rain barrel design improvements, what they were using the water for and if they were passing the information on to others.

Outcomes

Was the rain barrel installed (n=55)

- 62% of respondents had installed their rain barrel
- Of the 38% that had not installed their barrel, 56% indicated that they intended to install and use it in the near future
 - Of these, 7% indicated that their rain barrel would be installed within one month, and another 20% of the respondents indicated that they planned to install their rain barrel within one year
 - Reasoning behind the delay in installation is unknown

Length of installation time (n=55)

- 33 (60%) survey participants responded to the question
 - 55% indicated that installation was less than one hour
 - 45% participants responded that it took them between one week and one month to install their barrels

Installation difficulties (n=55)

- 39 (71%) survey participants responded
 - 80% indicating no
 - 20% of respondents indicated having an installation problem

Design improvement

- Suggestions for improving the design and/or function of the rain barrel included:
 - Larger overflow needed
 - Tips for improving the aesthetics of the barrels
 - Ways to improve water pressure
 - Improving connectivity of the overflow to other systems
 - Different means of screening the top of the barrel

Further investigation or installation of other types of rain water harvesting system(s) (n=55)

- 85% indicated that they had not installed additional rain barrels since the workshop

Use of harvested water (n=55)

- 80% of the survey participants used the harvested rain water for irrigating their plants
- Additional uses also included water for washing their car and filling their windshield wiper fluid reservoir in a vehicle

Community outreach and education (n=50)

- 30% indicated that they had influenced or persuaded someone to investigate or install a rain barrel

Conclusions

Based on follow-up survey results, it can be concluded that the rain barrels are relatively easy to install, and that provided instructions and installation tips were useful. An additional survey one year after completion of the workshop may show more rain barrels installed or additional rain harvesting systems being utilized. More time may be needed to implement further practices.

It was encouraging to see that 30% of participants indicated that they had influenced or persuaded someone to investigate or install a rain barrel themselves. It is an end goal of this program to see the majority of rain barrel workshop participants passing on their knowledge to their communities.

Additional information to collect following future workshops should include the retention and use of information presented during the Stormwater 101 presentation and any impacts it had on additional stormwater mitigation behaviors.