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AEC538

Encouraging Landscape Water-Conservation Behaviors: Applying Audience Segmentation to Water Conservation Activities in the Landscape—Defining Segments of the Florida Homeowner Audience and Implications for Extension Programming[1]

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Introduction

This is the second publication in a series focusing on encouraging water conservation among Florida residents who use irrigation in their home landscapes. This publication examines one approach to segmenting Florida residents who use irrigation in the home landscape. It also describes how segmentation can be used to encourage water conservation practices. Extension educators should tailor programs based on personal and social normative beliefs in order to encourage good irrigation practices and water conservation activities.

Audience analysis is used to gain an understanding of the target audiences' characteristics and examine their needs (Boone, Safrit, & Jones, 2002). By gaining an understanding of the target audience, Extension educators can design programs according to thecharacteristics and needs of different audience subgroups, making the programs more relevant to group members (Burn & Burns, 2008; Newton, Newton, Turk, & Ewing, 2013; Warner, Lamm, Rumble, Martin, & Cantrell, 2016).

The preceeding publication in this series presented some of the known similarities within this audience (see *Tailoring Programs to Florida Residents Who Use Irrigation in the Home Landscape*). While it is important to understand similarities within this audience, it is also important to understand how its individuals are diverse. The purpose of this document is to introduce three distinct groups of Floridians who use irrigation in the home landscape and to describe how segmentation can be applied to increase the effectiveness of Extension programming.

Audience Segmentation

It is tempting to try to serve everyone in a potential audience and to try to reach them in the same way. However, there can be negative effects caused by applying a standard, singular approach to programming (Newton et al., 2013). Audience segmentation is a technique used in traditional marketing to bring about behavior change that benefits a community. The purpose of audience segmentation is to divide a target audience into subgroups based on

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characteristics that affect their willingness to adopt a certain behavior (Newton et al., 2013).

Audience segmentation is a powerful approach because it acknowledges the variety between target audiences and recognizes the probability that subgroups "will clump together in meaningful ways" (Andreasen, 2006, p. 105). Groups, such as Floridians who use landscape irrigation, can be segmented using a number of characteristics that relate to their likelihood of a specific behavior change. These characteristics include behavioral characteristics (behavior patterns, decision-making types), sociodemographic attributes (education, income, age, social class) and psychological profiles (attitudes, character traits, motivations, values) (Kotler & Roberto, 1989).

Incorporating segmentation into Extension can increase a program's effectiveness because it allows the Extension professional to fulfill a variety of needs and target the most important groups within a population (Andreasen, 2006; Monaghan, Warner, Telg, & Irani, 2014). There are a multitude of ways to segment an audience. For example, one might segment an audience into two groups based upon whether households are part of a Homeowners' Association or not (Monaghan, Ott, Wilber, Gouldthorpe, & Racevskis, 2013; Warner, Lamm, et. al, 2015). Others have suggested that segmenting an audience based on evidence of conservation, such as rain barrel ownership, can be used to target people who are most likely to adopt new water conservation behaviors (Ott, Monaghan, Israel, Gouldthorpe, & Wilber, 2015).

Segmenting the Audience

Survey research was used to identify subgroups among Floridians who use irrigation in the home landscape. This audience is the target of this research and corresponding EDIS series because they have a great opportunity to conserve water, and they are not extensively defined to date. The researcher-developed survey instrument was used to collect data from 1,063 Florida residents who were at least 18 years of age, irrigated their home landscapes, and had decision-making power over their landscape irrigation practices. Prior to using the instrument, an expert panel reviewed it for survey design, content, and face validity, and the survey was pilot tested with individuals who belonged to the population but were excluded from the full study.

The variables used to inform this research included:

- hiring professionals for landscape services;
- social norms towards good irrigation practices;
- personal norms toward good irrigation practices;
- perceived behavioral control over adopting good irrigation practices;
- attitude towards good irrigation practices;
- current engagement in 17 landscape irrigation water conservation practices that are encouraged by UF/IFAS;
- likelihood of adopting those 17 landscape irrigation water conservation practices in the future;
- perceived importance of clean water for various purposes; and
- perceived importance of plentiful water for various purposes.

Data analysis was conducted using cluster analysis, a statistical data-reduction procedure, which was used to assign individuals with similar response patterns to specific subgroups that are as different from one another as possible (Blasius & Mühlichen, 2010; Burns & Burns, 2008; Salmon, Brunson, & Kuhns, 2006). The purpose of the cluster analysis was to first identify the appropriate number of subgroups, then to assign individuals to subgroups, and finally to determine the characteristics of each subgroup.

Subgroups of Floridians Who Use Irrigation in the Home Landscape

Cluster analysis identified a three-subgroup solution. The three subgroups were named the *Water Considerate Majority* (n = 479, 45%), the *Water Savvy Conservationists* (n = 378, 36%), and the *Unconcerned Water Users* (n = 201, 19%). These subgroups are summarized in Table 1. For more detail, see "Classifying residents who use landscape irrigation: Implications for encouraging water conservation behaviors" (Warner et al., 2016).

Deciding to Segment the Audience for Extension Landscape Water Conservation Programs

Deciding how and if to segment the target audiences should be one of the first decisions when developing a behavior change program (Lefebvre, 2014). Extension professionals should become familiar with the differences between the three segments presented here. An ability to identify members of these subgroups can be helpful in understanding the needs of different Extension clients and in targeting an audience that needs to be reached more than others.

With an understanding of the three subgroups among Floridians who use irrigation in the home landscape, an Extension professional may choose one of two approaches: a **differentiated strategy,** using different approaches based on the needs and characteristics of different segments, or a **concentrated strategy,** using a key strategy for only one or a few segments.

In today's Extension environment, we must find ways to increase the return on Extension efforts with fewer resources available (Taylor-Powell & Boyd, 2008). Landscape water conservation programs should target those groups most likely to act and those who may have the largest effect on water resources by changing their practices (Monaghan et al., 2013). In this case, the targeted group is the Water Considerate Majority. When available resources are limited, an Extension professional should consider a concentrated strategy.

Targeting the Water Considerate Majority for Extension Landscape Water Conservation Programs

While the Water Savvy Conservationists are already highly engaged in water conservation, and the Unconcerned Water Users are not motivated to protect water resources, the Water Considerate Majority may be the most appropriate subgroup to select because this group is likely to change and has an existing motivation to do so. They care about water issues and have not yet adopted many landscape water conservation behaviors. Therefore, this subgroup may have the greatest potential impact of all three subgroups. Extension professionals could further assess skill level and attitudes of this subgroup to create programming that helps engage this subgroup in actions that affect water resources in the state of Florida and beyond.

Communications directed toward the Water Considerate Majority do not need to create initial concern about water resources, as this is already present. It should build on existing motivation and concern for water resources and help members of this group to take action. This group may benefit from moderately complex communication that focuses on appeal to emotion, facts, and specific steps for conservation.

While the Water Considerate Majority should be the primary target of residential landscape water conservation programs, the other subgroups can also be targeted if resources allow. As the Water Savvy Conservationists are very actively conserving water, they do not have much room for improvement in their conservation behaviors. However, they could be used as advocates and opinion leaders to encourage and assist individuals in other subgroups to conserve water. Extension professionals could invite Water Savvy Conservationists to engage in programming, to conduct demonstrations, and to share tips about ways to save water through good landscape irrigation practices. In this way, the Water Savvy Conservationists can positively influence attitude, perceived behavioral control, and social norms towards water conservation. Research has shown that opinion leaders play a significant role in encouraging sustainable behavior related to natural resources (Keys, Thomsen, & Smith, 2010).

The Unconcerned Water Users place the least value on water overall and are least likely to change as a result of Extension programming. While we recommend that this group be the target of Extension programs only when resources allow, Extension professionals could work with the Unconcerned Water Users to assist this group in understanding how critical water conservation is for themselves and society. We recommend that Extension professionals work to raise awareness and concern among this subgroup. A series of strategic messages can be used to help improve the attitude and perceived behavioral control among individuals in this subgroup. Previous research has concluded that effective communication strategies, such as framed messages, can increase attitude and perceived behavioral control toward water conservation (Warner, Rumble, Martin, Lamm, & Cantrell, 2015).

Extension professionals should reflect on their target audiences and decide which groups they are currently reaching and whether they need to refocus to reach the Water Considerate Majority. This reflection will be an important piece of their Extension programming decision-making.

Conclusion

Water quantity is an important issue in the state of Florida. Educating people who use irrigation about how to conserve water is imperative for Extension professionals. Since there is a high level of water usage for outdoor purposes (Haley, Dukes, & Miller, 2007), targeting people who irrigate the home landscape is an important strategy to reduce water consumption in Florida.

This document is intended to assist Extension professionals in recognizing three distinct subgroups of Floridians who use landscape irrigation. These subgroups were created by segmenting the audience based on current landscaping and water conservation practices. The goal is to create

programming that targets groups with similar views so that programs are more impactful and create sustainable behavior change.

Extension professionals should use this guide as a tool to enhance water conservation programming. By focusing on the Water Considerate Majority, Extension professionals can heighten existing positive attitudes, perceived behavioral control, and confidence to engage in water conservation in the landscape.

Extension professionals should recognize the diverse subgroups within their target audiences. Encouraging conservation behaviors among Extension clientele may be difficult, and audience segmentation provides an opportunity to conduct highly impactful programming. Residential landscape water conservation programs should identify and direct programming toward people who have the capacity to conserve as well as those who place value on water resources and are likely to take action. These characteristics are present among the Water Considerate Majority. A focus on this subgroup may provide the greatest return on programmatic investment. By designing Extension messages and programs tailored to a group that has the capacity to increase their conservation behaviors as well as the motivation to do so, Extension professionals can positively influence limited water resources and realize a greater return on their efforts.

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Appendix: Encouraging Landscape Water Conservation Behaviors Series Overview

The *Encouraging Landscape Water Conservation Behaviors* series was developed to address ways to promote the adoption of water-saving practices and technologies to a specific target audience: Florida residents who use irrigation in their home landscapes. These EDIS publications provide information to help Florida Extension professionals to understand this target audience and create more effective programming.

#1: Tailoring Programs to Florida Residents Who Use Irrigation in the Home Landscape (WC199): This publication describes commonalities among this target audience and describes Florida residents who use irrigation in the home landscape. By understanding characteristics of this audience, Extension professionals can develop more effective and targeted programming for this audience.

#2: Applying Audience Segmentation to Water Conservation Activities in the Landscape— Defining Subgroups Among Floridians Who Use Irrigation in the Home Landscape (WC200): This publication describes how segmentation can be applied to increase the effectiveness of Extension programming and defines specific segments of this target audience.

#3: Developing Extension and Outreach Messages that Encourage Adoption of Landscape Water Conservation Practice (WC201): This publication defines message framing, gain and loss framed messages, and value frames. Extension educators are encouraged to incorporate framed messages into their programming.

#4: Florida Homeowners' Reactions to Messages that Encourage Landscape Water Conservation Practice Adoption (WC202): This publication examines attitudes and perceived behavioral control over good irrigation practices among Florida residents who use irrigation in the home landscape. The impact of different messages that Extension educators may use to encourage water conservation is presented.

#5: Segmenting the Audience Based on HOA Status (WC246): This publication segments Florida residents who irrigate by HOA status. Commonalities and differences among those who belong to a HOA and those who do not belong to a HOA are explored. Extension educators can use this information to understand how HOA status impacts water conservation practices.

#6: Information-Seeking Preferences of Florida Residents Who Use Irrigation in the Home Landscape (WC204): This publication examines information-seeking preferences of Florida residents who use irrigation in the home landscape. Extension educators can use this publication to understand how residents seek information and the type of water conservation information that residents would like to learn about.

#7: Personal and Social Norms of Florida Residents Who Use Irrigation in the Home Landscape (WC205): This publication examines personal and social norms of Florida residents who use irrigation in the home landscape and describes how these characteristics can impact water conservation practices. Extension educators are encouraged to tailor programs that will encourage good irrigation practices and water conservation activities based on personal and social beliefs.

Table 1. Subgroup summary characteristics of Florida residents who use irrigation in their home landscape (*N* = 1058)

Water Considerate Majority (45%)
Moderate normative beliefs, perceived behavioral control, and attitudes toward good irrigation practices Somewhat engaged in landscape water conservation practices Somewhat likely to engage in future landscape water conservation practices and advocacy actions Moderate perceived importance assigned to clean water for various uses Moderate perceived importance assigned to plentiful water for various uses
Water Savvy Conservationists (36%)
High normative beliefs, perceived behavioral control, and attitudes toward good irrigation practices Very engaged in landscape water conservation practices Highly likely to engage in future landscape water conservation practices and advocacy actions High perceived importance assigned to clean water for various use High perceived importance assigned to plentiful water for various uses
Unconcerned Water Users (19%)
Low normative beliefs, perceived behavioral control, and attitudes toward good irrigation practices Not engaged in landscape water conservation practices Unlikely to engage in future landscape water conservation practices and advocacy actions Low perceived importance assigned to clean water for various uses Low perceived importance assigned to plentiful water for various uses
Source: Adapted from "Classifying residents who use landscape irrigation: Implications for encouraging water conservation behavior" (Warner, Lamm, et al., 201).