October 2014

Final Report

Active Irrigation Users' Public Opinions of Water in Florida

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PIE2013/14-11

Suggested Citation

Odera, E., & Lamm, A. (2014). Active Irrigation Users' Public Opinions of Water in Florida. PIE2013/14-11. Gainesville, FL: University of Florida/IFAS Center for Public Issues Education.

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Acknowledgments

This research would not be available without the efforts of those who assisted in the development, oversight, and implementation of the survey. Their help is greatly appreciated.

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Introduction

Water quality and water quantity are crucial issues in Florida. As the population continues to grow, balancing agricultural needs, business and development needs, and public use has become more challenging. The Active Irrigation Users' Public Opinions of Water in Florida survey was taken by 511 Florida residents in the spring of 2014 who live in Osceola, Lake, Orange, and Seminole counties, have control over their landscaping, and pay for professional lawn care services. This population was determined from zip codes identified as having excessive irrigation practices in and around Orange County (Davis & Dukes, 2014). This report examines their public opinions related to water quality and quantity issues, comparing their responses to those of the general Florida public that responded to the UF/IFAS Center for Public Issues Education's 2014 Public Opinions of Water in Florida survey.

Findings: Active irrigation users compared to the general Florida public

The following results are key comparative findings between the active irrigation user respondents and the general Florida public survey respondents:

- Description of Respondents
    - The active irrigation user survey respondents had higher educational attainment than the general Florida public. Forty percent of respondents had either a 4-year college degree or a graduate/professional degree compared to 28% of the general Florida public.
    - The majority of active irrigation users (74%) participate in an HOA, compared to just 44% of respondents to the general Florida public opinion survey.
- Importance of water as an issue
    - Ninety-one percent of active irrigation user survey respondents thought having plentiful water in aquifers, springs, rivers and lakes was highly or extremely important, compared to just 10% who thought it was highly or extremely important to have plentiful water for golf courses. These responses were similar to the general Florida public.
- Landscaping care and water resources
    - All respondents (100%) to the active irrigation user survey had a yard, compared to 70% of the general Florida population. Additionally, all active irrigation user survey respondents have hired someone to maintain their yard compared to 25% of the general Florida population.
- Experience with water resources
    - Twenty-seven percent of active irrigation user survey respondents indicated they were highly or extremely confident their community will have enough water resources 10 years from now compared to 39% of general Floridians.
    - The general Florida public was more likely to have experienced poor quality drinking water at home (20%) than the active irrigation user survey respondents (14%).
- Engagement in environment and conservation behaviors
    - Sixty-three percent of active irrigation users owned a low-flow shower head and 69% owned a water-efficient toilet, compared to 54% and 58% of the general Florida population, respectively.
- Likelihood of participating in environmental behaviors

    - Seventy percent of active irrigation users replied "yes" they would be willing to conserve water even if it meant they would have to reduce the amount they water their lawn, while just 19% replied "yes" they would be willing to conserve water if it meant portions of their grass may die or need replacing. Respondents to the general public opinion survey received the same question but had a different question response formatting; a 5-point Likert response style which assessed level of willingness. Seventy percent of the general Florida respondent were very willing or willing to reduce their water use if it meant they would have to reduce the amount they water their lawn and 42% were willing or very willing to reduce the amount of water they use if it meant portions of their grass may die or need replacing.
- Knowledge and attitudes towards government and policy
    - Ninety-three percent of active irrigation user survey respondents would consider both the positive and negative implications that could result from a new policy before voting, and 69% would discuss their opinion with others or ask others what their opinions are. These results are similar to the responses of the general Florida population.
    - Overall, respondents to the active irrigation user survey were slightly less familiar with water policies and acts than the general Florida population.
- Education on water and landscaping
    - Fifty-five percent of active irrigation user respondents were interested in learning more about home and garden landscaping ideas for Florida yards, compared to 36% of the general Florida public.

Findings: Unique results of the active irrigation user survey

Some questions were asked only of respondents in the active irrigation survey. Key findings included:

- Landscaping care and water resources
    - Eighty-four percent of active irrigation user survey respondents have restrictions on watering their lawn.
    - Seventy-five percent of respondents with restrictions on irrigation can only water their lawn twice a week, followed by 12% of those who can only water their lawn once a week.
    - Forty-two percent of respondents have a home with a minimal lawn landscaped to reduce water consumption, while 70% percent of respondents would prefer this type of lawn. A key barrier described by respondents from achieving their desired landscape type was financial cost.
- Cost of water
    - Eighty-one percent of respondents to the active irrigation user survey would support a $10 yearly increase in their water bill for the next five years if it helped ensure a future water supply in Florida.
- Extension program participation
    - Eighteen percent of active irrigation user survey respondents had participated in an Extension program, and the most common was the Florida Friendly Landscaping program, with 6% of all respondents who had participated.

Background

Blessed with bountiful freshwater resources, abundant rainfall, and ocean resources, Florida is unique in its seemingly endless water resources. However, water quality and water quantity is a crucial issue in Florida, as the need to balance agricultural needs, business and development needs, and public use is becoming more challenging as the state's population continues to grow. Opinion leaders in Florida's agricultural sector have recurrently identified water as the top issue in Florida and recent water quality policy changes have spurred legal and political debates (Odera, Lamm, Dukes, Irani, & Carter, 2013). The Public Opinions of Water in Florida survey was designed to examine public opinions related to water quality and quantity issues in Florida as a measure of opinion at a specific point in time. The survey included items that identify Floridians':

- Perceptions of the importance of water when compared to other Florida issues;
- Confidence in the water supply;
- Level of perceived importance associated with clean and plentiful water;
- Experience with the negative impacts of water quality issues;
- Opinions associated with the direction water quality is headed in Florida;
- Engagement or likelihood of participating in water conservation efforts and behaviors;
- Willingness to pay for water conservation efforts;
- Attitudes towards governmental involvement in regards to the environment; and
- Overall knowledge of and interest in learning about water policies and educational programs.

A comparison study was designed to compare the results from the 2014 public opinions of water in Florida survey to active irrigation users living in Osceola, Lake, Orange, and Seminole counties who have a household income greater than $50,000/year, have a landscape they manage personally, and then choose to pay for yard care from a landscaping company. This population was determined from zip codes identified as having excessive irrigation practices in and around Orange County (Davis & Dukes, 2014). In addition to the topics mentioned above, the active irrigation user survey asked questions regarding:

- Water and landscaping restrictions;
- Current and preferred landscaping styles; and
- Likelihood of modifying irrigation practices to support water conservation.

Methods

In June 2014, an online survey was distributed to Florida residents using non-probability sampling. Qualtrics, a survey software company, distributed the online survey link to Florida residents, age 18 or older, resulting in 511 completed responses.

The survey instrument was researcher-developed and incorporated elements from several existing instruments, including items from the Canadian water attitudes survey from the Royal Bank of Canada's Blue Water Project (Patterson, 2012), items from the National Water Survey Needs Assessment Program (Mahler, et al., 2013) and the Government Style Questionnaire (Green-Demer, Blanchard, Pelletier, & Béland, 1994). The survey was then reviewed by an expert panel and pilot tested on 50 respondents to ensure validity and reliability.

Results

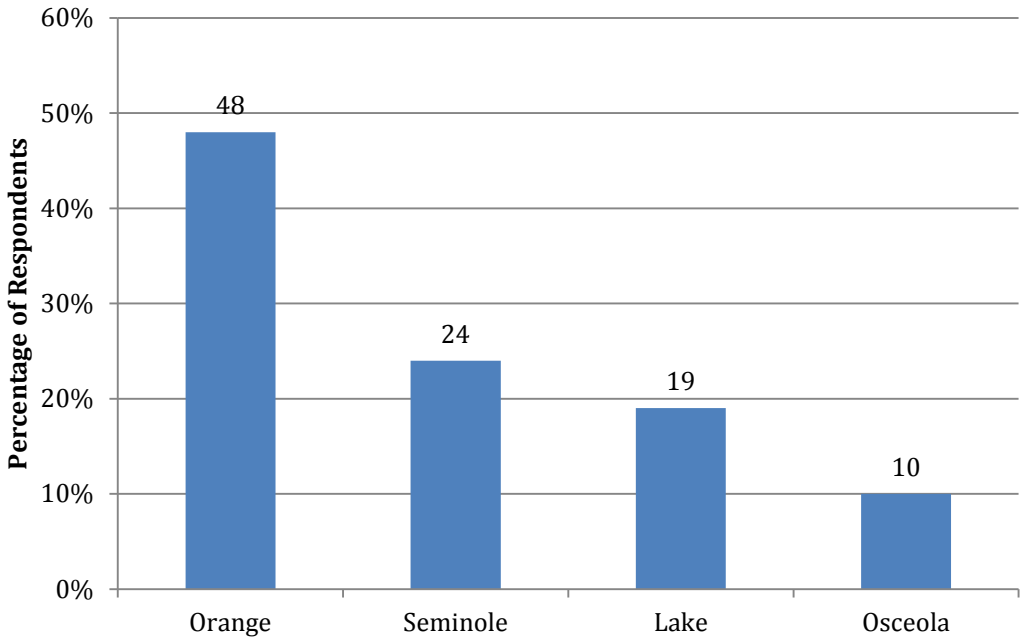
Description of Respondents

A series of questions were given to respondents to assess where and for how long they have lived in Florida, their basic demographic characteristics and their political affiliation and ideology.

Residence

The first set of questions asked respondents the county in which they reside. Respondents were required to live within one of the following four counties: Orange (48%), Seminole (24%), Lake (19%) and Osceola (10%) counties (Figure 1).

Figure 1: County of residence



When compared to the general Florida public, active irrigation users had similar lengths of time residing in Florida. Slightly more active irrigation users were recent arrivals compared to the general Florida public. Twenty-eight percent have lived here for 0-10 years compared to 23% of the general Florida public (Figure 2 and Figure 3).

Figure 2: Years lived in Florida- Active irrigation users

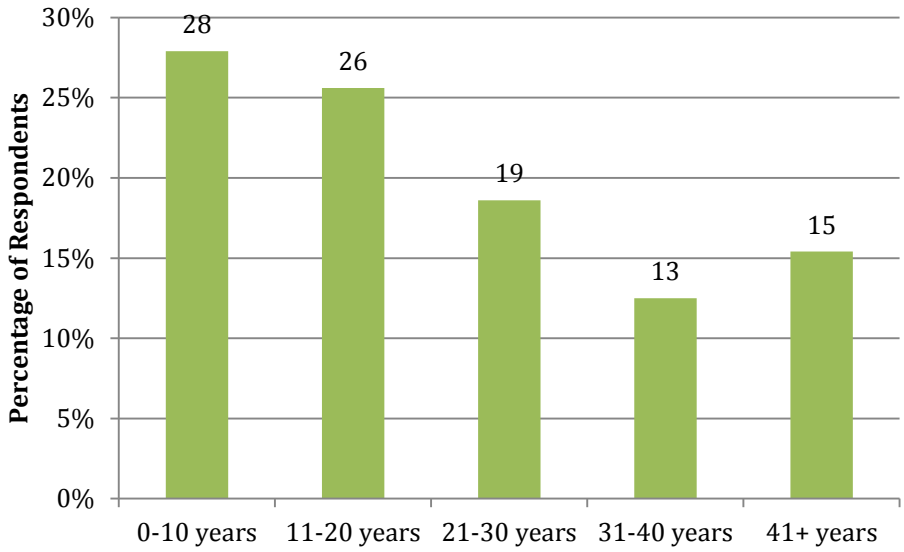
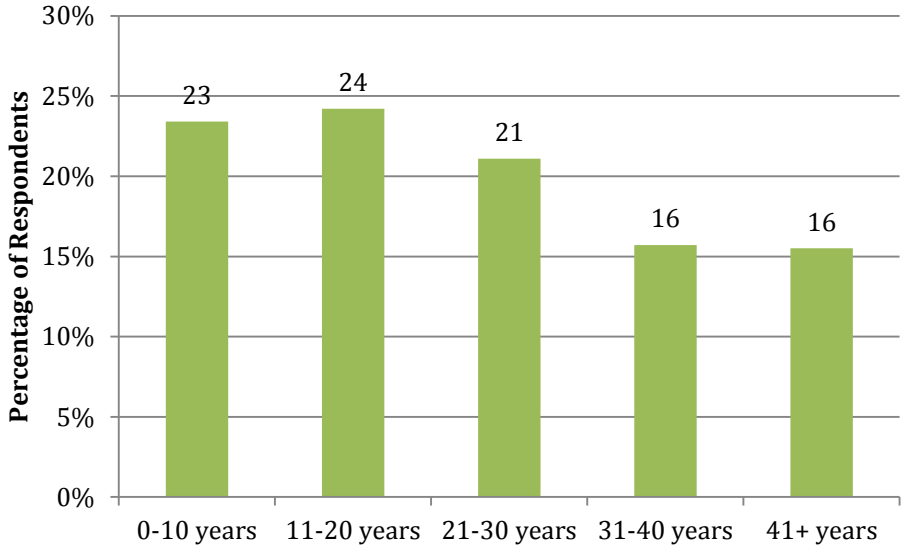


Figure 3: Years lived in Florida- General Floridians



Respondents in the active irrigation user survey tended to be more female, more white, less Hispanic, and older than the general Florida public in the 2010 U.S. Census (Table 1). All respondents lived in a highly metropolitan area. To test for statistically significant differences between these two groups, a Chi Square test was conducted. There were statistically significant differences between the two groups with respect to African American respondents ($X^2 = 7.29$; $p = .01$) and White respondents ($X^2 = 9.45$; $p = .00$).

Demographics

Table 1: Demographic data

Demographic Category	Percentage of Florida residents in 2010 U.S. Census	Percentage of active irrigation user survey respondents
Gender		
Male	48.9	45.8
Female	51.1	54.2
Race and Ethnicity		
Hispanic	22.5	8.0
Native American	0.2	1.0
Asian	3.0	1.6
African American	17.0	4.1
White	77.1	93.5
Age		
19 and younger	1.3	0.4
20-29 years	12.8	3.3
30-39 years	12.2	12.7
40-49 years	14.2	15.3
50-59 years	13.5	23.3
60-69 years	11.1	28.2
70-79 years	7.4	15.3
80 and older	4.9	1.6
Rural Urban Continuum		
Metro- Counties in metro areas of 1 million population or more	63.1	100.0
Metro- Counties in metro areas of 250,000 to 1 million population	25.7	0.0
Metro- Counties in metro areas of fewer than 250,000 population	4.8	0.0
Nonmetro- Urban population of 20,000 or more, adjacent to a metro area	3.5	0.0
Nonmetro- Urban population of 2,500 to 19,999, adjacent to a metro area	2.6	0.0
Nonmetro- Completely rural or less than 2,500 urban population, adjacent to a metro area	0.3	0.0

Educational Attainment

The active irrigation users had higher educational attainment than the general Florida public. Forty percent of respondents had either a 4-year college degree or a graduate/professional degree compared to 28% of the general Florida public (Figure 4 and Figure 5). A Chi Square test showed these differences were statistically significant ($X^2 = 184.55$; $p = .00$).

Figure 4: Education- Active irrigation users

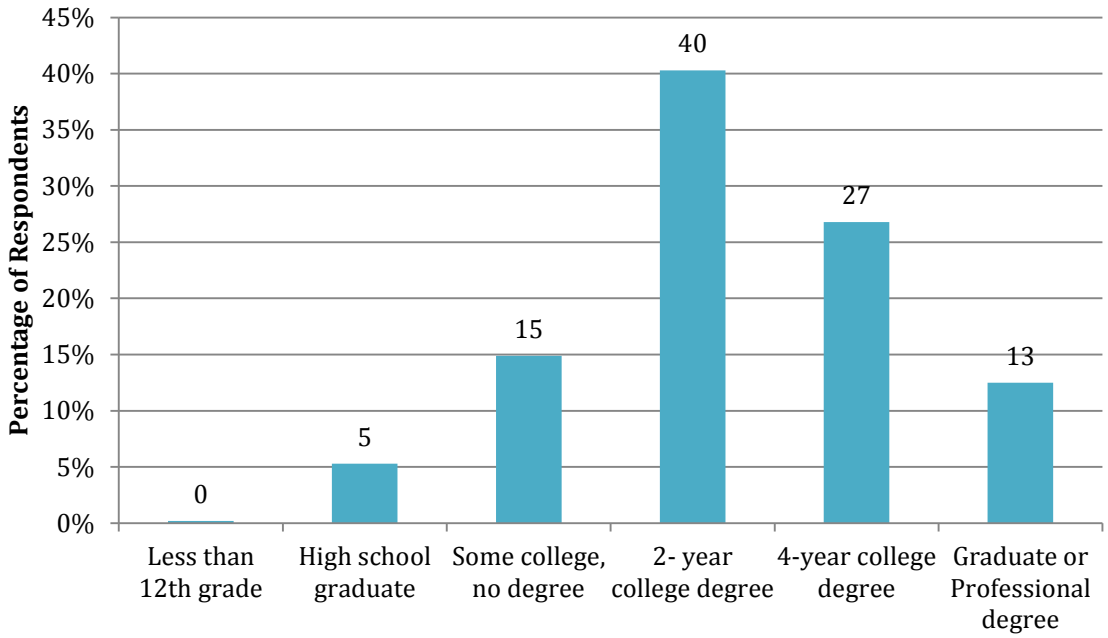
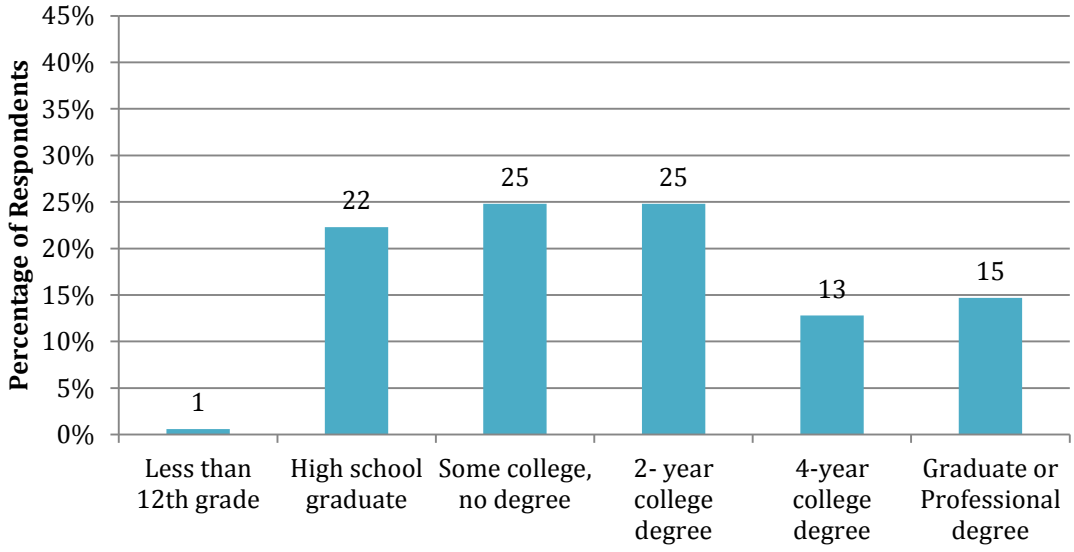


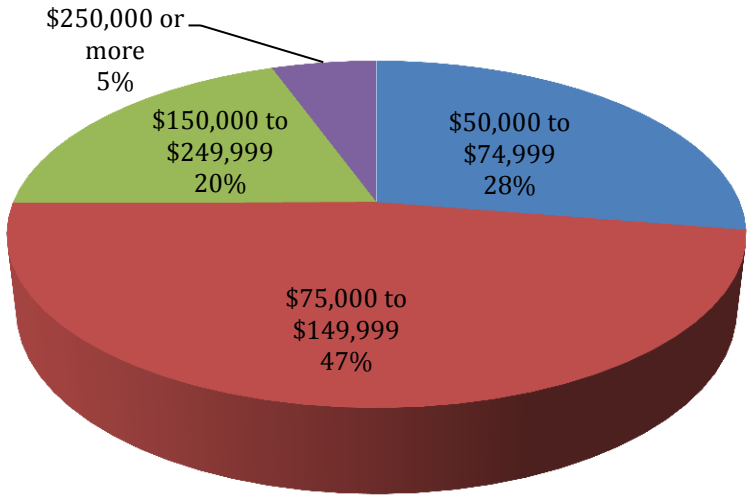
Figure 5: Education- General Floridians



Income

Seventy-two percent of respondents earned $75,000 or more in 2013 (Figure 6).

Figure 6: Income



Political Affiliation and Value

The next set of questions asked respondents about their political values and affiliation. As shown in Figure 7 and Figure 8, slightly more respondents from the active irrigation user survey considered themselves conservative or very conservative (39%) when compared to the general Florida public (30%). A Chi Square test was conducted and there were statistically significant differences between active irrigation users and the general public with regard to political values ($X^2 = 11.23$; $p = .02$).

Figure 7: Political values- Active irrigation users

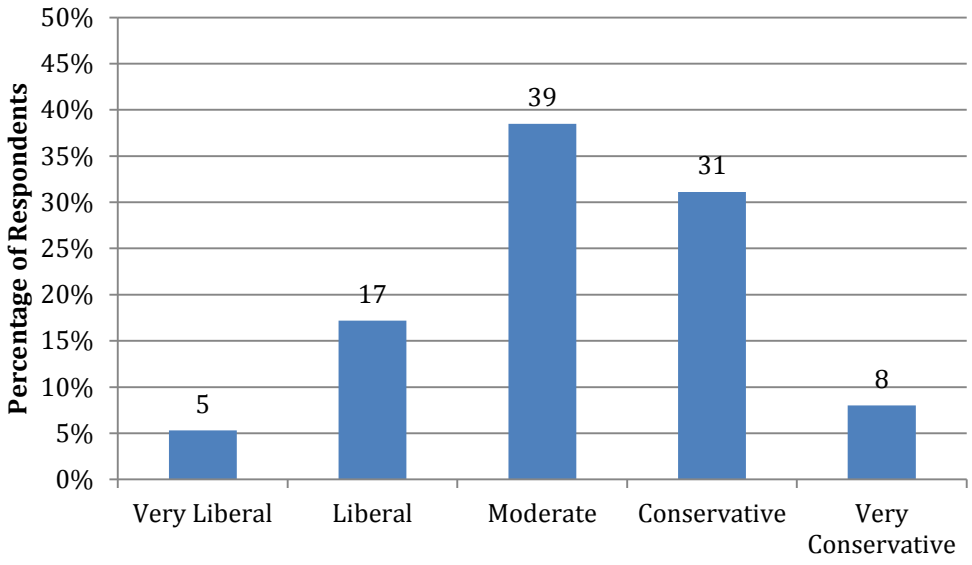
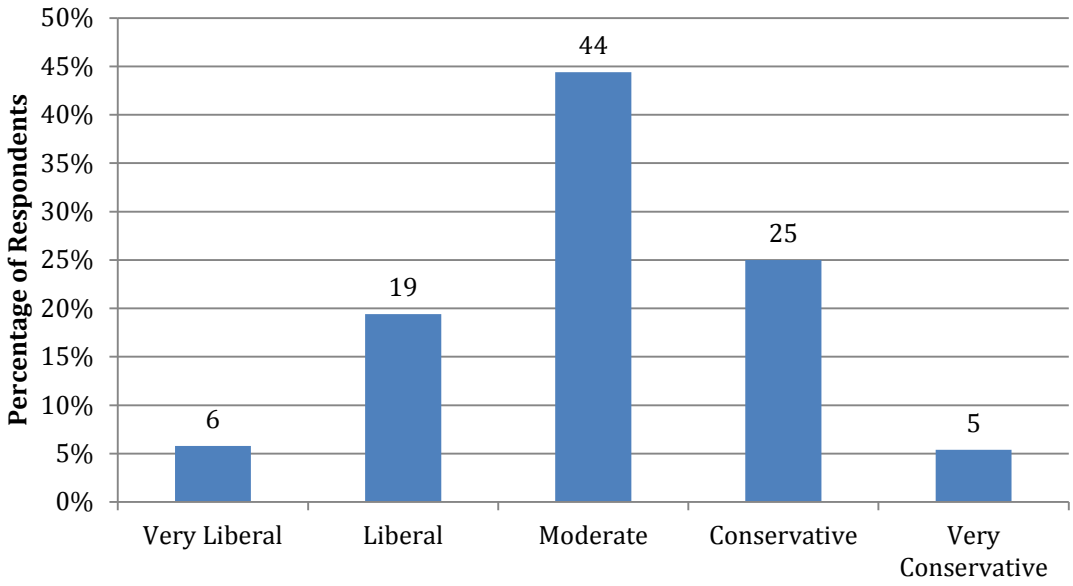


Figure 8: Political values- General Floridians



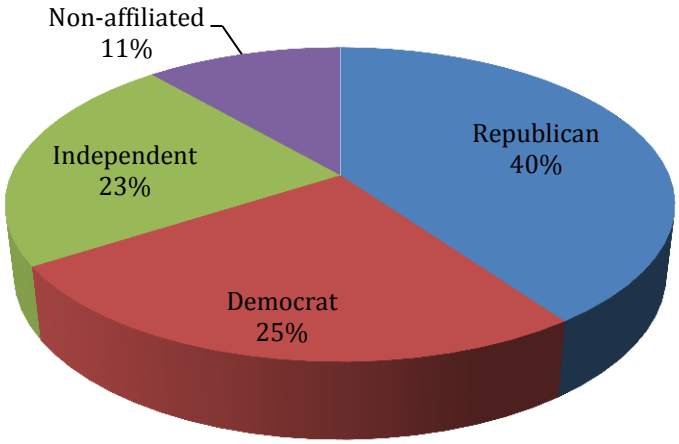
An analysis of variance was conducted to assess whether there were differences in political values amongst active irrigation users and the general public. The overall model was significant ($F = 2.80$; $p = .03$), but when a Bonferroni test was conducted *post hoc* no mean differences amongst individual political values were significantly different between the groups (Table 2).

Table 2: Bonferroni test of political values

Active irrigation user respondents (I)	General Florida respondents (J)	Mean Difference (I-J)	Std. Error	*p*- value
Very Liberal	Liberal	.01	.08	1.00
	Moderate	.00	.07	1.00
	Conservative	-.10	.07	1.00
	Very Conservative	-.14	.09	1.00
Liberal	Very Liberal	-.01	.08	1.00
	Moderate	-.01	.04	1.00
	Conservative	-.10	.05	.26
	Very Conservative	-.14	.07	.41
Moderate	Very Liberal	-.00	.07	1.00
	Liberal	.01	.04	1.00
	Conservative	-.10	.04	.10
	Very Conservative	-.14	.07	.33
Conservative	Very Liberal	.10	.07	1.00
	Liberal	.10	.05	.26
	Moderate	.10	.04	.10
	Very Conservative	-.04	.07	1.00
Very Conservative	Very Liberal	.14	.09	1.00
	Liberal	.14	.07	.41
	Moderate	.14	.07	.33
	Conservative	.04	.07	1.00

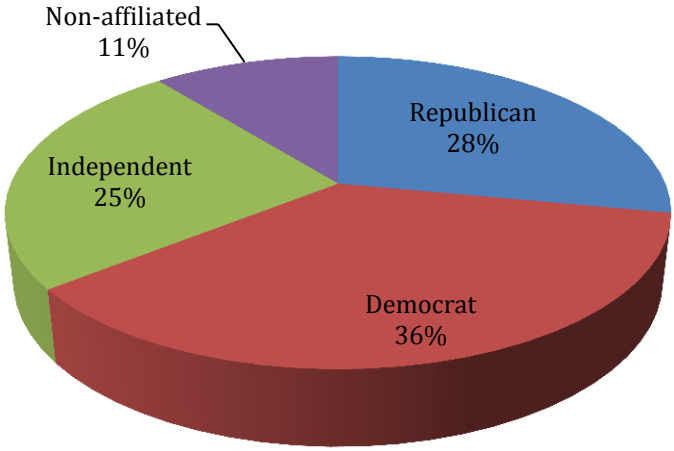
When asked about their political affiliation, active irrigation users were slightly more Republican than the general Florida population. Forty-percent of active irrigation users are Republican compared to 28% of the general Florida population (Figure 9 and Figure 10). These differences were statistically significant; a Chi Square test showed significant differences between active irrigation users and the general public with regards to political affiliation ($X^2 = 23.24$; $p = .00$).

Figure 9: Political affiliation- Active irrigation users



Note: Respondents were allowed to choose an "other" option.

Figure 10: Political affiliation- General Floridians



Note: Respondents were allowed to choose an "other" option.

An analysis of variance was conducted to assess whether there were differences in political affiliation amongst active irrigation users and the general public. The overall model was significant ($F = 5.90$; $p = .00$) signifying a statistically significant difference between the two groups. A Bonferroni test was then conducted *post hoc* to assess the differences between individual political affiliation groups (Table 3). Mean differences between Republicans and Democrats were statistically significant, as were differences between Republicans and Independents. This means active irrigation user respondents were statistically significantly more often Republican than Democrat or Independent when compared the general Florida population.

Table 3: Bonferroni test of political affiliation

Active irrigation user respondents (I)	General Florida respondents (J)	Mean Difference (I-J)	Std. Error	*p*- value
Republican	Democrat	.18*	.04	.00*
	Independent	.13*	.04	.02*
	Non affiliated	.09	.05	.93
	Other	.04	.15	1.00
Democrat	Republican	-.18*	.04	.00*
	Independent	-.05	.04	1.00
	Non affiliated	-.09	.05	.92
	Other	-.14	.15	1.00
Independent	Republican	-.13*	.04	.02*
	Democrat	.05	.04	1.00
	Non affiliated	-.04	.06	1.00
	Other	-.09	.15	1.00
Non affiliated	Republican	-.09	.05	.93
	Democrat	.09	.05	.92
	Independent	.04	.06	1.00
	Other	-.05	.16	1.00
Other	Republican	-.04	.15	1.00
	Democrat	.14	.15	1.00
	Independent	.09	.15	1.00
	Non affiliated	.05	.16	1.00

Note: * = $p = \leq .05$

Importance of Water as an Issue

Importance of Key Florida Issues

Respondents were asked to indicate how important they considered ten different Florida issues. They were asked whether they considered the issue to be a) not at all important, b) slightly important, c) fairly important, d) highly important, e) extremely important, and f) unsure. Table 4 displays the percentage of respondents rating each issue as extremely or highly important. Active irrigation user survey respondents indicated they thought the issues of immigration, public education, and the economy were more important or extremely important than the general Florida population.

Table 4: Importance level of Florida issues

Florida Issue	% respondents rating issue highly or extremely important – general Floridians	% respondents rating issue highly or extremely important- active irrigation users
The economy	89	94
Health care	89	86
Water	83	85
Public education	77	84
Taxes	78	79
Environmental conservation	69	71
Immigration	59	69
Food production	69	65
Housing and foreclosures	64	61
Climate change	51	48

Importance of Clean Water Resources

Respondents were asked to indicate how important they considered the presence of various clean water sources. Overall, respondents to both the general public opinion survey and the active irrigation user public opinion survey answered similarly (Table 5). Respondents thought drinking water was most important while clean water for shellfishing was less important. Ninety-nine percent of active irrigation user respondents considered clean drinking water to be a highly or extremely important issue.

Table 5: Importance level of clean water resources

Importance of clean water	% respondents rating issue highly or extremely important- general Floridians	% respondents rating issue highly or extremely important- active irrigation users
Clean drinking water	97	99
Clean lakes, springs, rivers	89	90
Clean ground water	87	90
Clean oceans	87	87
Clean bays and estuaries	86	87
Clean beaches	86	87
Clean water for shellfishing	80	81

Importance of Plentiful Water Resources

Respondents were also asked to consider how important it is to have plentiful water for various purposes. Overall, respondents to both the general public opinion survey and the active irrigation user public opinion survey answered similarly (Table 6). Ninety-one percent of active irrigation user respondents thought having plentiful water in aquifers, springs, rivers and lakes was highly or extremely important, compared to just 10% who thought it was highly or extremely important to have plentiful water for golf courses.

Table 6: Importance level of plentiful water resources

Importance of plentiful water	% respondents rating issue highly or extremely important- general Floridians	% respondents rating issue highly or extremely important- active irrigation users
Plentiful water in aquifers, springs, rivers, and lakes	88	91
Plentiful water for cities	86	89
Plentiful water for agriculture	85	84
Plentiful water for commerce/industry/power	66	64
Plentiful water for recreation	35	33
Plentiful water for household landscape	35	31
Plentiful water for golf course	11	10

Saltwater Intrusion and Red Tide Issues

Respondents were asked to indicate how much they agreed that saltwater intrusion and red tide were important issues in Florida. Regarding saltwater intrusion, active irrigation users responded similarly to the general Florida public. Fifty-six percent agreed or strongly agreed that saltwater intrusion is an important issue in Florida, and this level of concern was similar for the general Florida public, with 59% who indicated they agreed or strongly agreed (Figure 11 and Figure 12).

Figure 11: Importance of saltwater intrusion- Active irrigation users

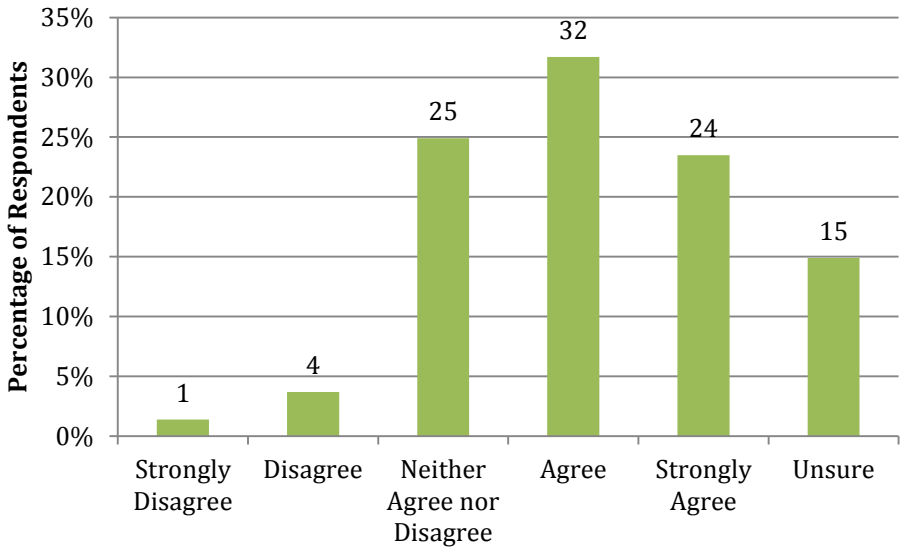
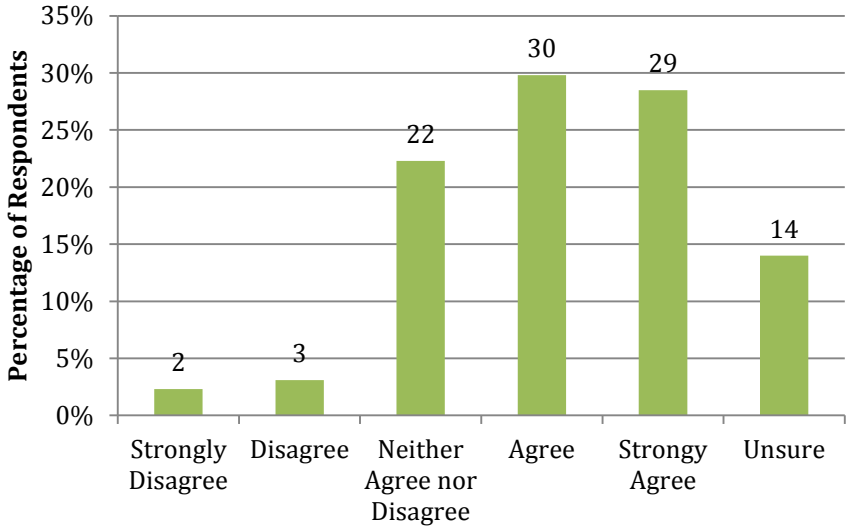


Figure 12: Importance of saltwater intrusion- General Floridians



Respondents were then asked how important they considered the issue of red tide in Florida. The general Florida public was more likely to strongly agree (36%) than the active irrigation user respondents (28%). Overall, both groups think red tide is an important issue; 60% of active irrigation users agreed or strongly agreed this was an important issue and 65% of the general Florida population agreed or strongly agreed (Figure 13 and Figure 14).

Figure 13: Importance of red tide- Active irrigation users

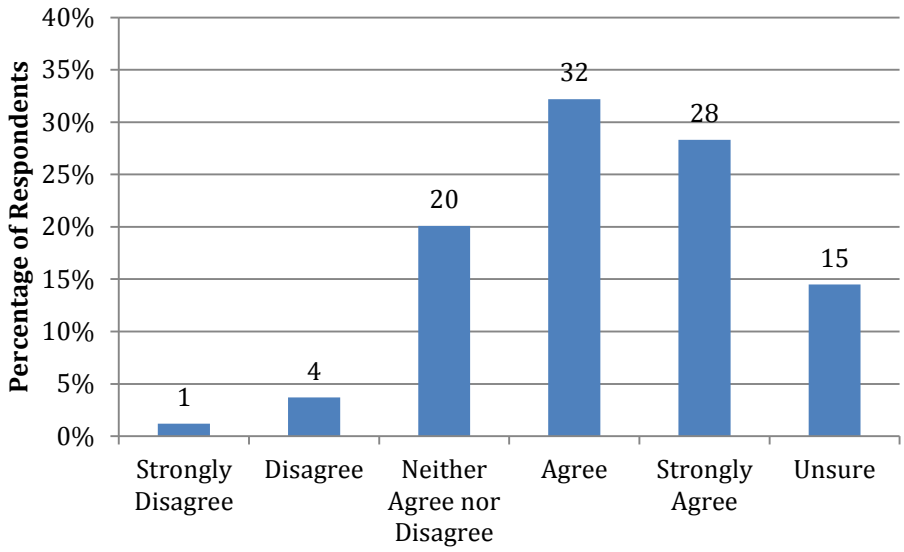
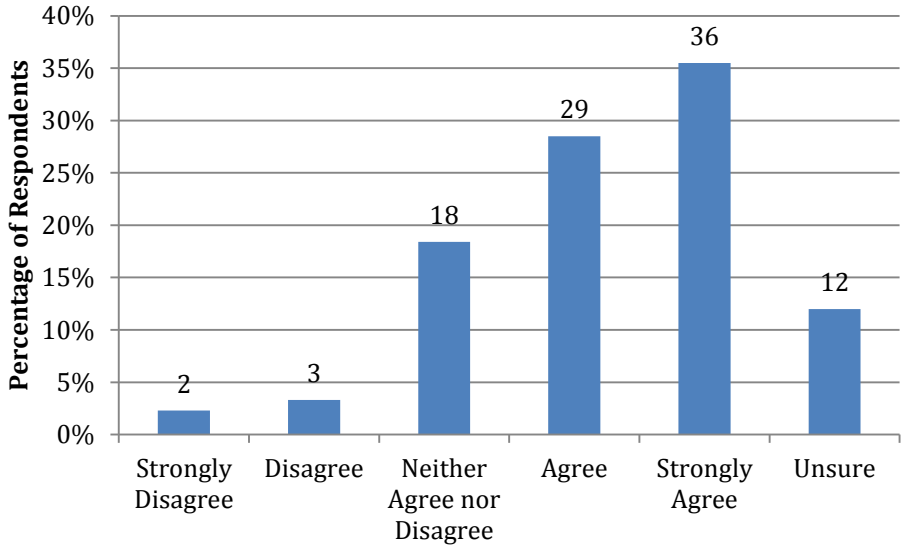


Figure 14: Importance of red tide- General Floridians



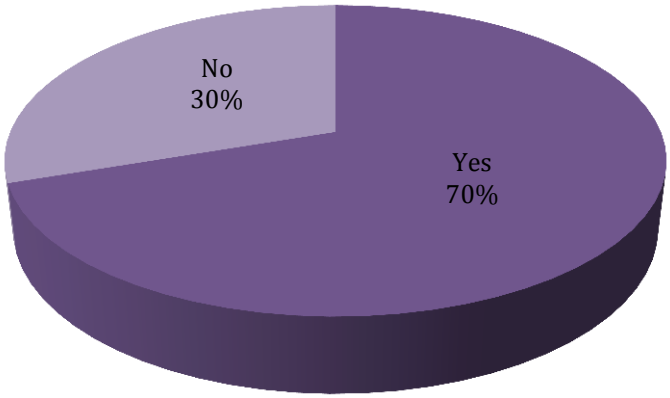
Landscaping Care and Water Resources

The next section of the survey asked respondents questions related to their landscaping care and irrigation, home ownership and HOA participation, and water restrictions for their lawns.

Yard Ownership and Care

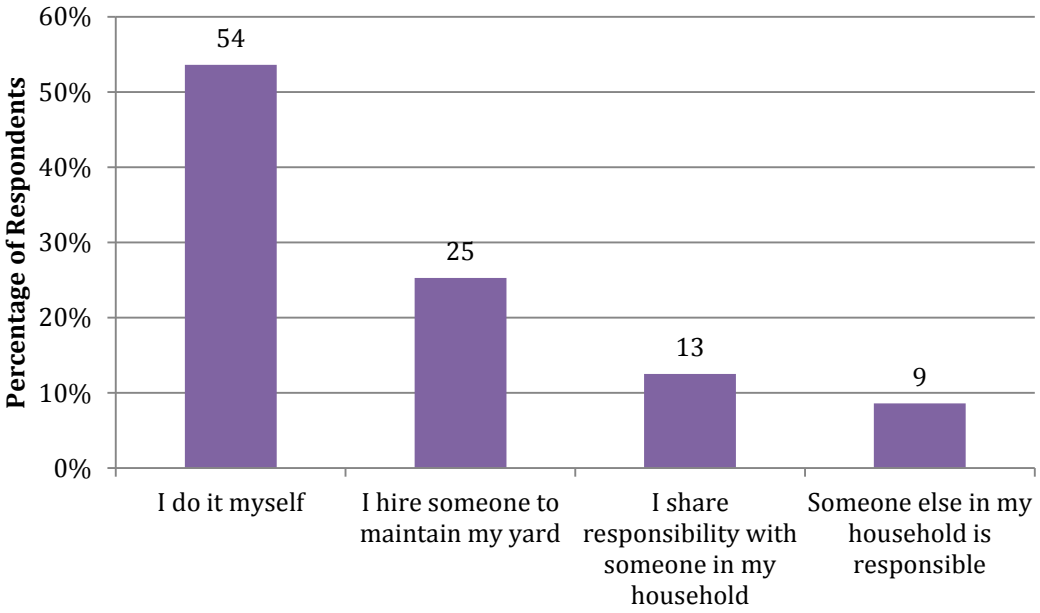
All respondents (100%) to the active irrigation user survey had a yard, compared to 70% of the general Florida population (Figure 15).

Figure 15: Yard ownership- General Floridians



Respondents were asked who cared for their yard. All active irrigation user survey respondents have hired someone to maintain their yard compared to 25% of the general Florida population (Figure 16). Fifty-four percent of the general Florida public opinion respondents care for their yards on their own.

Figure 16: Person responsible for yard care- General Floridians



Home Ownership and HOA Participation

The next set of questions asked respondents whether they own their own home and whether they are part of a homeowners' association (HOA). As shown in Figure 17 and Figure 18, more active irrigation users were homeowners (92%) than the general Florida population (69%). A Chi Square test found these differences to be statistically significant ($X^2 = 95.23$; $p = .00$).

Figure 17: Home ownership- Active irrigation users

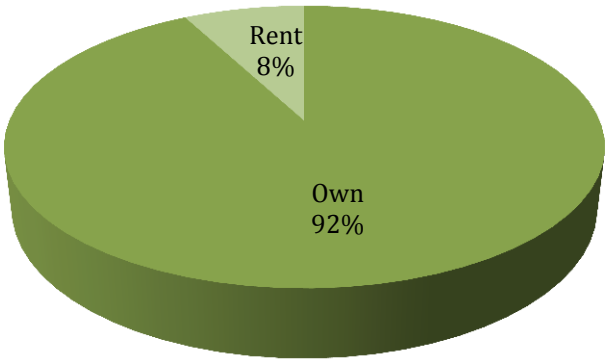
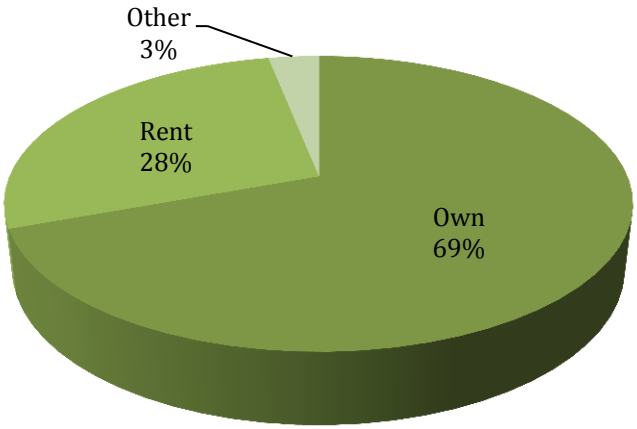


Figure 18: Home ownership- General Floridians



The majority of active irrigation users (74%) participate in an HOA, compared to just 44% of respondents to the general Florida public opinion survey (Figure 19 and Figure 20). This difference was found to be statistically significant ($X^2 = 76.97$; $p = .00$).

Figure 19: HOA participation- Active irrigation users

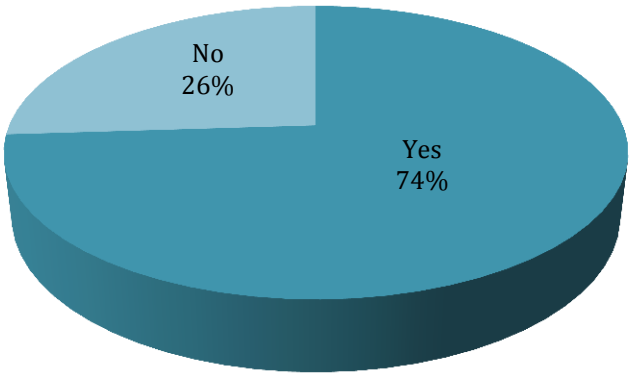
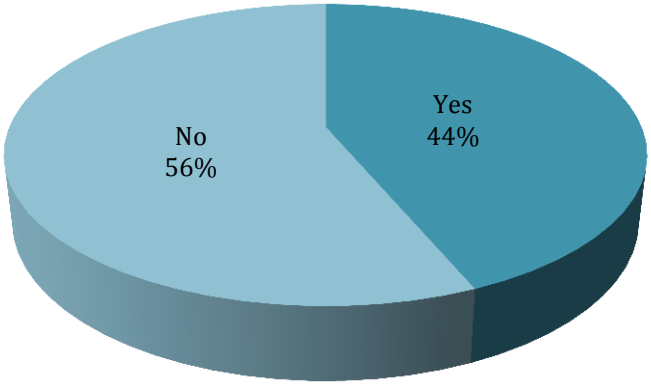


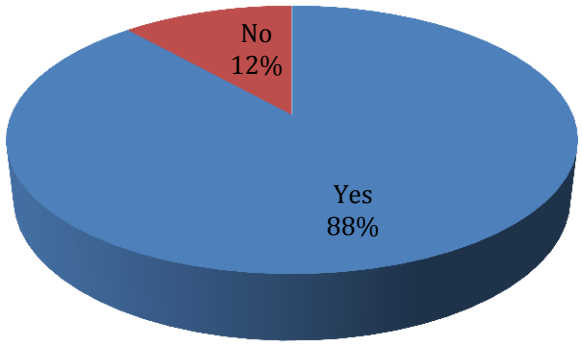
Figure 20: HOA participation- General Floridians



HOA Landscaping Restrictions

Respondents in the active irrigation user survey who were part of an HOA (74%, $n = 378$) were asked whether their HOA has any policies or requirements related to landscaping. Eight-eight percent of respondents do have HOA landscaping restrictions for their lawns (Figure 21).

Figure 21: HOA landscaping restrictions- Active irrigation users



Respondents were also asked to describe the restrictions they must abide by for their lawns. The responses were categorized into groups and include:

- **Well maintained and attractive** (195)- Respondents described the need to keep their grass mowed, shrubbery and trees trimmed, and their lawn free from weeds.
- **Approval for changes** (100)- Respondents described that any changes to their existing landscape had to be approved by the HOA before they could be carried out; in particular, trees could not be removed without HOA approval
- **Specific plants** (66)- Respondents described needing to have a certain amount of trees in their yard, along with specific grasses (often St. Augustine grass) and restrictions on decorative plants
- **Standard outdoor appearance** (51)- Respondents described restrictions on owning a fence, having decorative items in the yard, and regulations on where trees and plants could be planted
- **Irrigation rules** (19)- Respondents described needing to follow local government watering restrictions for their lawns, being required to have irrigation for their lawn, and restrictions on the number of times per week they could water their lawns
- **HOA cares for lawn** (13)- Some respondents had their lawns cared for by their HOA as a benefit of being an HOA member
- **Unsure** (10)- Some respondents were unsure of the landscaping restrictions of their HOA

Irrigation Ownership and Water Source

Eighty-seven percent of respondents to the active irrigation user survey have an irrigation system for their lawn (Figure 22). Those who have an irrigation system ($n = 447$) were asked where the water for this system originates. Fifty-four percent of respondents receive the water for their irrigation system from the city in which they live and 24% receive reclaimed water (Figure 23).

Figure 22: Have irrigation system- Active irrigation users

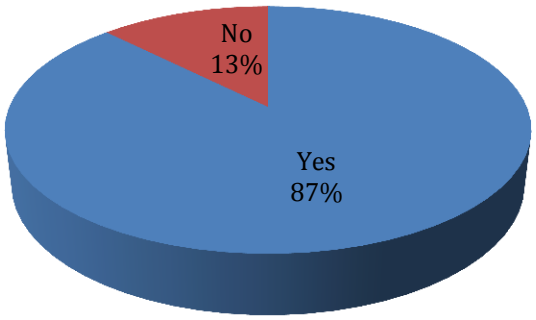
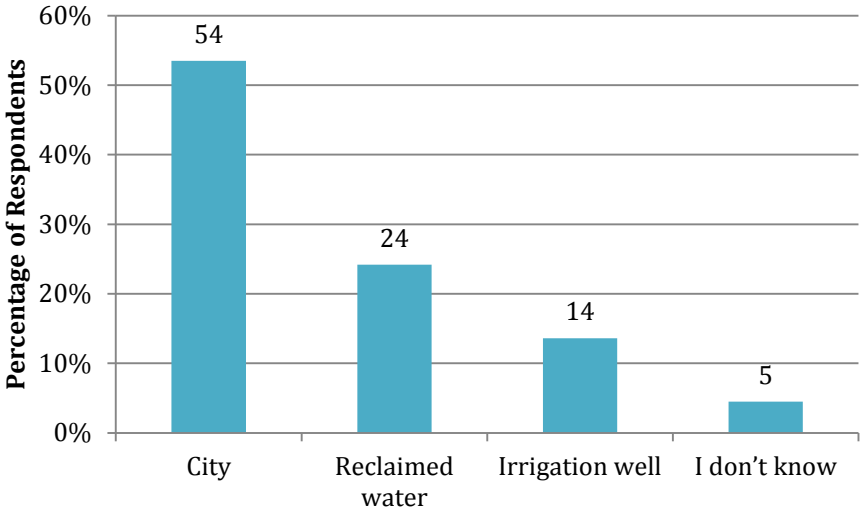


Figure 23: Water source for irrigation system- Active irrigation users



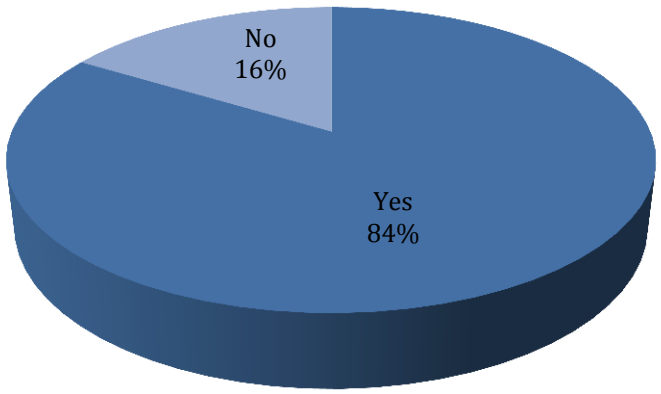
Four percent of respondents ($n = 19$) chose to respond with "other" as to where their irrigation water originates and were asked to describe where they received their water. Their responses included:

- Lake (7)
- County managed water (3)
- Canal (2)
- Well (2)
- Private company
- Mix of reclaimed water and city well water
- Retention pond
- Florida Governmental Utility Authority

Irrigation Restrictions

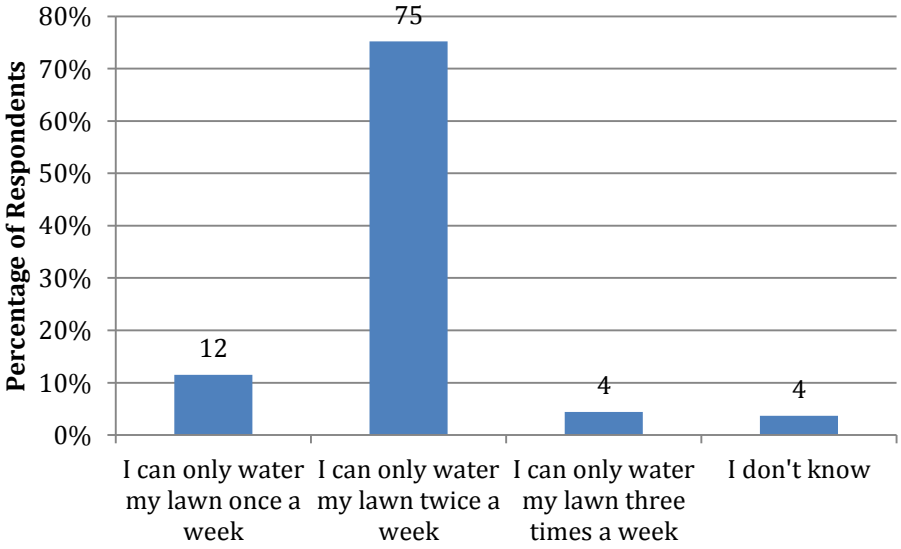
Respondents were then asked whether they currently have to abide by any water restrictions for their lawn. Eighty-four percent of respondents do have restrictions on watering their lawn (Figure 24).

Figure 24: Restrictions on irrigation- Active irrigation users



Respondents who did have irrigation restrictions for their lawn ($n = 427$) were asked to specify the type of water restrictions they must follow. Seventy-five percent of respondents with restrictions on irrigation can only water their lawn twice a week, followed by 12% of those who can only water their lawn once a week (Figure 25).

Figure 25: Type of irrigation restriction- Active irrigation users

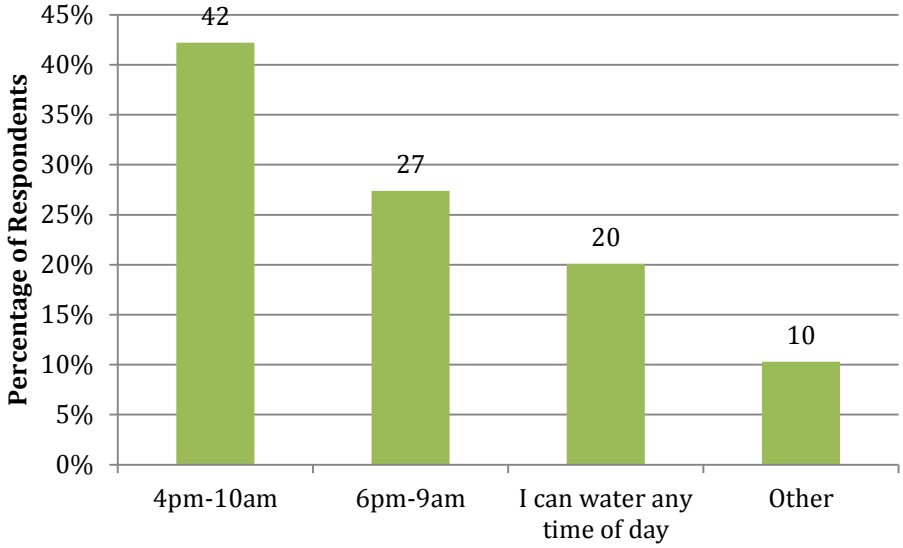


Five percent of respondents ($n = 22$) chose an "other" response and were asked to describe their irrigation restrictions. These included:

- Once a week during winter and twice a week during summer (15)
- Uncertain (2)
- Don't irrigate lawn at all (2)

Respondents with an irrigation system ($n = 427$) where then asked the time of day they are permitted to water their lawn. Forty-two percent are permitted to water their lawn from 4pm-10am (Figure 26). Twenty percent indicated they can water their lawn at any time of day.

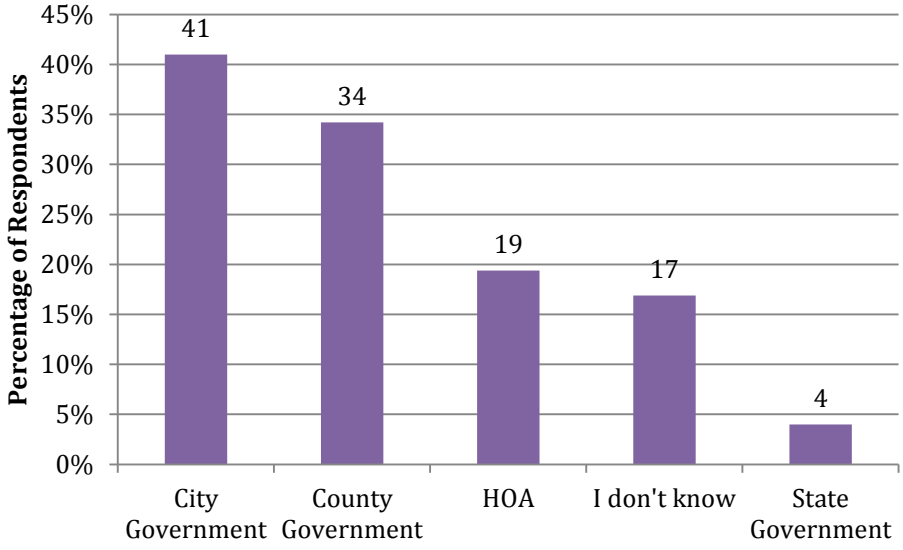
Figure 26: Time of day permitted to irrigate lawn- Active irrigation users



Enforcement of Irrigation Restrictions

The same group of respondents, those who have to abide by water restrictions for their lawn ($n = 427$), were asked who is in charge of enforcing these restrictions and were allowed to select all that applied. Seventy-four percent of respondents indicated that either the city or county government enforces water restrictions for their lawn (Figure 27). Seventeen percent of respondents were uncertain who enforces their water restrictions.

Figure 27: Enforcement of water restrictions- Active irrigation users



Four percent of respondents ($n = 19$) chose an "other" response and their responses include:

- Water management district (12)
- No real enforcement occurs (4)
- Seminole county river management
- Toho Water Authority

Attitude towards Water Restrictions

Respondents were asked a question in which they had to choose where on a spectrum their attitudes towards water restriction fell. Respondents could choose anywhere from 1 = *I support unrestricted water use*; and 5 = *I support restricted water use.* Respondents from both the active irrigation user survey and the general public opinion survey answered similarly. Active irrigation users scored an average of 3.73 and the general Florida public scored an average of 3.74 (Table 7). This indicates that respondents tend to lean towards agreement with restricted water use than unrestricted water use.

Table 7: Attitude towards water restrictions

General Florida Public *M (SD)*	Active Irrigation Users *M (SD)*
3.74 (1.03)	3.73 (.95)

Landscaping Type

Respondents were asked a series of questions about their current landscape and their preferred landscape type. They were also asked what, if any, barriers have prevented them from having a landscape that aligns with their preferences. To answer this question, respondents were shown three different pictures which represented 1) a home with an extensive lawn that uses a lot of water; 2) a home that still has a lawn but has some native trees and shrubs to reduce water use; 3) a home that has a minimal lawn and has been landscaped intentionally to reduce water consumption (Pictures 1, 2 & 3).

Picture 1: A home with an extensive lawn that uses a lot of water

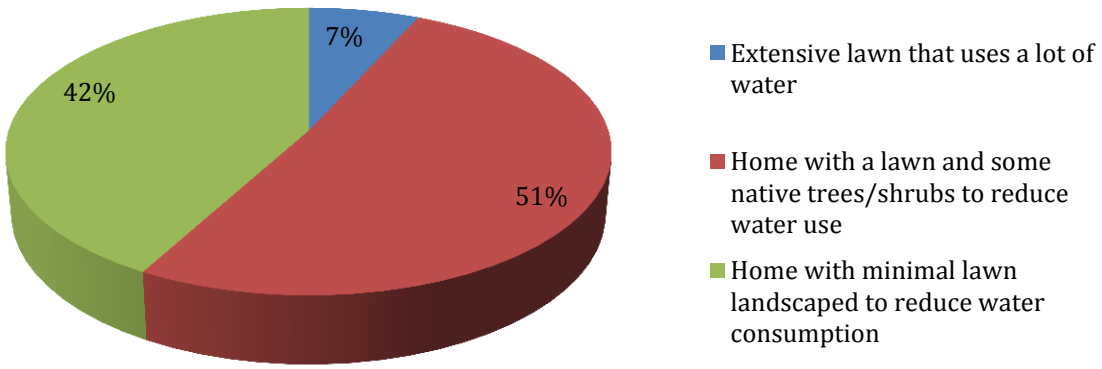
Picture 2: A home that still has a lawn but has used some native trees and shrubs to reduce water use

Picture 3: A home that has minimal lawn and has been landscaped intentionally to reduce water consumption

Current Landscape

Respondents were first asked to indicate which picture best represented their current landscaping. Fifty-one percent indicated their current lawn is a lawn with some native trees and shrubs to reduce water use, and 42% indicated their home has a minimal lawn landscaped to reduce water consumption (Figure 28). Only 7% reported their lawn was extensive and used a lot of water.

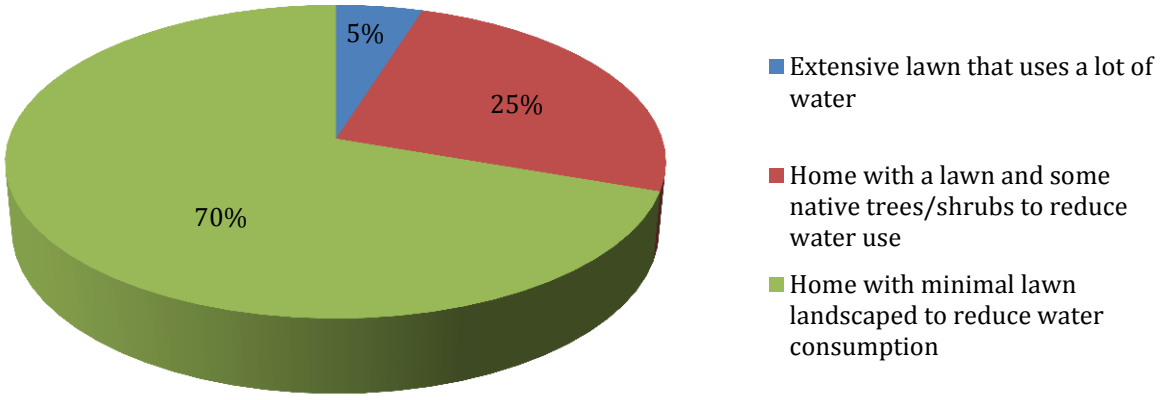
Figure 28: Current landscape



Preferred Landscaping Type

Next, respondents were asked to indicate which type of lawn they would prefer to have. Seventy percent of respondents would prefer to have a minimal lawn which is landscaped to reduce water consumption (Figure 29).

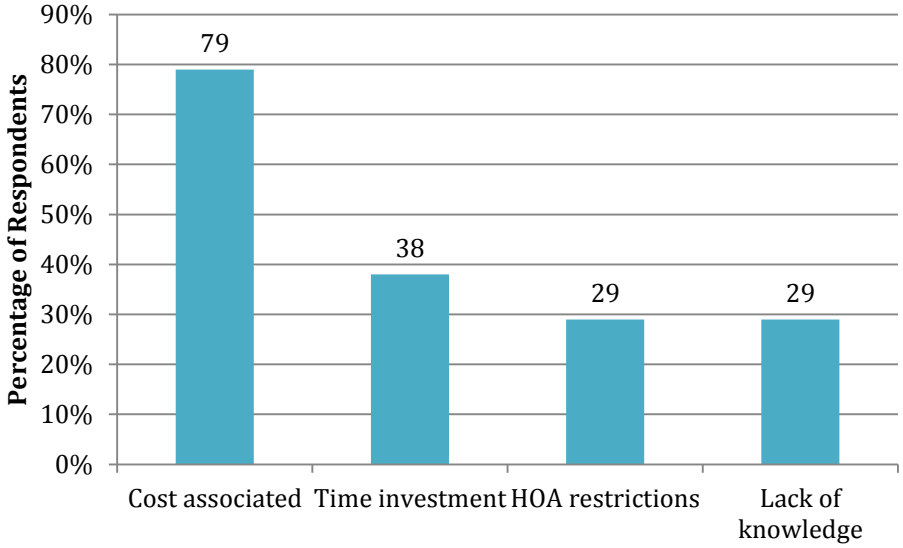
Figure 29: Landscape preference



Barriers to Preferred Landscaping Type

Respondents were then asked to indicate what barriers kept them from obtaining their preferred landscape. This question was only given to those that have a current lawn that is less water-efficient than the type of lawn they desire ($n = 180$). They were allowed to choose all that applied. Seventy-nine percent indicated that the cost associated was a barrier, and 38% indicated that time investment was a barrier (Figure 30).

Figure 30: Barriers to landscape preference



Seven percent of respondents ($n = 12$) chose an "other" response. Their responses included:

- Rent, don't own yard (4)
- Already changing or have changed yard (2)
- Unable to do on one's own (2)
- Cost of hiring (3)
- Don't water lawn
- Lawn is too large
- Planning on selling home

Experience with Water Resources

Confidence in Water Resources

Respondents were asked how confident they are that their community will have enough water resources to meet all of its needs 10 years from now and how confident they are about the safety of the tap water in their home. Respondents to the active irrigation user survey reported being less confident their community will have enough water resources 10 years from now than general Floridians. Twenty-seven percent of respondents indicated they were highly or extremely confident compared to 39% of general Floridians (Figure 31 and Figure 32). A Chi Square test conducted showed these differences in confidence between general Floridians and active irrigation users was statistically significant ($X^2 = 22.81$; $p = .00$).

Figure 31: Confidence in future water resources- Active irrigation users

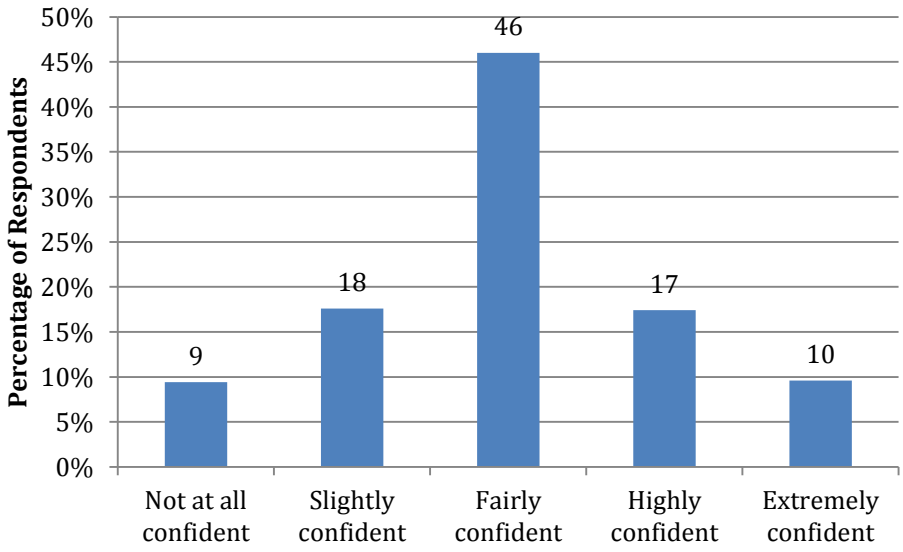
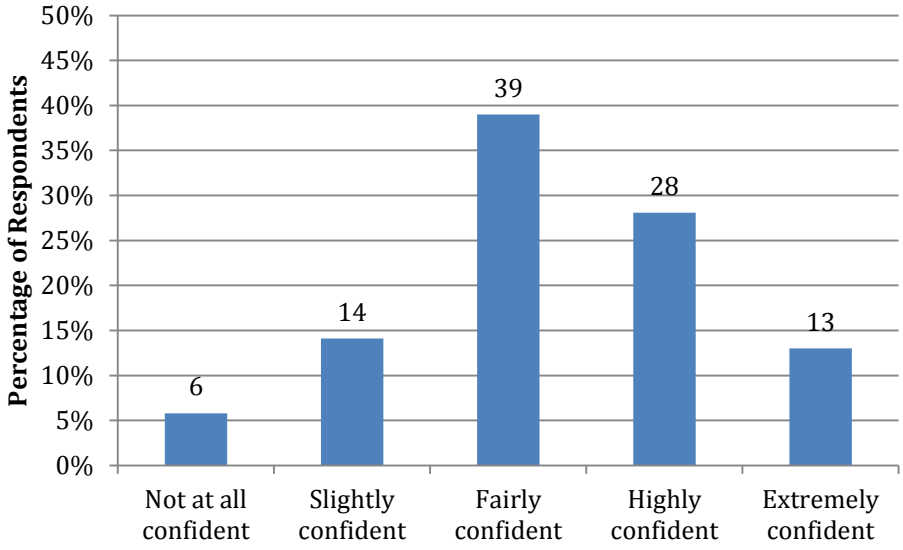


Figure 32: Confidence in future water resources- General Floridians



Regarding confidence in tap water, seen in Figure 33 and Figure 34, active irrigation users and general Floridians responded similarly, with slightly more active irrigation users choosing the "fairly confident" option (43%) than general Floridians (35%). However, these differences in response to this question among active irrigation users and general Floridians were statistically significant ($X^2 = 10.65$; $p = .03$).

Figure 33: Confidence in tap water- Active irrigation users

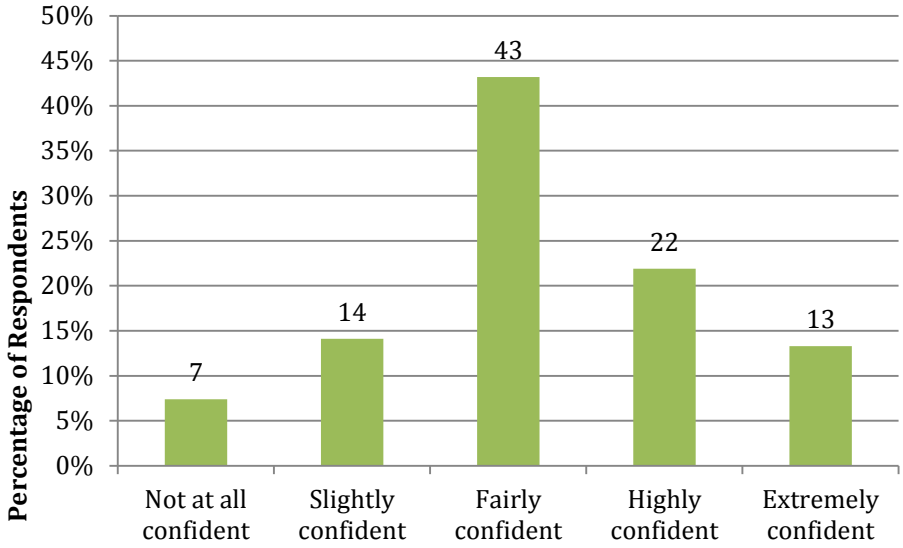
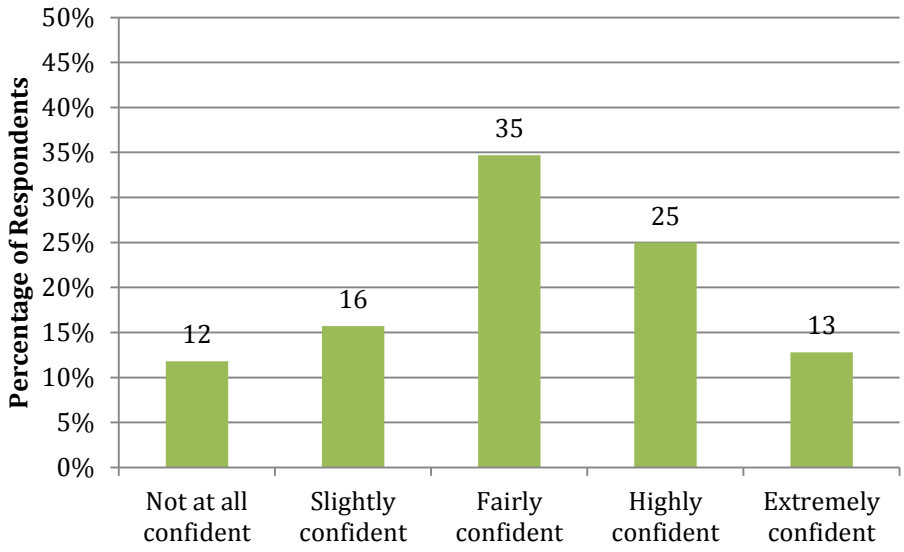


Figure 34: Confidence in tap water- General Floridians



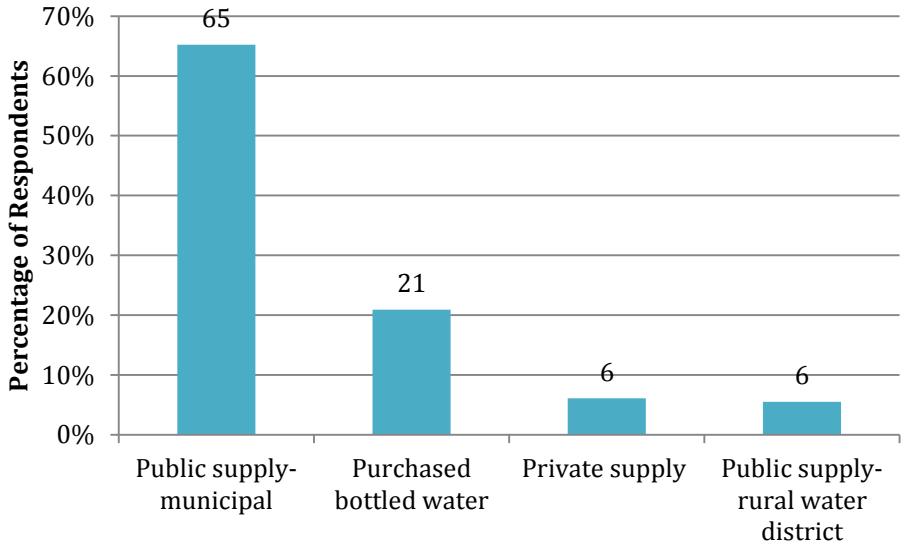
Experience with Water Quality

Respondents were asked a series of questions about their experiences with water quality, including drinking water, water resources outside the home, as well as their perceptions of how water quality is changing in different bodies of water.

Drinking Water

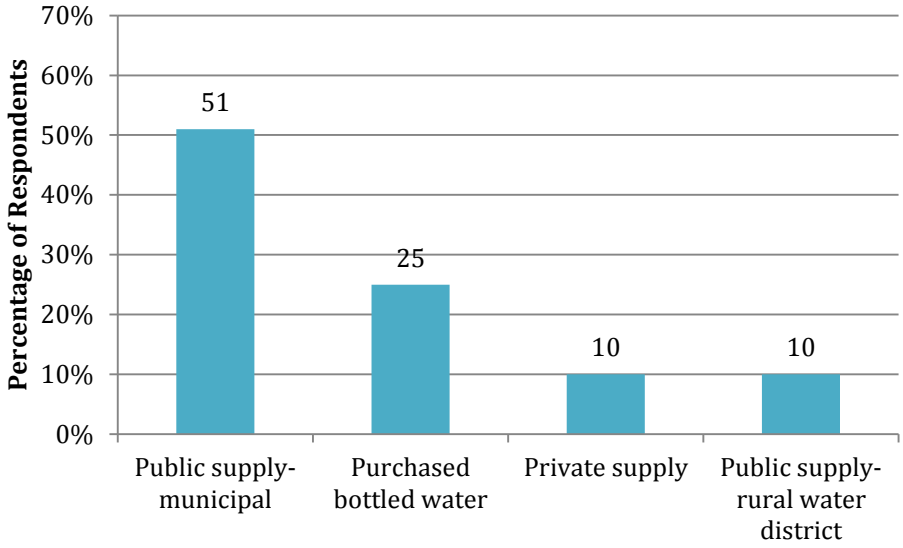
Respondents were asked where they receive their drinking water. Sixty-five percent of active irrigation users received their drinking water from the municipal public supply compared to fifty-one percent of the general Florida population (Figure 35 and Figure 36). The differences between drinking water sources of active irrigation users and the general Florida public were statistically significant ($X^2 = 25.48$; $p = .00$).

Figure 35: Drinking water source- Active irrigation users



Note: 2% of respondents were unsure

Figure 36: Drinking water source- General Floridians



Note: 5% of respondents were unsure.

Negative Experiences with Water Quality

Respondents were asked to indicate whether they had experienced any negative impacts of poor water quality and were allowed to choose all that applied (Figure 37 and Figure 38). Slightly more of the respondents to the active irrigation user survey had not experienced any negative impacts (71%) compared to the general Florida public (59%). The general Florida public was also more likely to have experienced poor quality of drinking water at home (20%) than the active irrigation user survey respondents (14%). The five negative potential water quality experiences were summed into an index (1 = *had experienced*, 0 = *had not experienced*) for a potential high score of 5 and a low score of 0. The differences in average scores between the active irrigation users and the general Florida public were statistically significant when an independent *t*-test was conducted. The average for the active irrigation users was .48 with a standard deviation of .89. The average for the general Florida public was .72 with a standard deviation of 1.05. This mean difference (.24) was statistically significant ($t = -3.95$; $p = .00$).

Figure 37: Experience with negative water quality- Active irrigation users

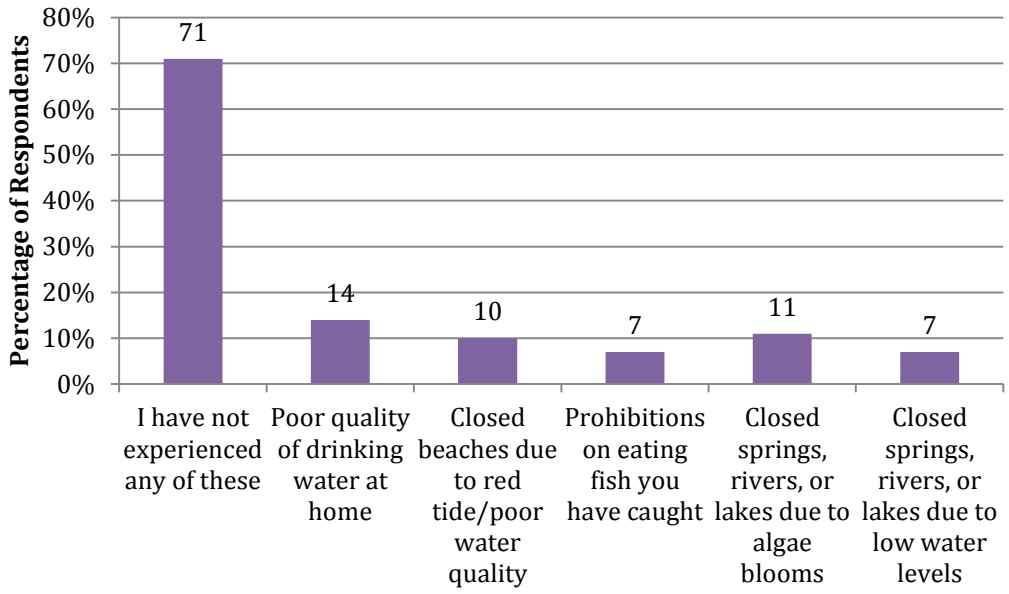
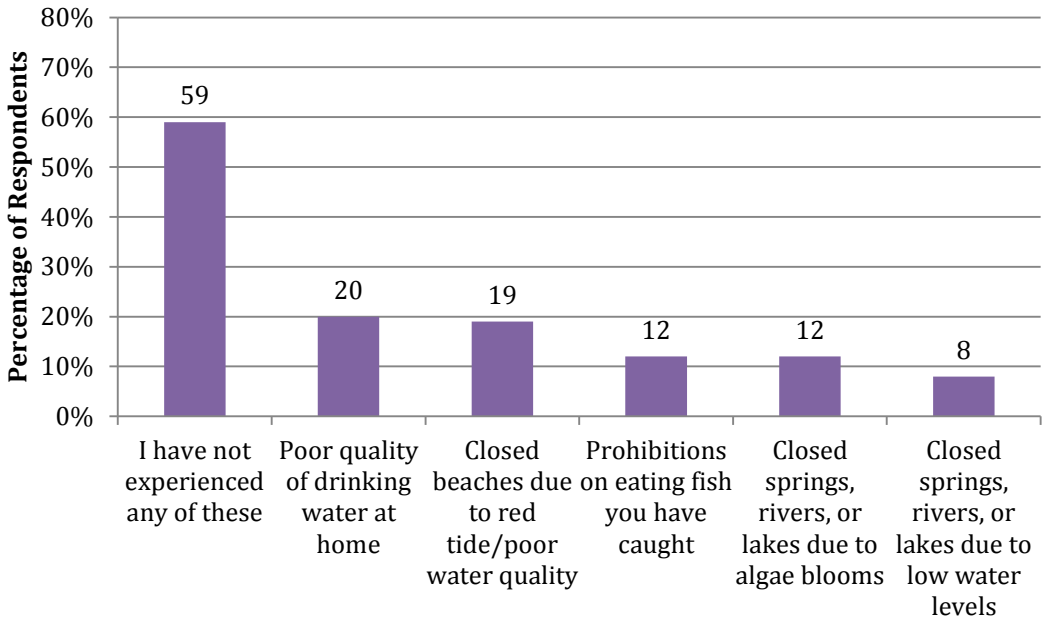


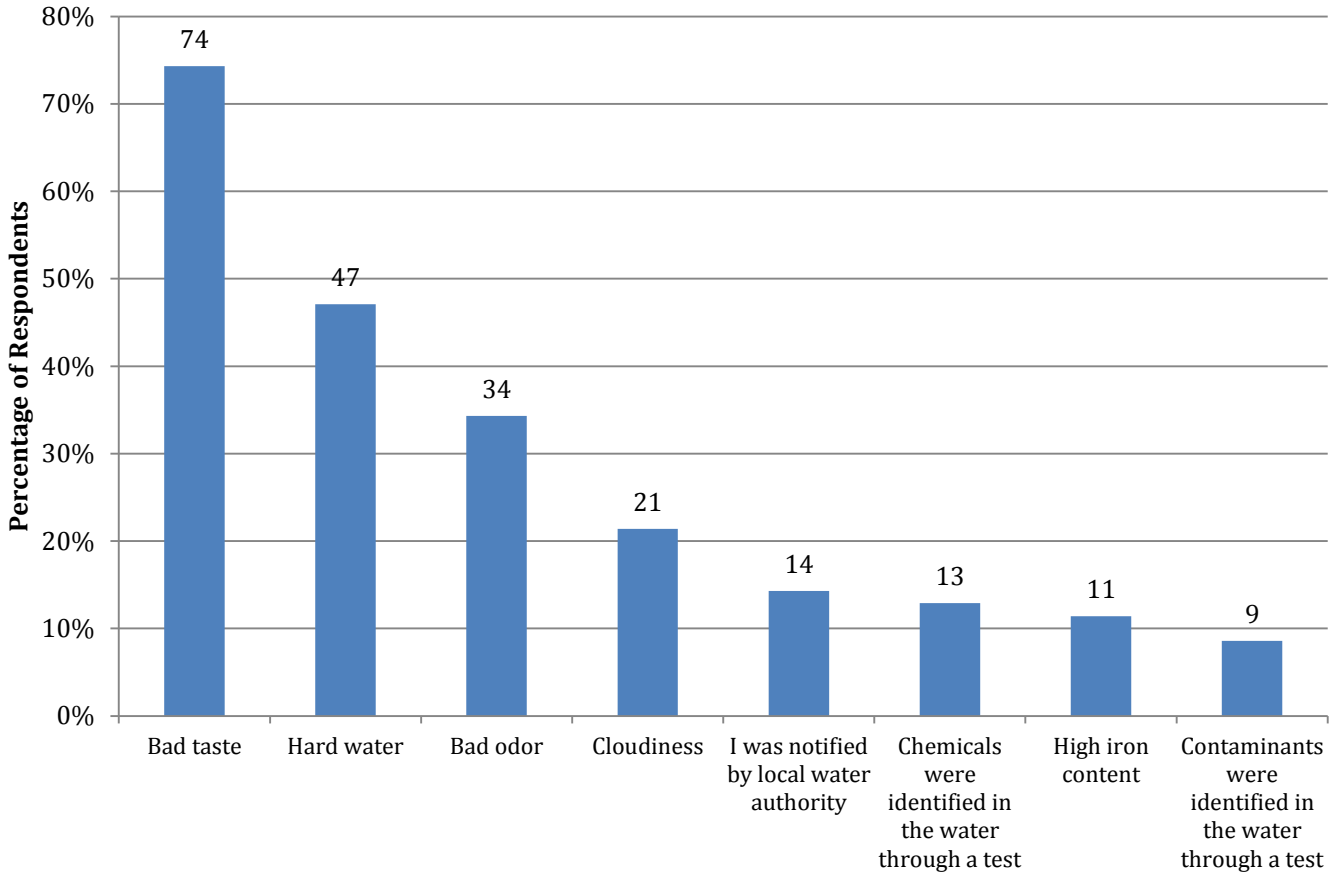
Figure 38: Experience with negative water quality- General Floridians



Quality of Drinking Water

Respondents who indicated they had experienced poor drinking water quality at home ($n = 70$) were asked to explain the reason for the poor drinking water quality and were allowed to select all that applied to their situation. Bad taste (74%), hard water (47%), and bad odor (34%) were the most common reasons (Figure 39).

Figure 39: Reason for poor drinking water quality



Twenty-two percent of respondents ($n = 22$) who had experienced poor drinking water quality ($n = 70$) indicated they had either chemicals or contaminants identified in their drinking water through a test. Those who indicated their water had either chemicals or contaminants were asked to list which ones were found. For chemicals, these included:

- Chlorine Iron
- Trihalomethanes
- Haloacetic Acids

For contaminants these included:

- Dirt/sand
- Haloacetic Acids
- Chlorine
- TTHM

Perceived Change in Quality of Water Sources

Respondents were also asked to assess whether they believed different water sources in Florida were becoming worse, better, or unchanged. They were also given the option to select "unsure." Respondents to both surveys felt the quality of lakes is worsening more than springs (Figure 40 and Figure 41). Fifty-one percent of active irrigation user survey respondents reported they felt the quality of lakes in Florida is worsening, and 32% reported they felt the quality of springs in Florida is worsening. This is similar to the general Florida public; 44% felt lake quality was worsening and 29% felt springs quality was worsening.

Figure 40: Perceptions of water quality change- Active irrigation users

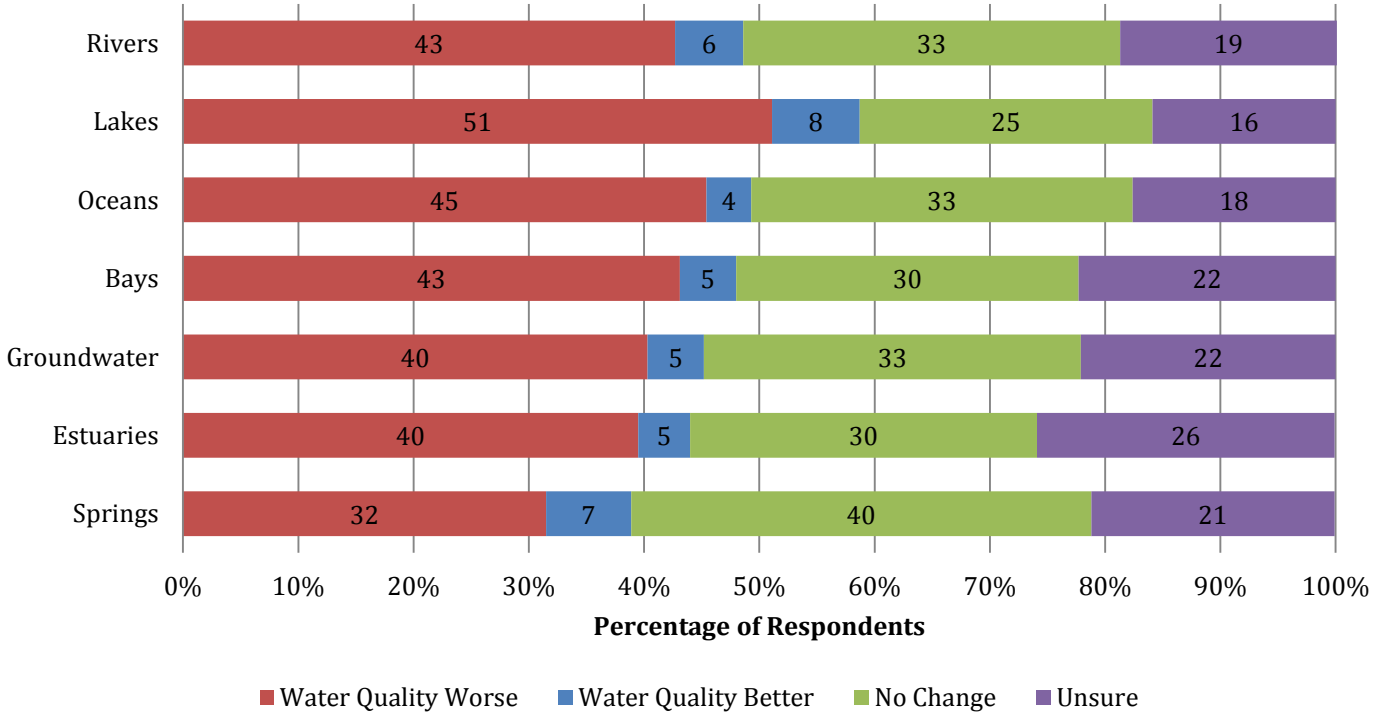
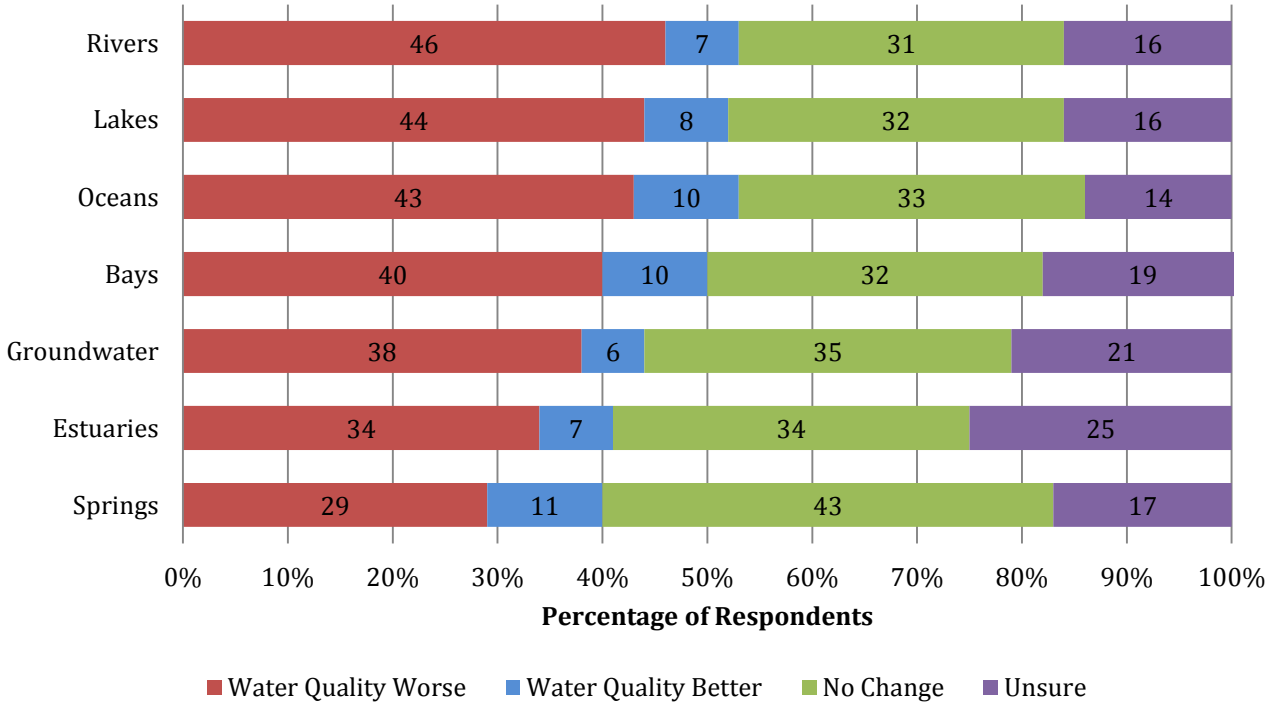


Figure 41: Perceptions of water quality change- General Floridians



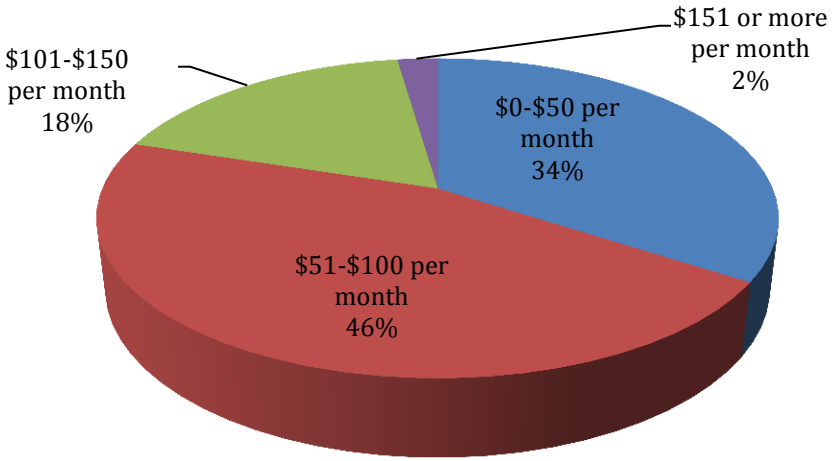
Cost of Water

Another set of questions asked respondents about their current water bill and their willingness to accept a higher water bill to ensure the sustainability of water resources in Florida.

Average Monthly Water Bill

Forty-six percent of respondents pay an average monthly water bill of $51-$100 and 34% pay $0-$34 a month (Figure 42).

Figure 42: Average monthly water bill



Next, respondents were asked to indicate whether they would accept either a 10% or a 50% increase in their average monthly water bill if it ensured a sustainable supply of water to Floridians in the future. While 66% of active irrigation users would support a 10% increase, only 8% would support a 50% increase (Figure 43). These results were similar to the general Florida public, in which 69% supported the 10% increase, but only 7% the 50% increase (Figure 44).

Figure 43: Increase in bill- Active irrigation users

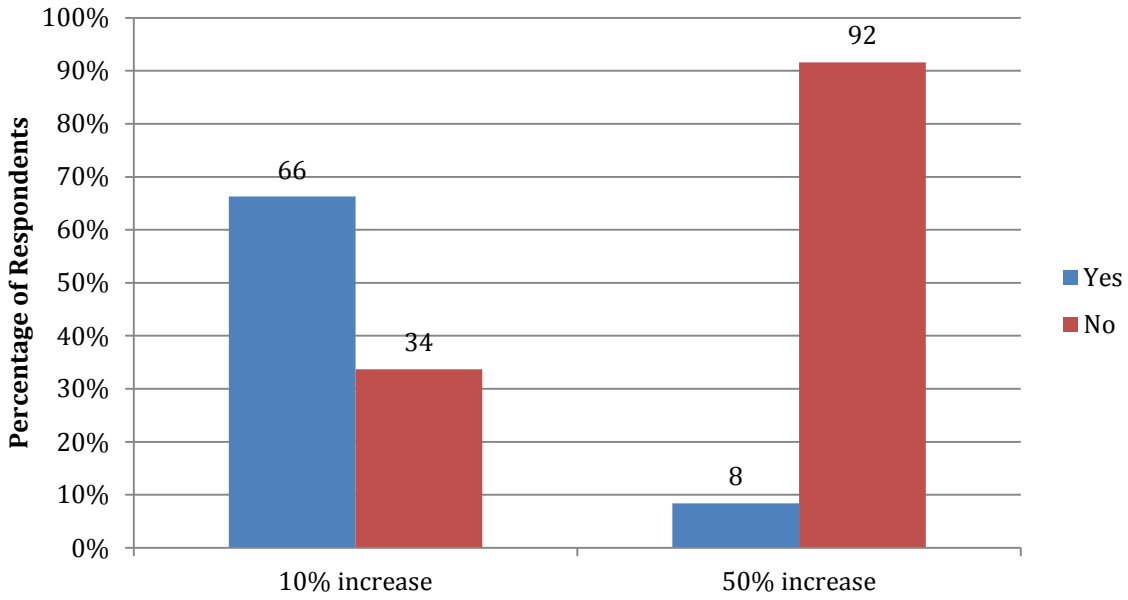
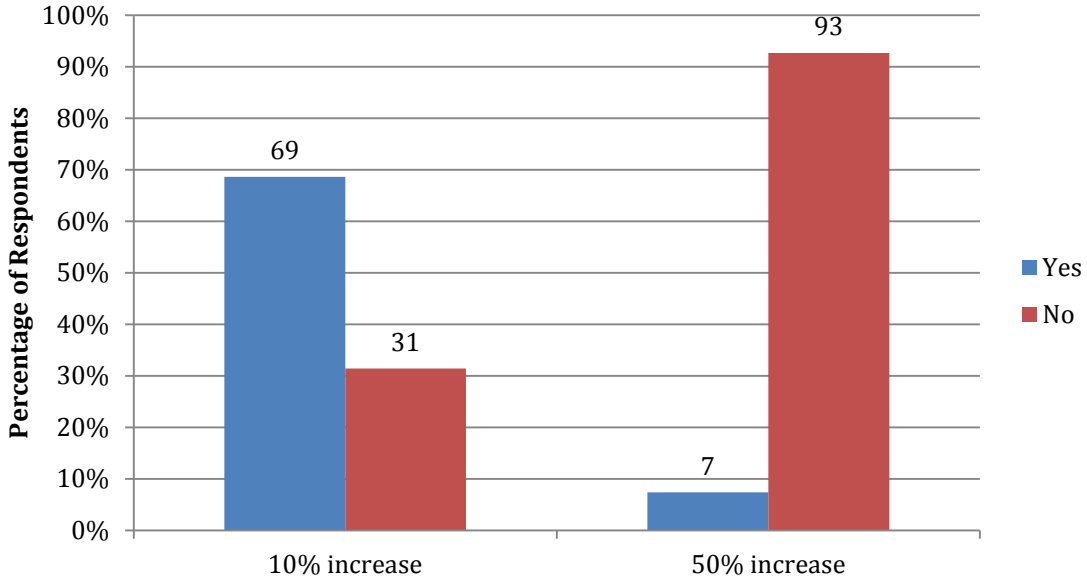
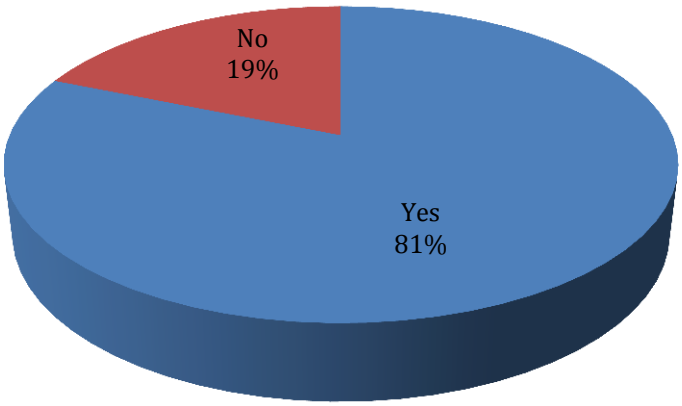


Figure 44: Increase in bill- General Floridians



Lastly, active irrigation user respondents were asked whether they would support a $10 yearly increase in their water bill for the next five years if it helped ensure a future water supply in Florida. Eighty-one percent of respondents would support this increase (Figure 45).

Figure 45: Support of $10 yearly increase in water bill



Engagement in Environmental and Conservation Behaviors

The next section of the survey asked respondents to indicate their current engagement and future willingness to engage in a variety of environmental and conservation behaviors.

Indoor Household Conservation Behavior

The first set of questions asked respondents about their indoor household conservation activities. These included turning off water while brushing one's teeth, showering for no more than five minutes, and leaving the water running in the kitchen while washing or rinsing dishes. Forty-three percent of respondents reported they turn off the water while brushing their teeth "every time" (Figure 46). Forty-two percent of respondents reported they never or almost never leave the water running while washing and/or rinsing dishes. These responses are similar to the general Florida public; 45% reported they turn off the water while brushing their teeth "every time" and 50% reported they never or almost never leave the water running while washing and/or rinsing dishes (Figure 47). While all statements were compared, the responses to the item "I leave the water running in the kitchen when washing and/or rinsing dishes," was statistically significant between active irrigation users and the general Florida public when a Chi Square test was conducted ($X^2 = 15.39$; $p = .00$).

Figure 46: Indoor household conservation activities- Active irrigation users

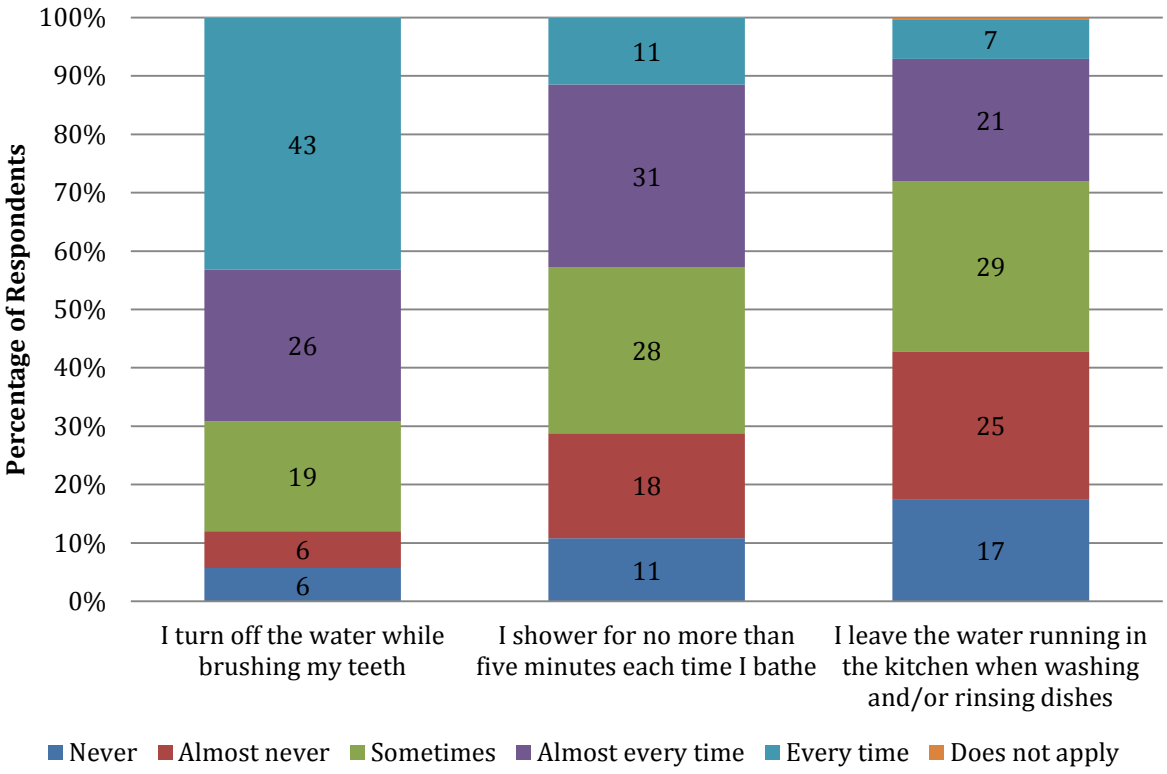
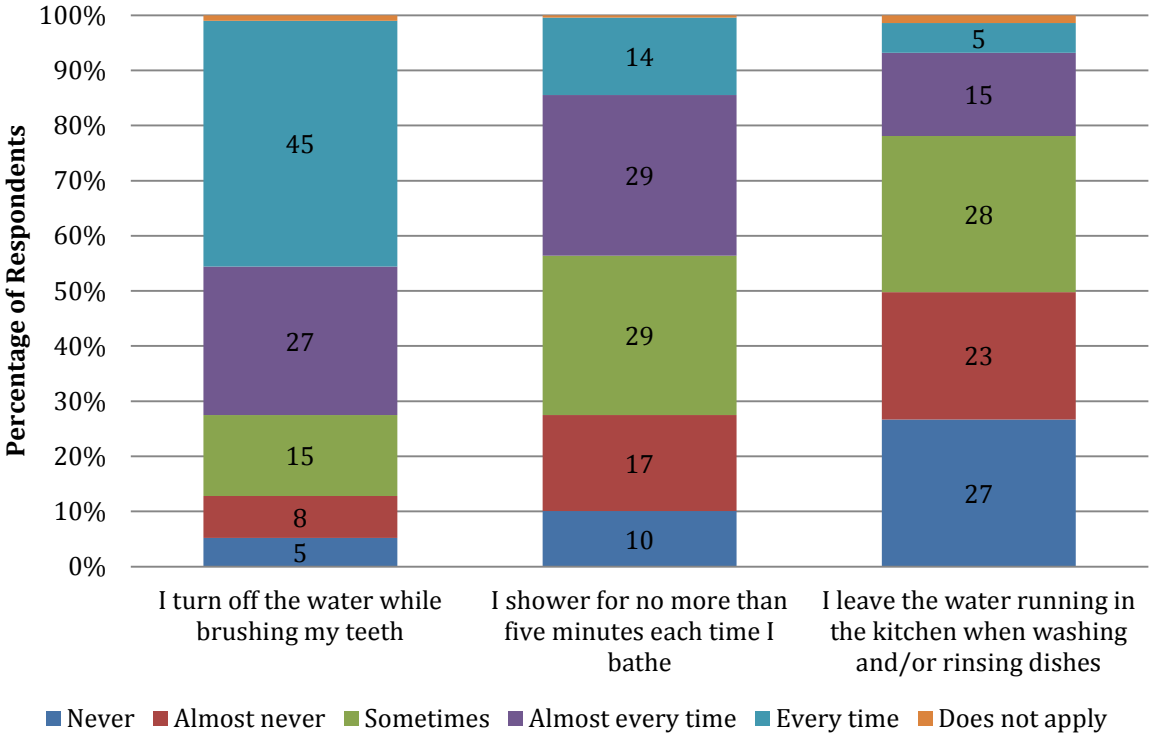


Figure 47: Indoor household conservation activities- General Floridians



Outdoor Household Conservation Behavior

Another set of questions asked respondents about their engagement in outdoor household conservation activities, such as hosing the driving, watering their lawn in summer and sprinkler use. Eighty-five percent of active irrigation user respondents reported they "never" or "almost never" hose down their driveway (Figure 48). Seventy-five percent of respondents reported they "never" or "almost never" allow their sprinklers to run when it has rained or is raining. Less of the general Florida population "never" or "almost never" hoses their driveway (66%) and 55% "never" or "almost never" allow their sprinklers to run when it has rained or is raining (Figure 49). This is partly due to the fact that many more of the general Florida respondents were more likely to not have a lawn or sprinkler system, and therefore more likely to choose the "not applicable" option.

Figure 48: Outdoor household conservation activities- Active irrigation users

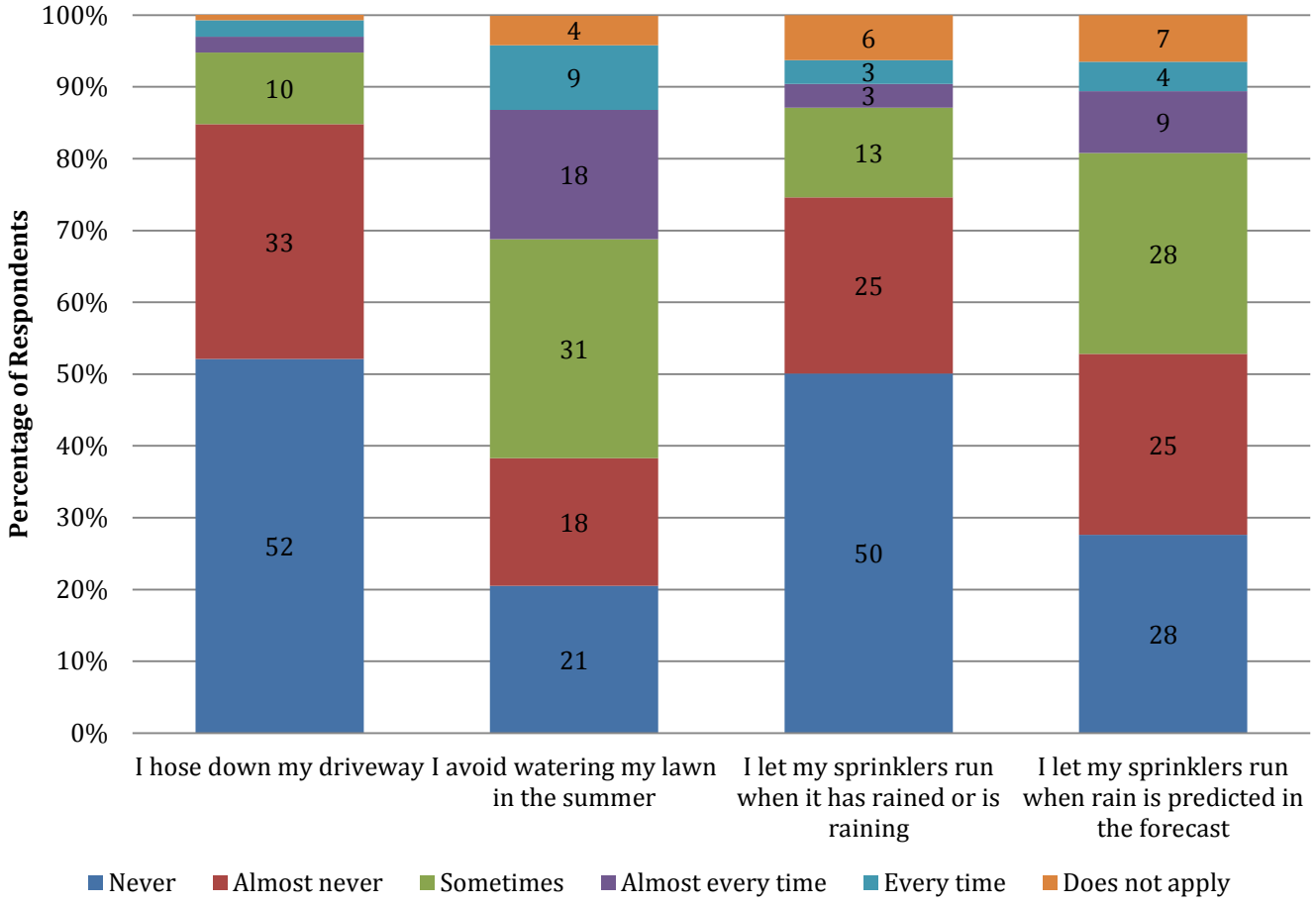
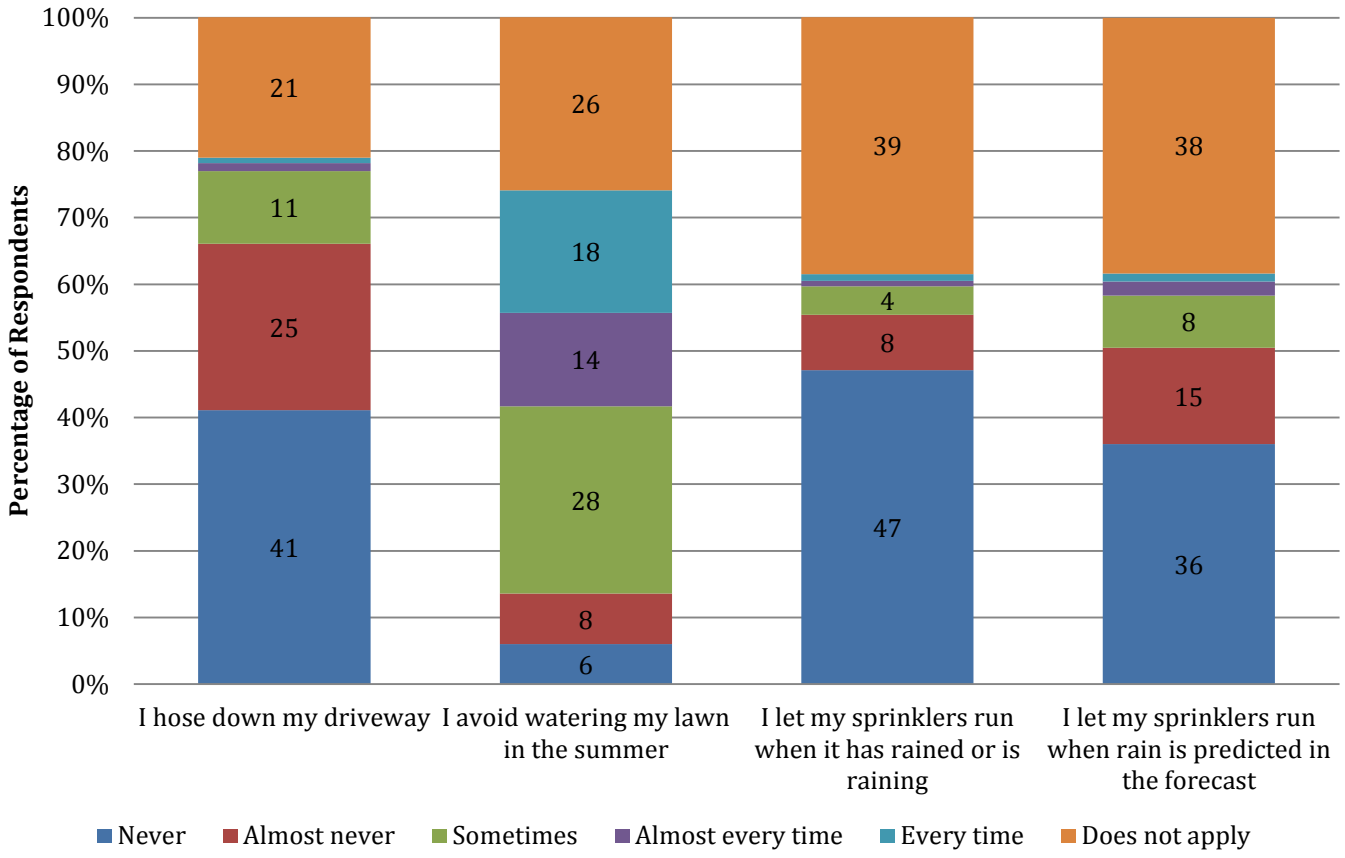


Figure 49: Outdoor household conservation activities- General Floridians



Waste Disposal Behavior

Another set of questions asked respondents about their waste disposal habits, such as allowing soapy water or motor oil to run down a storm drain or flushing cooking oil down a toilet. Respondents generally reported they do not engage in these behaviors; 88% never allow motor oil to run down a storm drain, and 90% never flush cooking oil down the toilet (Figure 50). The general Florida population answered in a similar manner; 77% never allow motor oil to run down a storm drain and 89% never flush cooking down the toilet (Figure 51).

Figure 50: Waste disposal conservation activities- Active irrigation users

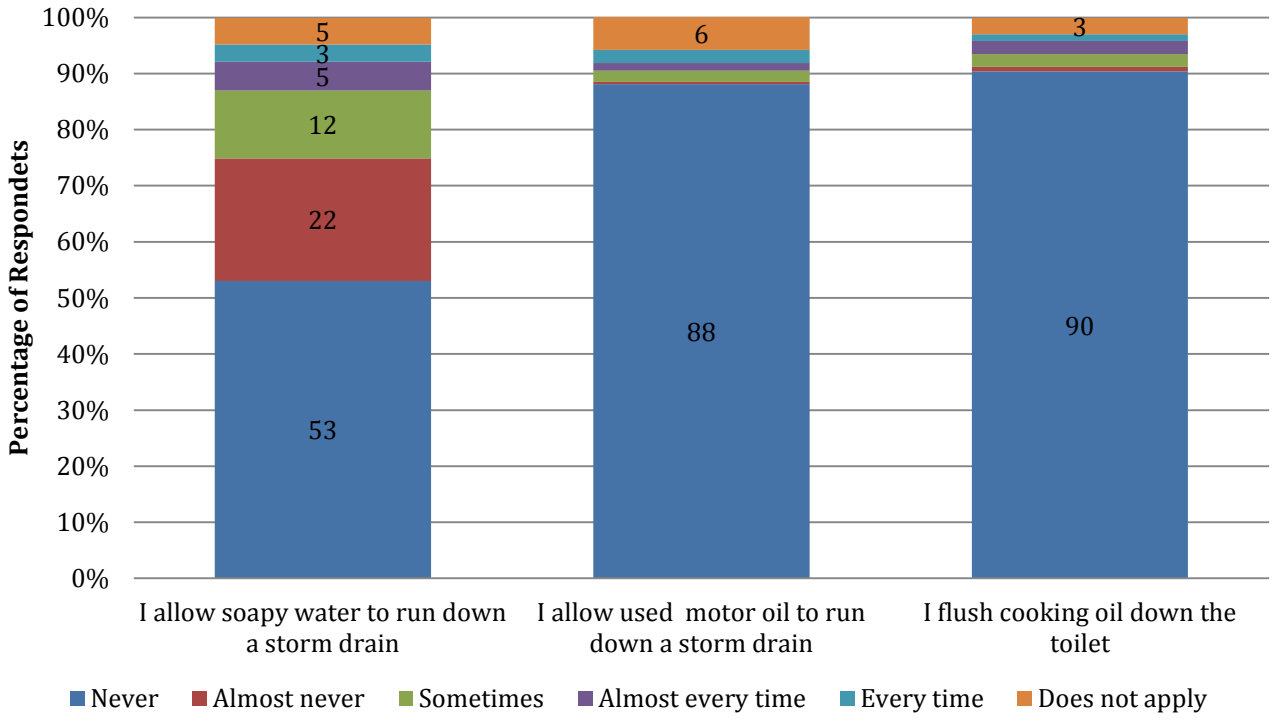
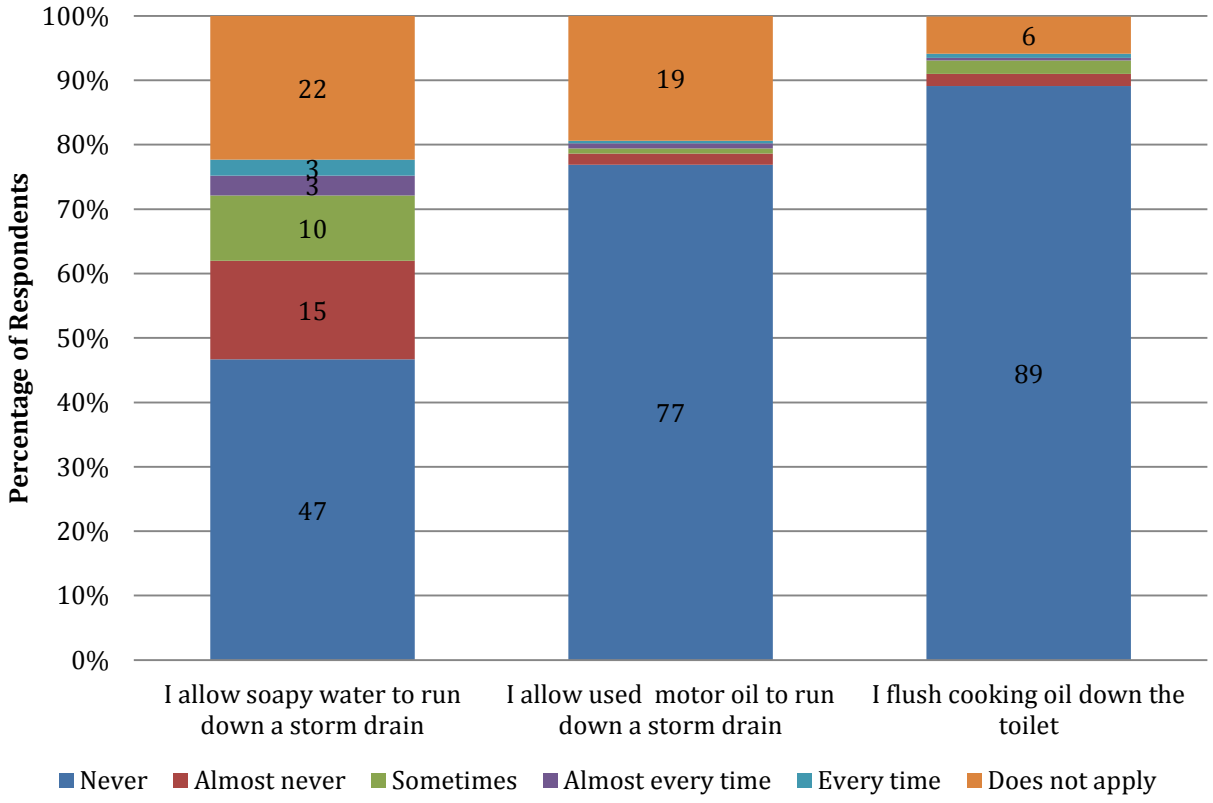


Figure 51: Waste disposal conservation activities- General Floridians



Ownership of Water Conservation Production and Infrastructure

Next, respondents were asked whether they owned a variety of water efficient products or infrastructure in their homes that aid in conserving water. Active irrigation water user respondents were more likely to own low-flow shower head and water-efficient toilets than the general Florida public. Sixty-three percent of active irrigation users owned a low-flow shower head and 69% owned a water-efficient toilet, compared to 54% and 58% of the general Florida population, respectively (Figure 52 and Figure 53). Most respondents from both surveys do not own rain barrels nor use recycled wastewater for irrigating their lawns. An index score was created by summing responses to the items (1= *used the water efficient product* and 0 = *did not use or was unsure*) with a high score of 5 indicating they participated in all five and a low score of 0 indicating they did not participate in any of the five. An independent *t*-test was conducted to assess differences in the means between the two groups. The active irrigation users had an average score of 2.05 with a standard deviation of 1.23 while the general Florida public had an average score of 1.79 with a standard deviation of 1.35. This mean difference (.26) was statistically significant ($t = 3.18$; $p = .00$).

Figure 52: Ownership of water efficient products and infrastructure- Active irrigation users

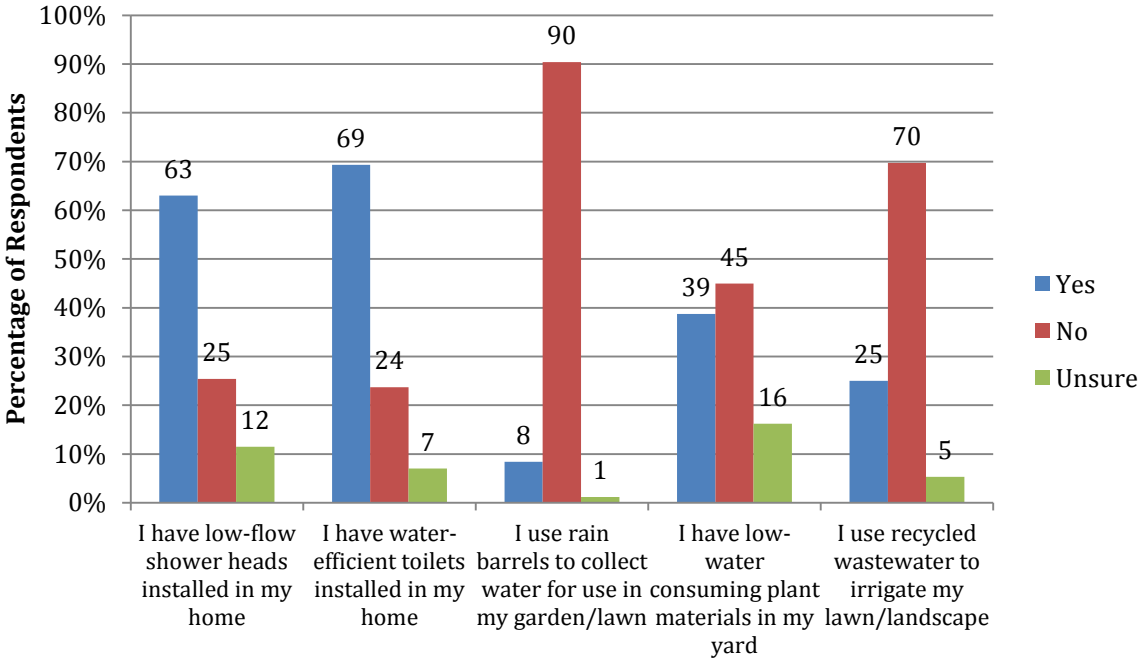
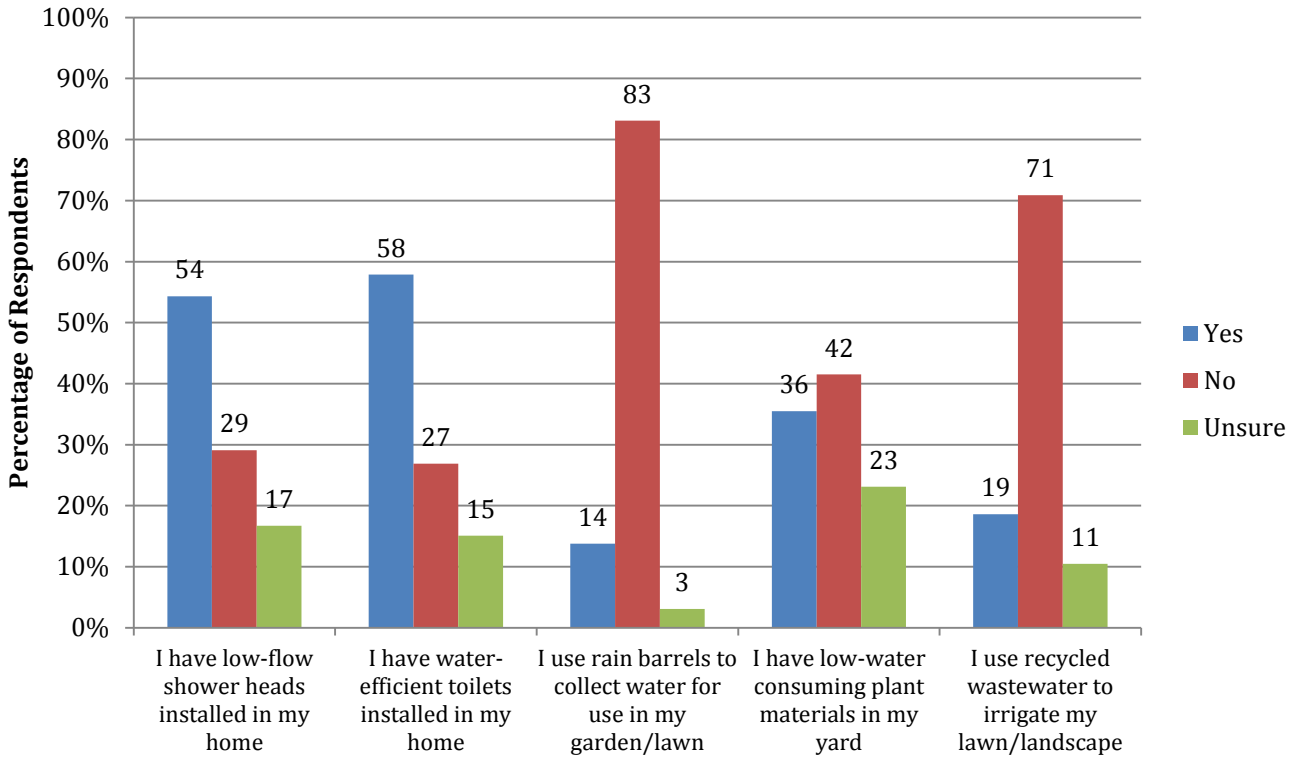
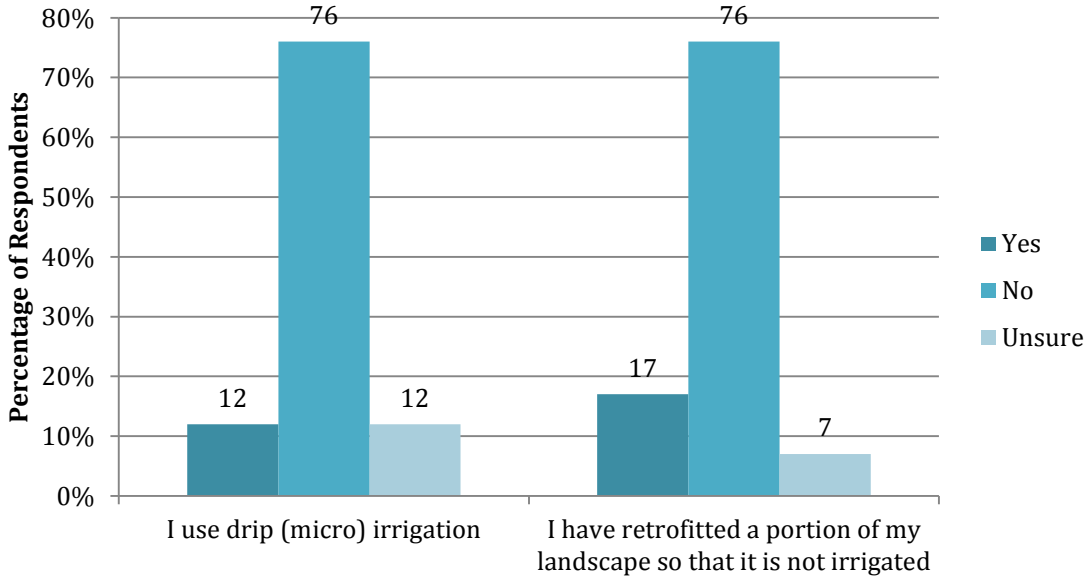


Figure 53: Ownership of water efficient products and infrastructure- General Floridians



Active irrigation user respondents were asked about the type of irrigation systems they owned and how their lawn is structured. Seventy-six percent do not use drip irrigation and 76% have not retrofitted a portion of their landscape so it is not irrigated (Figure 54).

Figure 54: Ownership of irrigation efficient products- Active irrigation users



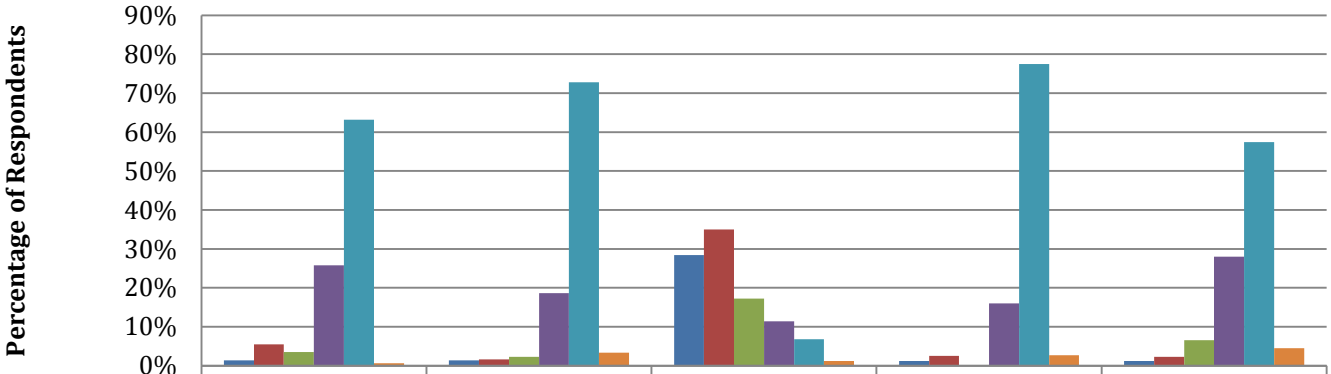
Likelihood of Participating in Environmental Behaviors

Next, respondents were asked how likely they would be to participate in a variety of environmental behaviors. These behaviors included those related to household water conservation, civic engagement focused behaviors, altering purchasing behavior, and altering landscaping practices.

Likelihood of Participating in Household Water Conservation Behaviors

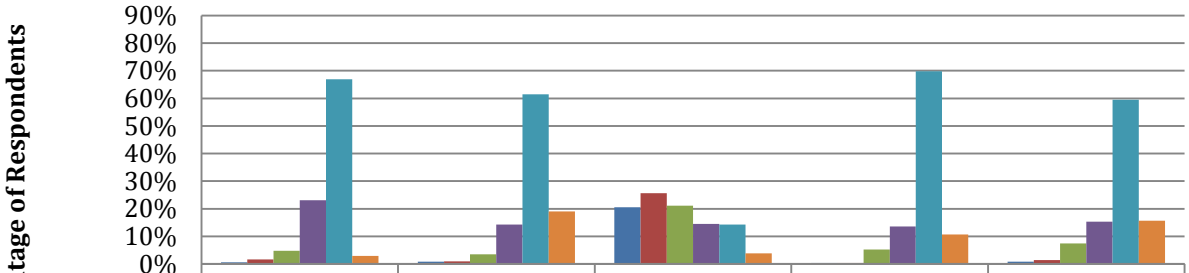
The majority of respondents reported they were likely or very likely to engage in most household water conservation activities, including only running the dishwasher and washing machine when full, responsibly disposing of hazardous materials, and sweeping patios instead of hosing them down (Figure 55). However, most respondents were unlikely or very unlikely to keep a timer in the bathroom to help them to take a shorter shower. While respondents from the active irrigation user survey and the general Florida public survey were similar in their responses, active irrigation respondents were more "very likely" to only run the dishwasher when it is full (73%) than the general Florida public (61%). However, more of the general Florida public answered "unsure" for this item (19%), indicating that perhaps more of the general population does not own a dishwasher (Figure 56). Four of these items were statistically significant when a Chi Square test was conducted. The items a) "only run the washing machine when it is full ($X^2 = 13.77$; $p = .01$); b) "keep a timer in the bathroom to help you take a shorter shower ($X^2 = 33.49$; $p = .00$); c) "responsibly dispose of hazardous materials" ($X^2 = 10.83$; $p = .03$); and d) "sweep patios and sidewalks instead of hosing them down" ($X^2 = 20.04$; $p = .00$) were all statistically significant.

Figure 55: Likelihood of participation in household water conservation behaviors- Active irrigation users



	Only run the washing machine when it is full	Only run the dishwasher when it is full	Keep a timer in the bathroom to help you take a shorter shower	Responsibly dispose of hazardous materials	Sweep patios and sidewalks instead of hosing them down
Very Unlikely	1%	1%	28%	1%	1%
Unlikely	6%	2%	35%	3%	2%
Undecided	4%	2%	17%	0%	7%
Likely	26%	19%	11%	16%	28%
Very Likely	63%	73%	7%	78%	57%
N/A	1%	3%	1%	3%	5%

Figure 56: Likelihood of participation in household water conservation behaviors- General Floridians

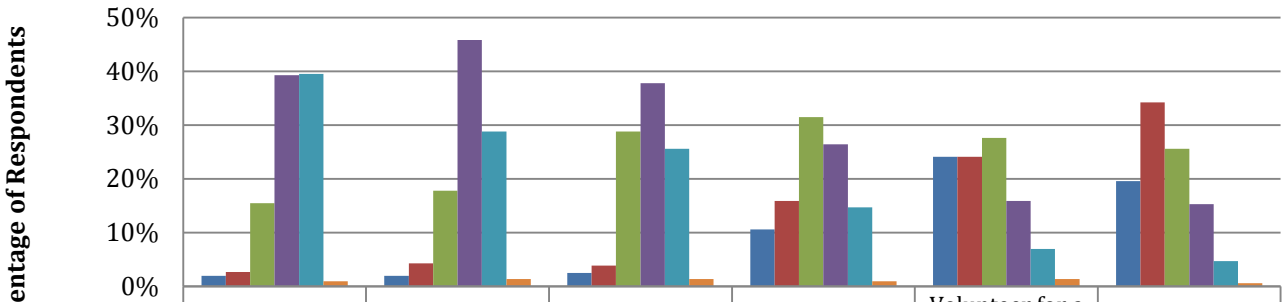


	Only run the washing machine when it is full	Only run the dishwasher when it is full	Keep a timer in the bathroom to help you take a shorter shower	Responsibly dispose of hazardous materials	Sweep patios and sidewalks instead of hosing them down
Very Unlikely	1%	1%	21%	0%	1%
Unlikely	2%	1%	26%	0%	1%
Undecided	5%	4%	21%	5%	7%
Likely	23%	14%	15%	14%	15%
Very Likely	67%	61%	14%	70%	60%
Unsure	3%	19%	4%	11%	16%

Likelihood of Participating in Civic Behaviors Related to Water Conservation

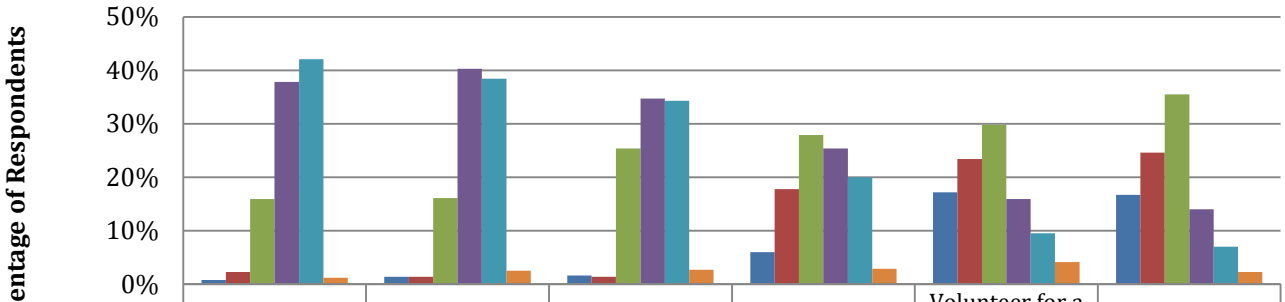
Next, respondents were asked their likelihood of participating in behaviors related to civic engagement, such as supporting water restrictions issued by local government, vote to support conservation programs and candidates who support water conservation, visiting places to learn about water issues, and volunteering for a water cleanup even or joining a water conservation organization. Respondents to the active irrigation user survey were most likely to report they were likely or very likely to support water restrictions issued by the local government (79%) while only 20% were likely or very likely to join a water conservation organization (Figure 57). Respondents to the active irrigation user survey answered very similarly to the general Florida public (Figure 58). These six items were averaged into an index, and responses were scored on a 5-point Likert-type scale with 1 = *Very Unlikely*, 2 = *Unlikely*, 3 = *Undecided*, 4= *Likely*, and 5 = *Very Likely*. Respondents could have a low score of 1 and a high score of 5. This index demonstrated reliability ($r = .84$). An independent samples *t*-test was conducted to assess differences in means between active irrigation users and the general Florida public. The average score for the active irrigation user respondents was 3.37 with a standard deviation of .79 and the average score for the general Florida public was 3.54 with a standard deviation of .76. This difference (.18) was statistically significant ($t = -3.57$; $p = .00$).

Figure 57: Likelihood of participation in civic behaviors related to water conservation- Active irrigation users



	Support water restrictions issued by my local government	Vote to support water conservation programs	Vote for candidates who support water conservation	Visit springs, lakes, state parks, etc. to learn about water issues	Volunteer for a stream clean up or a wetland restoration event	Join a water conservation organization
Very Unlikely	2%	2%	3%	11%	24%	20%
Unlikely	3%	4%	4%	16%	24%	34%
Undecided	16%	18%	29%	32%	28%	26%
Likely	39%	46%	38%	26%	16%	15%
Very Likely	40%	29%	26%	15%	7%	5%
N/A	1%	1%	1%	1%	1%	1%

Figure 58: Likelihood of participation in civic behaviors related to water conservation- General Floridians



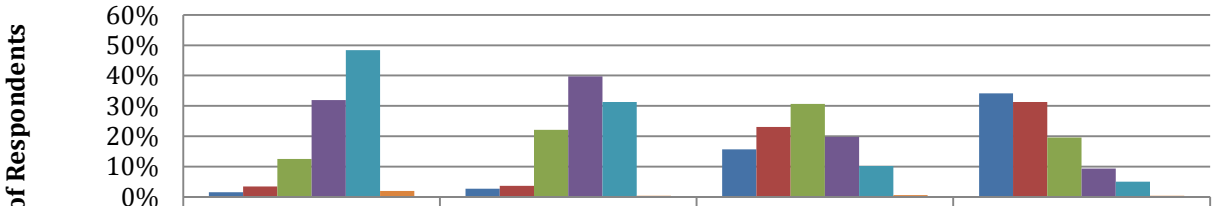
	Support water restrictions issued by my local government	Vote to support water conservation programs	Vote for candidates who support water conservation	Visit springs, lakes, state parks, etc. to learn about water issues	Volunteer for a stream clean up or a wetland restoration event	Join a water conservation organization
Very Unlikely	1%	1%	2%	6%	17%	17%
Unlikely	2%	1%	1%	18%	23%	25%
Undecided	16%	16%	25%	28%	30%	36%
Likely	38%	40%	35%	25%	16%	14%
Very Likely	42%	38%	34%	20%	10%	7%
Unsure	1%	3%	3%	3%	4%	2%

Likelihood of Altering Purchasing Behaviors to Support Water Conservation

Next, respondents were asked questions regarding their likelihood of changing their consumer purchasing habits, including avoiding purchasing plants which require a lot of watering, using biodegradable cleaning products, donating to a water conservation organization, and buying a specialty license plate supporting water protection efforts. As seen in Figure 59, respondents to the active irrigation user survey were more likely or very likely to

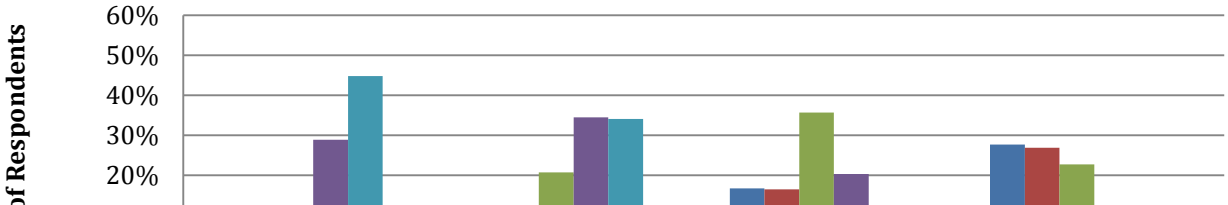
avoid purchasing plants that require a lot of watering (80%) and use biodegradable cleaning products (71%) than to donate to a conservation organization (30%) or purchase a specialty license plate (20%). Respondents to the general Florida public opinion survey answered very similarly and their responses are shown in Figure 60; just 6% less were likely or very likely to avoid purchasing plants that require a lot of watering (74%) and 6% more were likely or very likely to purchase a specialty license plate (20%). When a Chi Square test was conducted, the individual item "Buy a specialty license plate that supports water protection efforts" showed a statistically significant difference ($X^2 = 10.04$; $p = .04$) amongst active irrigation users and the general Florida public.

Figure 59: Likelihood of altering purchasing behavior in support of water conservation- Active irrigation users



	Avoid purchasing plants that require a lot of watering	Use biodegradable cleaning products	Donate to an organization that protects water	Buy a speciality license plate that supports water protection efforts
Very Unlikely	2%	3%	16%	34%
Unlikely	4%	4%	23%	31%
Undecided	13%	22%	31%	20%
Likely	32%	40%	20%	9%
Very Likely	48%	31%	10%	5%
N/A	2%	0%	1%	0%

Figure 60: Likelihood of altering purchasing behavior in support of water conservation- General Floridians

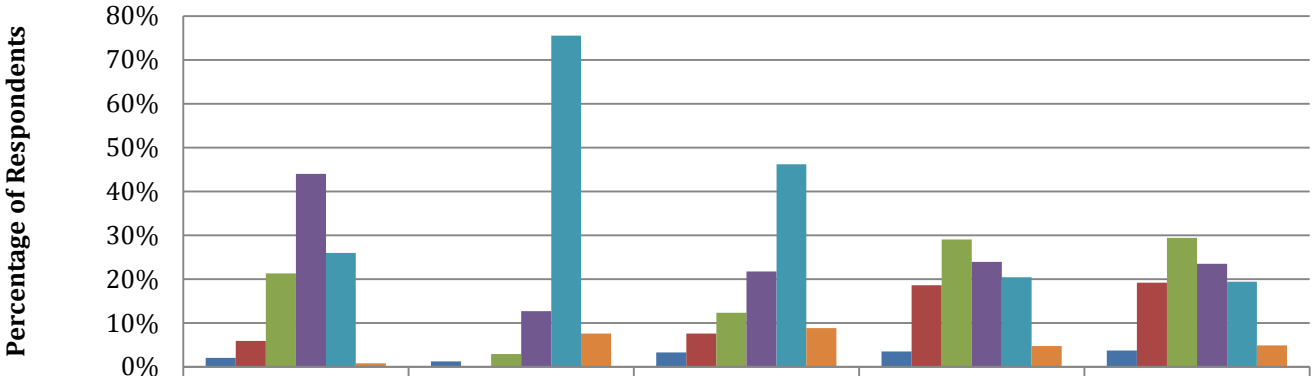


	Avoid purchasing plants that require a lot of watering	Use biodegradable cleaning products	Donate to an organization that protects water	Buy a speciality license plate that supports water protection efforts
Very Unlikely	1%	4%	17%	28%
Unlikely	3%	6%	17%	27%
Undecided	12%	21%	36%	23%
Likely	29%	35%	20%	12%
Very Likely	45%	34%	9%	8%
Unsure	10%	1%	2%	3%

Likelihood of Altering Current Landscaping Practices to Support Water Conservation

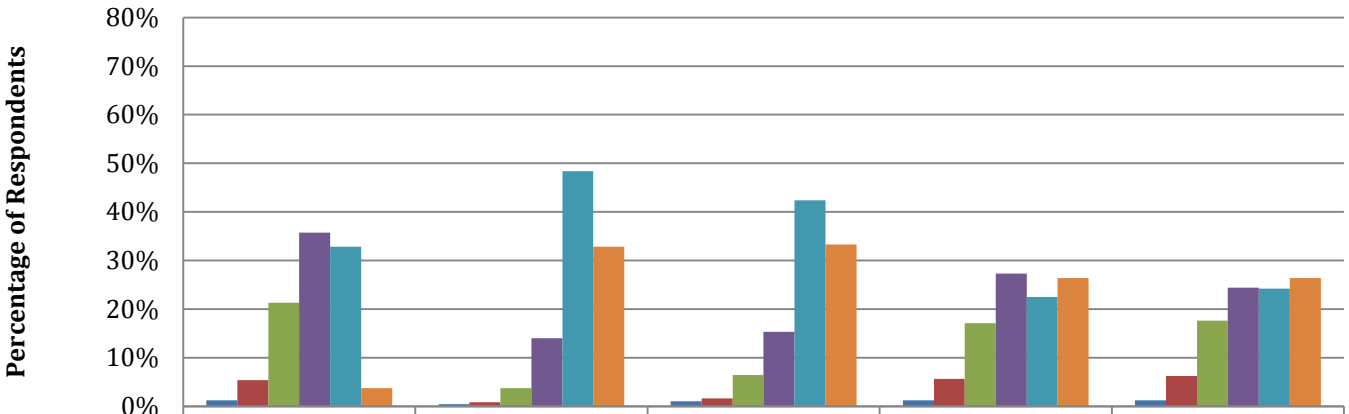
Finally, respondents were asked the likelihood they would engage in behaviors related to altering their current landscaping practices in order to support water conservation. These items including watering, fertilizer, and pesticide practices on one's lawn as well as general natural resource use. Respondents to the active irrigation user survey were most likely or very likely to only water their lawn in the morning or evening (89%) compared to 43% who were likely or very likely to reduce the use of pesticides if their landscape quality would decrease (Figure 61). As seen in Figure 62, the general Florida public was less likely or very likely to only water their lawn in the morning or evening (62%) and to reduce the number of times they water their lawn in a week (57%). However, these items had more respondents who reported they were unsure, likely due to not owning a lawn. These five items were averaged into an index, and responses were scored on a 5-point Likert-type scale with 1 = *Very Unlikely*, 2 = *Unlikely*, 3 = *Undecided*, 4= *Likely*, and 5 = *Very Likely*. Respondents could have a low score of 1 and a high score of 5. This index demonstrated reliability ($r = .74$). An independent samples t-test was conducted to assess differences in means between active irrigation users and the general Florida public. The average score of active irrigation users was 3.90 with a standard deviation of .69 and the average score of the general Florida public was 4.16 with a standard deviation of .63. The difference between the two was statistically significant ($t = -5.23$; $p = .00$).

Figure 61: Likelihood of altering landscaping practices to support water conservation- Active irrigation users



	Reduce your use of natural resources	Only water your lawn in the morning or evening	Reduce the number of times a week you water your lawn	Reduce use of fertilizer if your landscape quality would decrease	Reduce the use of pesticides if your landscape quality would decrease
Very Unlikely	2%	1%	3%	4%	4%
Unlikely	6%	0%	8%	19%	19%
Undecided	21%	3%	12%	29%	29%
Likely	44%	13%	22%	24%	24%
Very Likely	26%	76%	46%	20%	19%
N/A	1%	8%	9%	5%	5%

Figure 62: Likelihood of altering landscaping practices to support water conservation- General Floridians

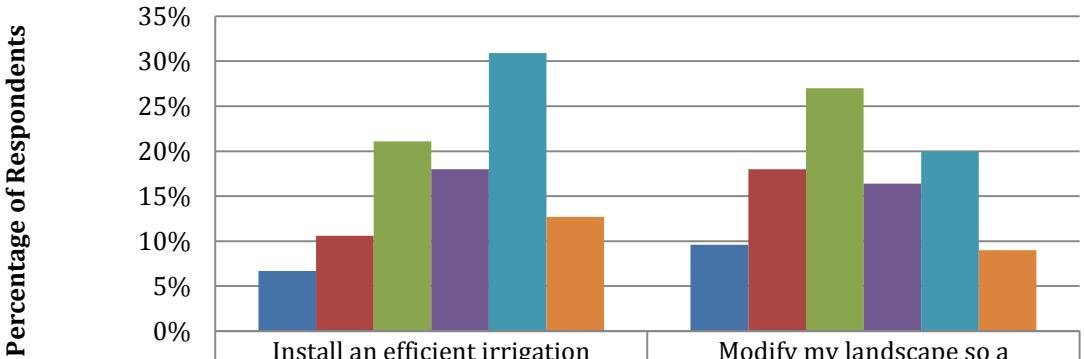


	Reduce your use of natural resources	Only water your lawn in the morning or evening	Reduce the number of times a week you water your lawn	Reduce use of fertilizer if your landscape quality would decrease	Reduce the use of pesticides if your landscape quality would decrease
Very Unlikely	1%	0%	1%	1%	1%
Unlikely	5%	1%	2%	6%	6%
Undecided	21%	4%	6%	17%	18%
Likely	36%	14%	15%	27%	24%
Very Likely	33%	48%	42%	23%	24%
Unsure	4%	33%	33%	26%	26%

Likelihood of Modifying Irrigation Practices to Support Water Conservation

Active irrigation user survey respondents were asked specific questions about their likelihood of modifying their existing irrigation practices to support water conservation. Forty-nine percent of respondents were likely or very likely to install efficient irrigation technology and 36% of respondents to modify their landscape so a portion is not irrigated (Figure 63).

Figure 63: Likelihood of modifying irrigation practices to support water conservation- Active irrigation users

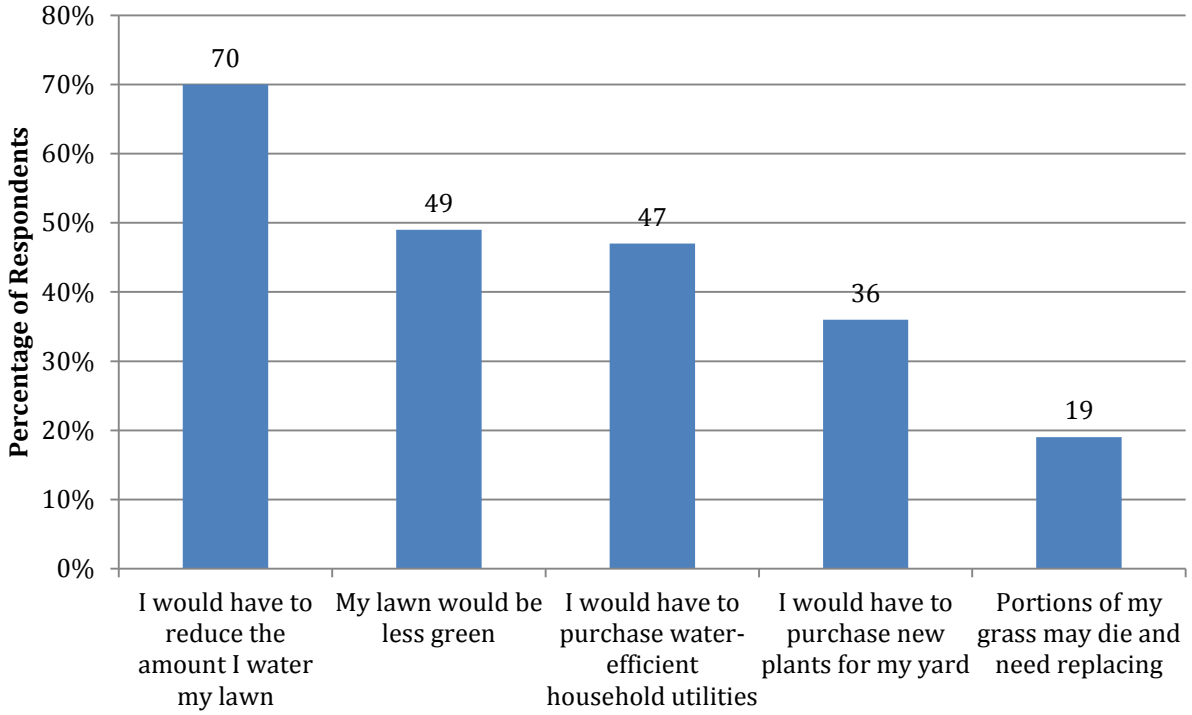


	Install an efficient irrigation technology	Modify my landscape so a portion is not irrigated
Very Unlikely	7%	10%
Unlikely	11%	18%
Undecided	21%	27%
Likely	18%	16%
Very Likely	31%	20%
Not Applicable	13%	9%

Willingness to Conserve Water

Respondents were also asked if they would be willing to conserve water if it resulted in certain outcomes, such as poorer quality lawn, the need to purchase new materials, or changing watering practices. Both active irrigation user respondents and the general Florida public opinion respondents were given these questions, although the format of the answers differed. Active irrigation respondents were given these questions in a yes/no response format, while the general Florida respondents answered with a 5-point Likert-type response with 1 = *very unwilling*, 2 = *unwilling*, 3 = *undecided*, 4 = *willing*, and 5 = *very willing*. Seventy percent of active irrigation users replied "yes" they would be willing to conserve water even if it meant they would have to reduce the amount they water their lawn, while just 19% replied "yes" they would be willing to conserve water if it meant portions of their grass may die or need replacing (Figure 64). Seventy percent of the general Florida population was very willing or willing to reduce their water use if it meant they would have to reduce the amount they water their lawn and 42% were willing or very willing to reduce the amount of water they use if it meant portions of their grass may die or need replacing (Figure 65).

Figure 64: Willingness to conserve water- Active irrigation users



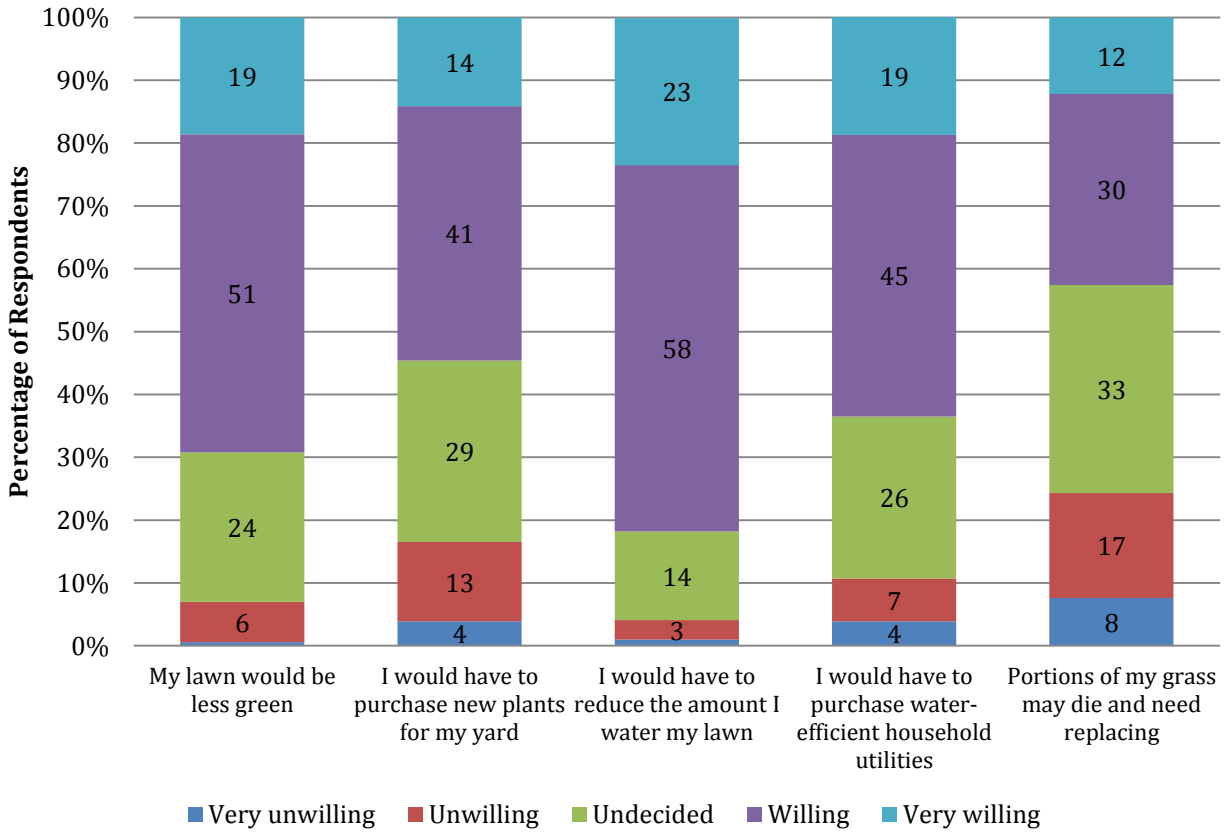
Ten percent of respondents ($n = 53$) selected the "other" response to the question "I would be willing to take action to conserve water even if…" Their responses included:

- Already feel they conserve water (13)
- Cannot take extra steps due to HOA regulations (8)
- Willing to change landscape design (3)
    - If I could have a low water use front yard instead of grass. Rock garden, desert plants, etc.
    - Make landscape like in Arizona, almost no one has grass
    - Mulch areas and not water them
- Comments related to bottling water (3)

- I am unwilling to participate because the district gives the water for free to Niagra Bottling Co. to make a profit….but I have restrictions on use of it.
- If they would stop selling water to bottlers
- Government would stop selling water to commercial resellers of bottled water

- Single responses
  - "…if business and agriculture also took serious actions to conserve water"
  - "I am reimbursed for the damage done to my property"
  - "I would agree provided it was required and my neighbors were in the same boat"
  - "My water bill increases"
  - "Turn off shower while washing and only use to rinse after washing"

Figure 65: Willingness to conserve water- General Floridians



Knowledge and Attitudes towards Government and Policy

Respondents were asked to indicate how strongly they agreed or disagreed with a series of statements related to their perceptions of government pressure to make choices and be involved in environmental issues.

Negative Government Influence on Environmental Behavior

Overall, respondents to the active irrigation user survey had mixed feelings about whether or not the government pressures, imposes, forces, or makes them feel guilty for not engaging in positive environmental behaviors (Figure 66). Respondents to the general Florida public opinion survey answered very similarly (Figure 67).

Figure 66: Perceived government negative influence on environmental behavior- Active irrigation users

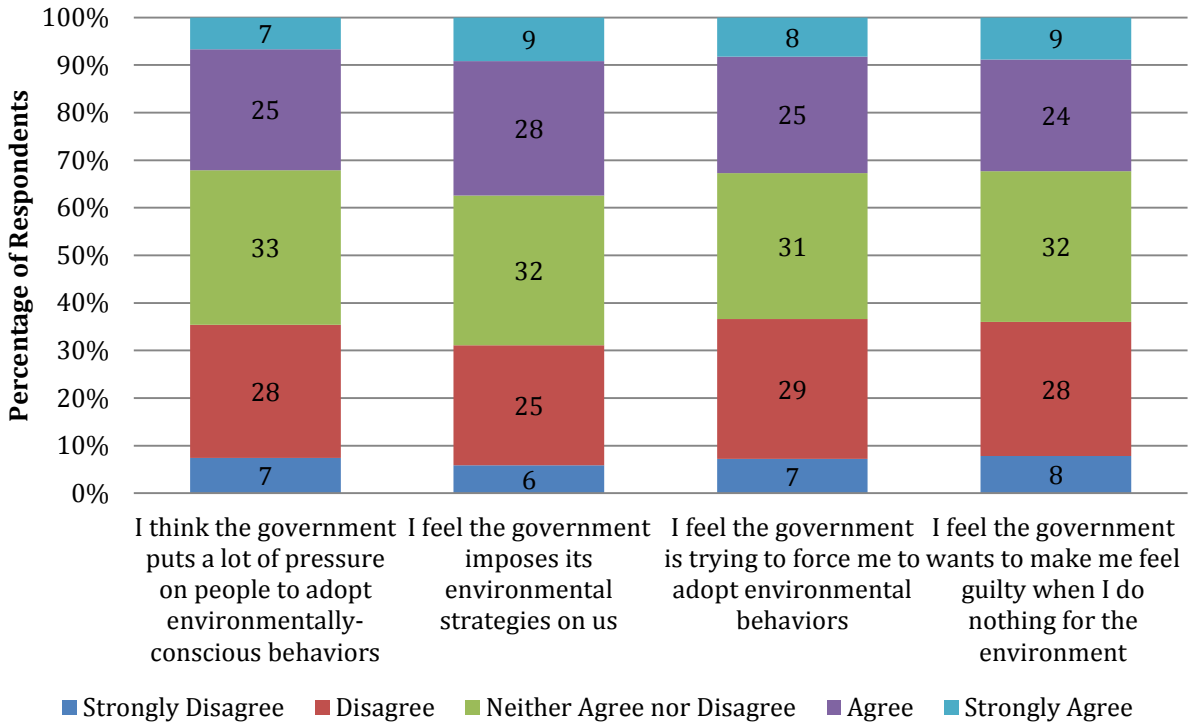
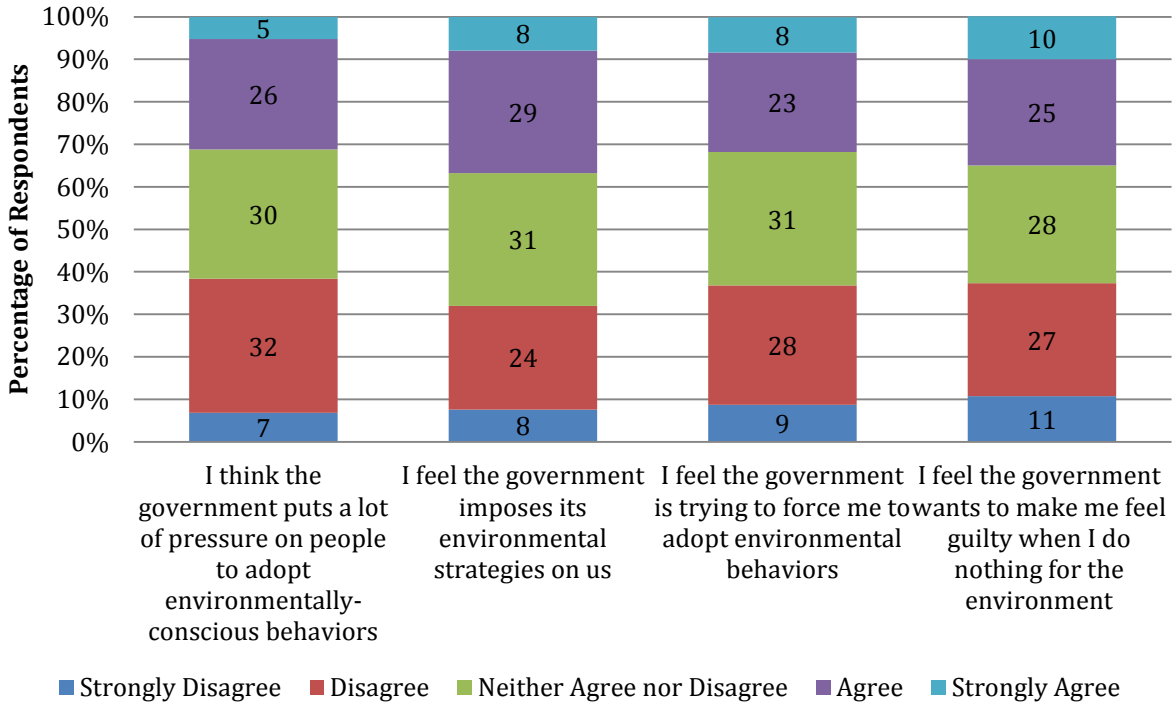


Figure 67: Perceived government negative influence on environmental behavior- General Floridians



Positive Government Influence on Environmental Behavior

When asked if the government positively encourages them and gives them freedom of choice to participate in programs that protect the environment, 51% of active irrigation user respondents agreed or strongly agreed they felt they had a choice to participate in environmental programs established by the government and 49% agreed or strongly agreed they felt they had a choice to use strategies provided by the government in order to help the environment (Figure 68). The general Florida public opinion respondents answered just slightly higher in agreement, with 55% of respondents who agreed or strongly agreed that they felt they had a choice to participate in environmental programs established by the government, and 56% who agreed or strongly agreed they had a choice to use strategies provided by the government in order to help the environment (Figure 69). These five items were averaged into an index, and responses were scored on a 5-point Likert-type scale with 1 = *Strongly Disagree,* 2 = *Disagree,* 3 = *Neither Agree nor Disagree,* 4= *Agree,* and 5 = *Strongly Agree.* Respondents could have a low score of 1 and a high score of 5. This index demonstrated reliability ($r = .80$). An independent samples *t*-test was conducted to assess differences in means between active irrigation users and the general Florida public. Active irrigation users had an average of 3.24 with a standard deviation of .83 and the general Florida public had an average score of 3.38 with a standard deviation of .84. This difference was statistically significant ($t = -2.75$; $p = .01$).

Figure 68: Perceived government positive influence on environmental behavior- Active irrigation users

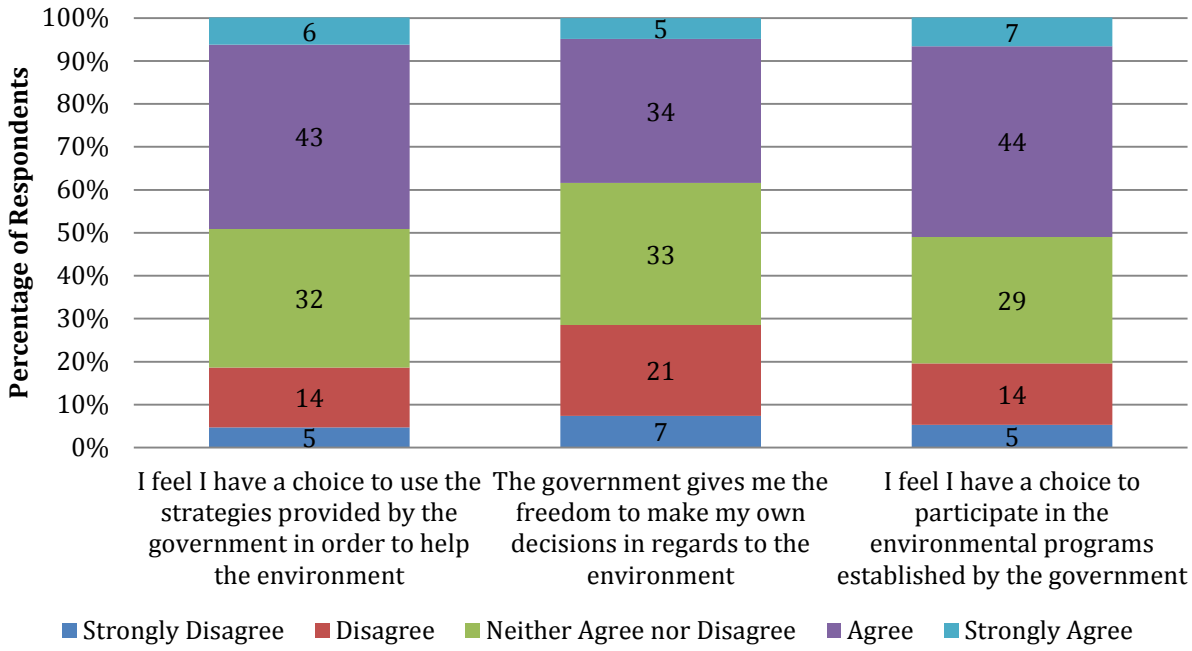
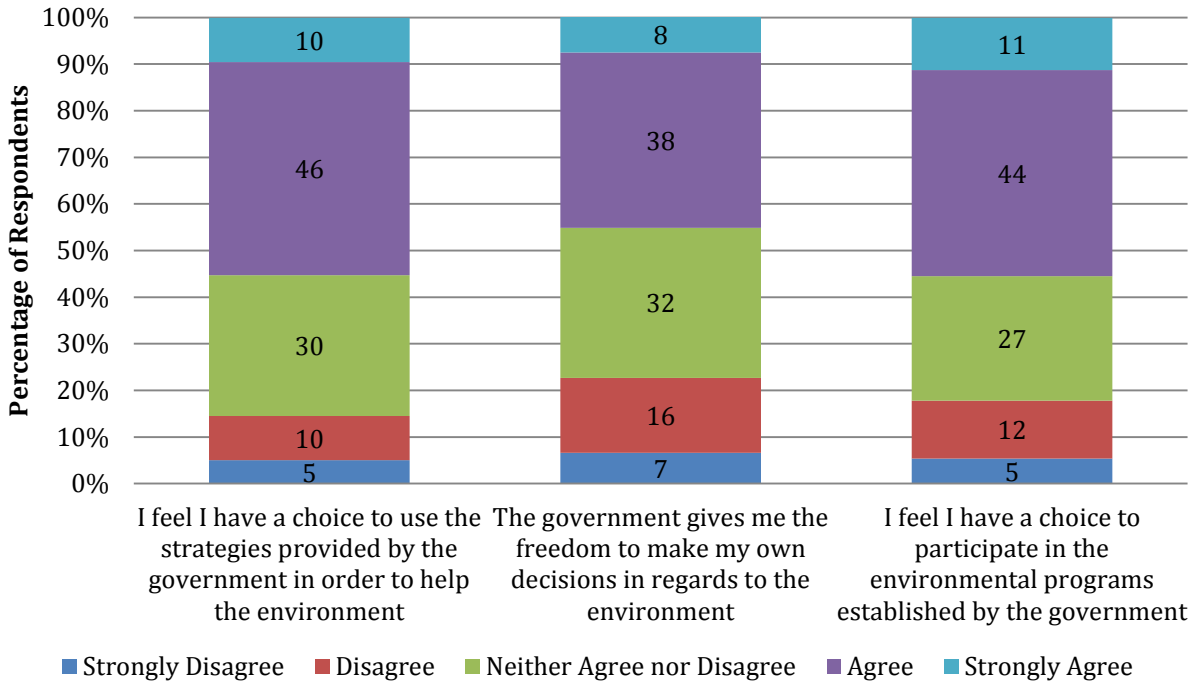


Figure 69: Perceived government positive influence on environmental behavior- General Floridians



Voting Preparation Behavior

Respondents were asked what actions they engage in when preparing to vote on a policy impacting agriculture and natural resources. Ninety-three percent of active irrigation users would consider both the positive and negative implications that could result from a new policy before voting, and 69% would discuss their opinion with others or ask others what their opinions are. These results are similar to the responses of the general Florida population (Table 8).

Table 8: Voting preparation behavior

Voting preparation behavior	% of respondents who agreed or strongly agreed- General Floridians	% of respondents who agreed or strongly agreed- Active irrigation users
I would consider both the positive and negative implications that could result	91%	93%
I would seek factual information from multiple sources	86%	86%
I would seek to fully understand the policy	85%	86%
I would ask others what their opinions are	69%	69%
I would discuss my opinion with others	68%	69%

Familiarity with Water Acts and Policies

Respondents were also asked to indicate their level of familiarity with various policies that impact water quality and water quantity in Florida. Overall, respondents to the active irrigation user survey were slightly less familiar with all of the policies and water acts than the general Florida population (Figure 70 and Figure 71). The most commonly known water act was the Clean Water Act, with 22% of active irrigation user respondents who reported they were moderately or extremely familiar with this act, and 24% of the general Florida public who responded the same.

Figure 70: Familiarity with water acts and policies- Active irrigation users

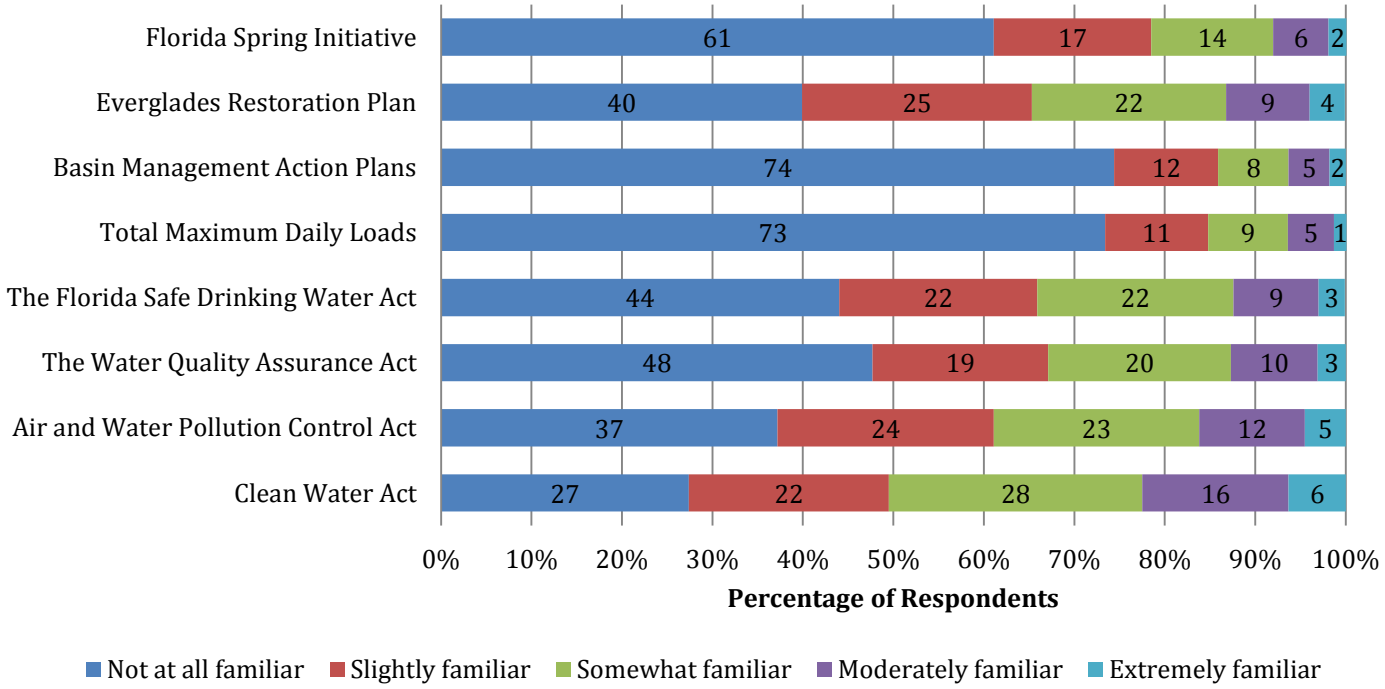
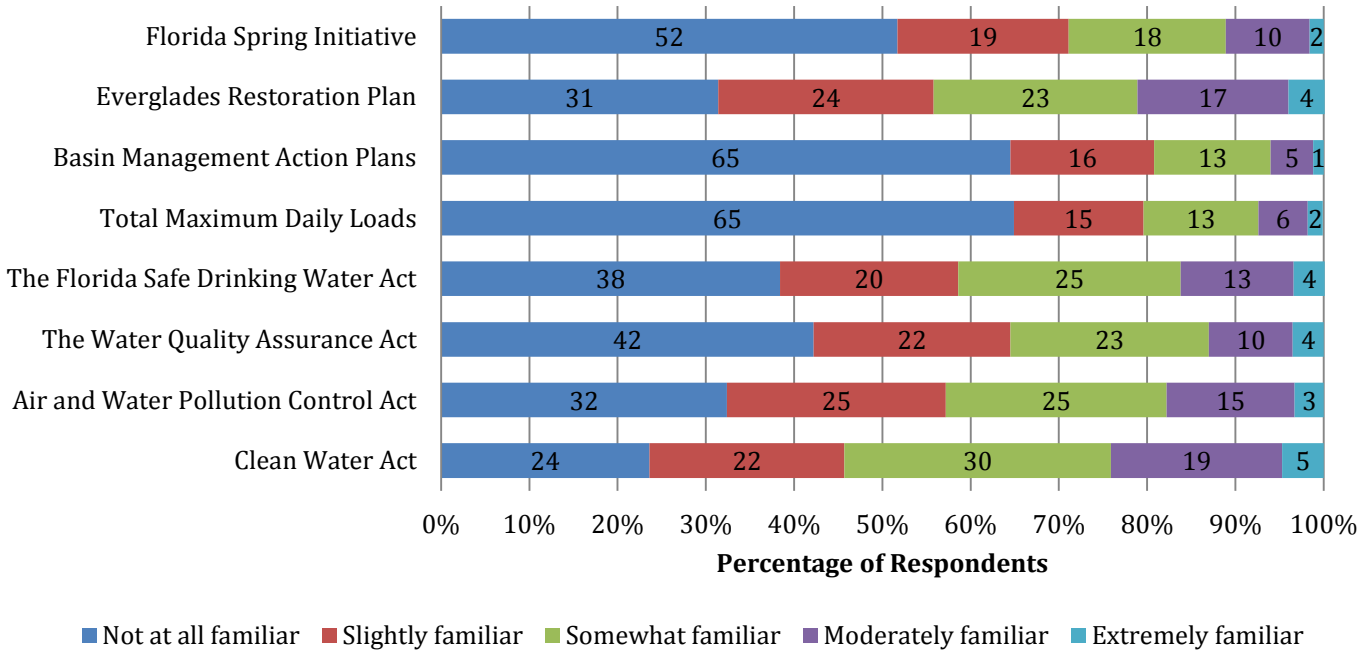


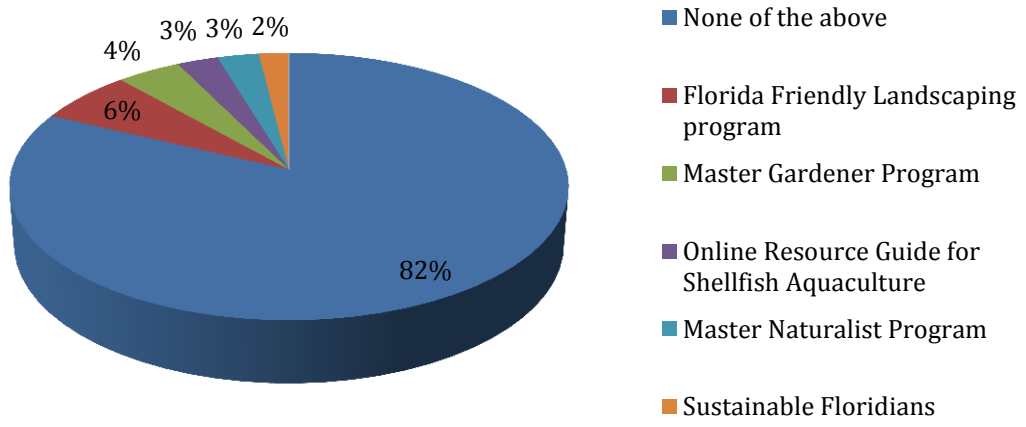
Figure 71: Familiarity with water acts and policies- General Floridians



Extension Program Participation

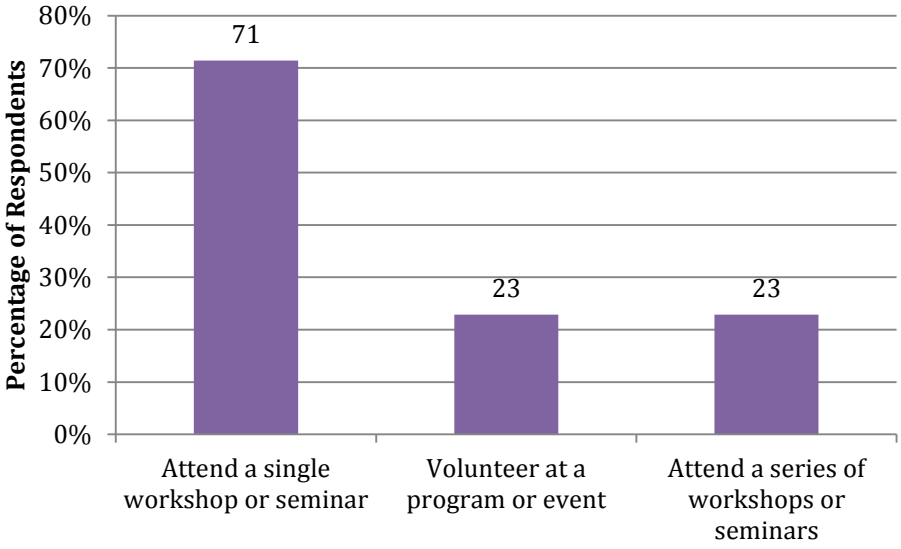
Respondents were asked whether they had participated in specific Extension programming. Eighteen percent of active irrigation user survey respondents had participated in an Extension program, and the most common was the Florida Friendly Landscaping program, with 6% of all respondents who had participated (Figure 72).

Figure 72: Participation in Extension programs- Active irrigation users



Those who had participated in the Florida Friendly Landscaping program ($n = 35$) were asked to indicate how they participated and were allowed to select all that applied. Seventy-one percent attended a single workshop or seminar, 23% volunteered at a program or event, and 23% attended a series of workshops or seminars (Figure 73).

Figure 73: Florida Friendly Landscaping program activity



Education on Water and Landscaping

The last set of questions asked respondents to indicate topics they would be interested in learning more about regarding water, and their preferred way of learning new information. They were allowed to check all responses which applied.

Interest in Water Related Topics

Fifty-five percent of active irrigation user respondents were interested in learning more about home and garden landscaping ideas for Florida yards, compared to 36% of the general Florida public (Table 9). Active irrigation users were less interested in learning about fish and wildlife water needs than the general Florida population. Nineteen percent of active irrigation user respondents were interested in learning about fish and wildlife needs compared to 32% of the general Florida public.

Table 9: Interest in topics related to water and landscaping

Topic of interest	% general Floridians	% of active irrigation users
Home and garden landscaping ideas for Florida yards	36	55
Irrigation management	16	25
Fertilizer and pesticide management	23	23
Landscape buffers	16	19
Fish and wildlife water needs	32	19
Community actions concerning water issues	23	19
Water policy and economics	27	18
Restoring fish and aquatic habitat	25	17
Shoreline clean-up	24	17
Septic system management	18	13
Watershed management	12	11
Forest management and water issues	15	11
Watershed restoration	13	10
Private well protection	15	9

Twelve percent of respondent selected an "other" option ($n = 60$) and then were asked to please describe. Their responses included:

- "Health of the oceans"
- "How to get water authority to listen and act positively for residents"
- "Organic fertilizer and pesticide"
- "Springs clean-up"
- "Stopping the commercial pumping/sale of our water!"
- "Why Florida is commercially selling its water resources to out-of-state bottled water companies on one hand, while restricting water usage of Florida residents on the other. Water conservation in general, is good, but the state should protect critical resources for Florida use before selling tomorrow' future for a few pennies today."

Preferred Way of Learning

Respondents were asked to indicate the type of learning opportunities they would most likely take advantage of to learn more about water issues. Respondents were allowed to choose all choices that applied to them. Respondents from both surveys answered similarly; slightly more of the active irrigation user survey respondents preferred visiting a website (75%) than the general Florida public (69%) and slightly less active irrigation user respondents preferred watching TV coverage (47%) than the general Florida public (55%). Results can be seen in Table 10.

Table 10: Preferred type of learning

Preferred type of learning	% general Floridians	% of active irrigation users
Visit a website	69	75
Read printed fact sheets, bulletins or brochures	46	48
Watch TV coverage	55	47
Read a newspaper article or series	36	39
Watch a video	33	32
Attend a fair or festival	19	21
Look at a demonstration or display	20	20
Attend a short course or workshop	14	19
Take part in a one-time volunteer activity	15	17
Attend a seminar or conference	12	11
Get trained for a regular volunteer position	8	7

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