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Southwest Florida Water Management District
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Irrigation Literacy Evaluation Fact Sheet

Water-Wise Irrigation Perceptions and Practices Survey

The objectives of this study are to quantify outdoor water use practices and level of community knowledge of water conservation technologies and policy through a mail-out survey questionnaire.

The research area was within the Pinellas-Anclote River Basin under the jurisdiction of the Southwest Florida Water Management District (SWFWMD). The instrument was developed by the University of Florida (UF), in compliance with the UF-IRB protocol, and reviewed by the SWFWMD. The household questionnaire surveys the knowledge and attitudes about outdoor water use practices and perceptions as they relate to irrigation conservation.

Total number sent = 1,090 Overall response rate = 25%

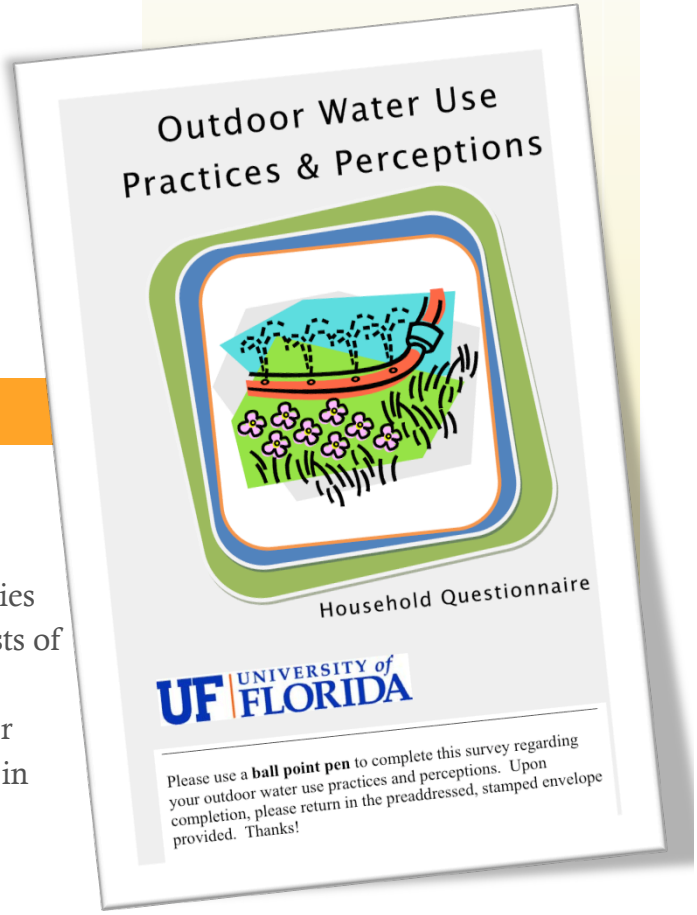
Water Sources

Potable	Reclaimed	Well
32% of response	**35% of response**	**33% of response**

Address lists were developed from the Pinellas County Utilities customer database of customers that had documented requests of potable variance exemption (a subset of potable customers), reclaimed crossover inspection, or well installation permits or rebates. Additionally, households concurrently participating in an irrigation sensor technology study were included.

The following significant barriers and benefits were identified:

- Misunderstanding of plant water needs; seasonal scheduling
- Terminology in reference to rain shutoff device
- Conservation relating to water source
- Reliability of rain shutoff device
- Expressed room for improvement and interest learning
- Influence of property value or property size



Survey Incentive

Each respondent was offered an incentive, to be sent, of either an indoor or outdoor water conservation kit. Although the incentive was available to every respondent, only 13 percent requested the kits.

Demographic Characteristics

On average, the respondents have resided in the state for 26 years, with 78 percent having lived in the state for at least a decade. Approximately eighty percent of the respondents are full-time Florida residents. The average age of the respondents was 60 years and overall the age of respondents ranged from 23 to 89 years. The majority of the respondents were college educated, with 64 percent having completed college or greater. Household income was provided by 81 percent of the respondents. Additionally, economic level was determined by assessing the actual property value of the homes.

Watering Practices and Irrigation Systems

In total, 91 percent of the respondents water their lawns/landscapes utilizing an automatic irrigation system. Further, 84 percent were responsible themselves for the watering practices at the site, and in 3 percent of the cases a professional service was utilized for maintaining the watering schedule. Most often, the irrigation timer was located in the garage.

The overall the most desired water source was reclaimed water for irrigation purposes. Even though the responses were evenly distributed across the three sources (potable, well and reclaimed). Of the potable source respondents, 65 percent would prefer the opportunity to use reclaimed water and 30 percent would prefer a well.

Upon asking a series of questions regarding watering practices, 12 percent of potable customers and 24 percent of well water users reported irrigating more often than permitted; according to Pinellas County Code 82-1. Only one percent of the reclaimed users reported irrigating more often than permitted; however, it should be noted at the time of the data collection, reclaimed users were permitted up to four days of irrigation per week, following Resolution No. 01-329.

Distribution of reported irrigation frequency	Overall %	Potable %	Reclaimed %	Well %
Never/rarely	5	12	3	1
Once per week	56	75	16	75
Twice per week	27	10	46	23
Three to four times per week	13	1	34	1
Nearly every day	1	1	1	0

Overall, the reported average length of time set per irrigation cycle for a single turfgrass zone was 69 minutes, ranging from 20 to 120 minutes. Although 55 percent reported adjusting their watering schedule seasonally, 31 percent admitted that they do not adjust their irrigation run times based on seasonal plant water needs.

Approximately thirty-six percent of the sites were reported to have rain shutoff devices; 66 percent of these were reported to be connected and functioning. All the rain shutoff devices reported were rain sensors, however, it was known that 4 percent of the respondents had soil moisture sensors attached to the system. This concurs with the notion that the term “rain shutoff” is not understood to include other bypass devices as well.

Attitudes and Actions

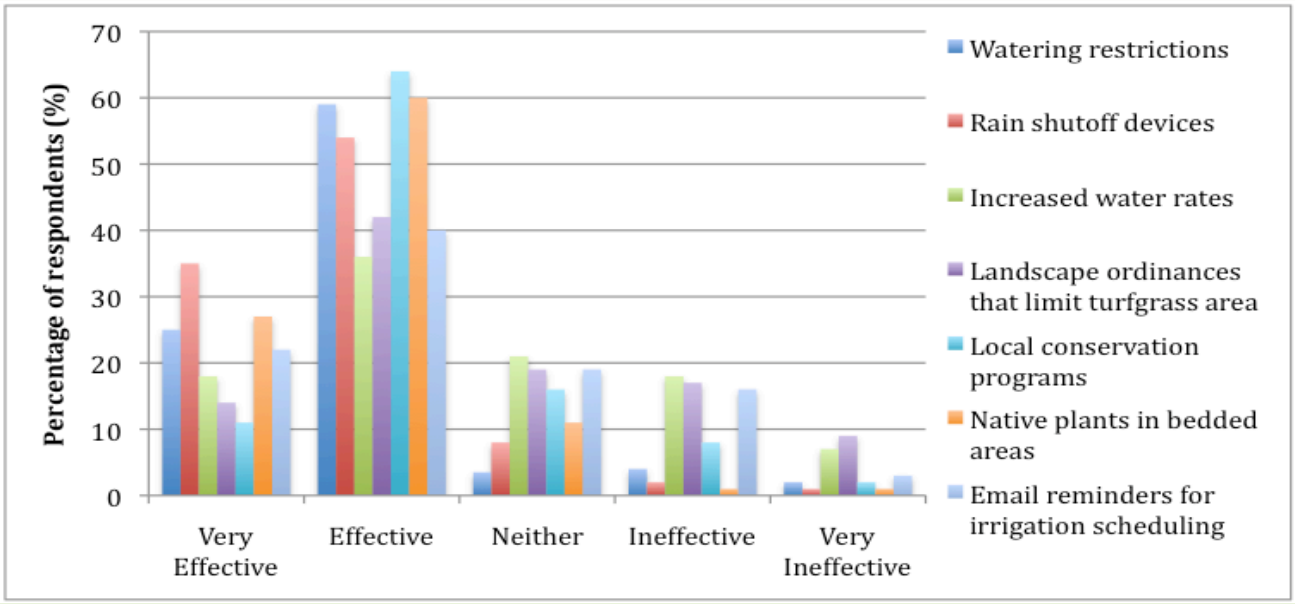
Previous studies have found price to be a primary motivator for irrigation practices. However, for this sample set, price was only a factor for potable users. Seventy-five percent of all users responded that source was the major influence affecting their irrigation practices.

Three quarters of the respondents reported that their irrigation practices were water conservative, but admitted to room for improvement. And while 87 percent reported awareness of watering restrictions, 57 percent often observe their neighbors irrigating outside of watering restriction compliance.

The availability of local conservation programs were familiar to 66 percent of the respondents, 53 percent trust the reliability of a rain sensor, and 68 percent expressed interest in installing a soil moisture sensor. Further, 75 percent understand the importance of a rain shutoff device, finding them very important for water conservation. Regarding conservation attitudes, 78 percent report that their personal conservation practices affect the overall water supply, and 98 percent reported that everyone is responsible for water conservation jointly within the community.

Indexes were developed based on the Likert scale attitudinal questions. The Likert scale used was based on five options from strongly agree to strongly disagree. From these indexes, it was observed that there was a correlation between irrigation knowledge and education level. There was also a moderate correlation between the knowledge index and the statement that the "homeowner would like to consider changes but [does not] have the money." The strongest correlation, which was an inverse correlation, existed between the conservation attitudinal index and the statement that the homeowner would "prefer more lawn (turfgrass) and would like to increase the lawn area of [their] yard." A higher conservation attitude score by the respondents was associated with the understanding that larger turfgrass yard may require more water.

Based on the actual water-use analysis, property value showed that the highest value range ($900,000 to $1,500,000) used the most water, even when normalized for irrigated area. Overall, there was a trend of increased water application with increased property value. Conversely, the smaller the irrigated area, the more water was applied. A primary cause for the increased use in both homes of higher property value or smaller irrigated area is likely due to the minimal impact water cost has on excessive use.



Survey responses of effectiveness for various conservation efforts.