

Final Report Public Opinions of Water in Florida

Erica Odera & Dr. Alexa Lamm



PIE2012/13-06

Suggested Citation

Odera, E., & Lamm, A. (2014). Public Opinion of Water in Florida. PIE2012/13-06. Gainesville, FL: University of Florida/IFAS Center for Public Issues Education.

About the Authors

Alexa Lamm, Ph.D. – Associate director, UF/IFAS Center for Public Issues Education; Assistant professor, Department of Agricultural Education and Communication

Erica Odera - Research analyst, UF/IFAS Center for Public Issues Education

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.

Ben Bolusky - Chief Executive Officer, Florida Nursery, Growers and Landscape Association

Tatiana Borisova, Ph.D. - Assistant Professor & Extension Specialist in Water Economics and Policy, Department of Food and Resource Economics, University of Florida

Michael Dukes, Ph.D. – Director, Center for Landscape Conservation and Ecology; Professor, Department of Agricultural and Biological Engineering

Wendy Graham, Ph.D. - Director, UF Water Institute; Professor, Department of Agricultural and Biological Engineering

Tracy Irani, Ph.D. - Director, UF/IFAS Center for Public Issues Education; Interim chair, Department of Family, Youth, and Community Sciences; Professor, Department of Agricultural Education and Communication

Caroline Roper - Graduate Assistant, UF/IFAS Center for Public Issues Education, Department of Agricultural Education and Communication

Joy Rumble, Ph.D. - Assistant professor, UF/IFAS Center for Public Issues Education and Department of Agricultural Education and Communication

Quisto Settle, Ph.D. - Post-doctoral associate, UF/IFAS Center for Public Issues Education

Michael Smolen, Ph.D. - Emeritus Professor & Extension Coordinator, Oklahoma State University

Lisette Staal - Research Coordinator, UF Water Institute

Contents

Suggested Citation	2
About the Authors	2
Acknowledgments	2
List of Figures	5
List of Tables	6
Executive Summary	7
Introduction	7
Findings	7
Background	
Methods	
Results	9
Description of Respondents	9
Political Values and Affiliation	9
Home Ownership and Participation in HOA	
Yard Ownership and Care	
Restrictions on Water Use	
Drinking Water Source	
Importance of Water as an Issue	
Importance of Key Florida Issues	
Importance of Clean Water Resources	14
Importance of Plentiful Water Resources	14
Level of Importance Associated with Water Issues	
Water Wars	
Previous Knowledge about Water Wars and the Oyster Production Decline	
Concern about Water War Issues	
Attitude about Water War Issues	
Experience with Water Resources	
Confidence in Water Resources	
Changes in Water Resource Quality	
Wastewater Availability	20
Experience with Negative Impacts of Water Quality	20
Engagement in Environmental and Conservation Behaviors	21
Current Engagement in Water Conservation Behaviors	21

Ownership of Water Conservation Products and Infrastructure	23
Likelihood of Participating in Environmental and Conservation Behaviors	23
Likelihood of Participating in Household Water Conservation	24
Likelihood of Participating in Civic Behaviors Related to Water Conservation	25
Likelihood of Altering Purchasing Behaviors to Support Water Conservation	26
Likelihood in Altering Current Landscaping Practices to Support Water Conservation	26
Willingness to Pay for and Conserve Water	27
Willingness to Conserve Water	
Knowledge and Attitudes towards Government and Policy	29
Attitude towards Governmental Influence on Environmental Issues	29
Voting on Agriculture and Natural Resource Policies	
Knowledge of Water Acts and Policies	
Education about Water Issues	31
Participation in Extension Programs Error!	Bookmark not defined.
Interest in Water Topics	31
Preferred Mode of Learning	32
References	34

List of Figures

Figure 1: Political affiliation	
Figure 2: Political ideology	
Figure 3: Ownership status of current residence	11
Figure 4: Participation in a homeowner's association (HOA)	11
Figure 5: Have a yard at current residence	11
Figure 6: Person responsible for yard maintenance	12
Figure 7: Yard water restrictions	12
Figure 8: Main source of drinking water supply	13
Figure 9: Importance of saltwater intrusion	15
Figure 10: Importance of red tide	15
Figure 11: Knowledge of Water War Issues	16
Figure 12: Level of concern regarding Apalachicola Bay/River Basin issues	16
Figure 13: Belief the lawsuit is the right thing for Floridians	17
Figure 14: Belief in lawsuit occurring at the right time	17
Figure 15: Attitudes towards Water War issues	
Figure 16: Confidence level in future water availability for community use	19
Figure 17: Confidence level in the safety of tap water in the home	19
Figure 18: Changes in water resource quality	19
Figure 19: Availability of wastewater for lawn irrigation	20
Figure 20: Experience with negative impacts of water quality	20
Figure 21: Indoor household conservation activities	21
Figure 22: Outdoor household conservation activities	22
Figure 23: Waste disposal conservation activities	22
Figure 24: Ownership of water efficient products and infrastructure	23
Figure 25: Likelihood of participation in household water conservation behaviors	25
Figure 26: Likelihood of participation in civic behaviors related to water conservation	25
Figure 27: Likelihood of altering purchasing behavior in support of water conservation	26
Figure 28: Likelihood of altering landscaping practices to support water conservation	27
Figure 29: Level of willingness to conserve water	28
Figure 30: Willingness to pay for increased water bill	28
Figure 31: Perceived governmental negative influence on environmental behavior	29
Figure 32: Perceived governmental positive influence on environmental behavior	
Figure 33: Familiarity with water acts and policies	

Figure 34: Interest in water related topics	32
Figure 35: Type of learning opportunity most likely to take advantage of	33

List of Tables

Table 1: Florida Census Data from 2010	9
Table 2: Importance level of Florida issues	13
Table 3: Importance level of clean water resources	14
Table 4: Importance level of plentiful water resources	14
Table 5: Likelihood of participating in environmental/conservation behaviors	24
Table 6: Voting preparation behavior	30

Executive Summary

Public Opinions of Water in Florida February 2014

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 Public Opinions of Water in Florida survey was taken by 516 Florida residents and examines public opinions related to water quality and quantity issues.

Findings

- Eighty-three percent of respondents considered water in Florida to be a highly or extremely important issue. When compared to concern over multiple issues, water ranked third, behind the economy and healthcare.
- Respondents had low overall knowledge about the Apalachicola Bay oyster production decline and current Florida lawsuit pending against Georgia for water use. Only 31% knew about the oyster decline before taking the survey, and only 26% knew about the lawsuit before taking the survey.
- Forty-eight percent of respondents reported they were unsure whether the lawsuit was the right thing for Floridians, and 46% were unsure whether the lawsuit was occurring at an appropriate time.
- Only 41% of respondents felt highly or extremely confident that there will be enough water to support their community's needs in the next 10 years.
- While 69% of respondents would be willing to have a 10% cost increase to their water bill if it helped ensure future water availability in Florida, only 7% would be willing to pay a 50% cost increase to their water bill.
- Forty-six percent of respondents considered the water quality in Florida rivers to be getting worse, and 44% considered the water quality of Florida lakes to be getting worse.
- Eighty-six percent of respondents considered plentiful water for cities highly or extremely important, compared to just 11% who considered it highly or extremely important to have plentiful water for golf courses.
- Fifty-nine percent of respondents reported they have not experienced any personal negative impacts due to low water quality, while 20% have experienced poor drinking water at home, and 19% have experienced closed beaches due to red tide or poor beach water quality.
- Respondents were more likely to own low-flow shower heads (54%) and water efficient toilets (58%) than rain barrels (14%) for conserving water.
- Forty-two percent of respondents were "very likely" to support water restrictions issued by their local government, while only 7% reported they were "very likely" to join a water conservation organization.
- Respondents were more likely to only run the washing machine when it is full (90% reported they were likely or very likely to do so) than to buy a specialty license plate that supports water protection efforts (20% reported they were likely or very likely to do so).
- Respondents reported an overall low level of awareness of policies and legislative acts impacting water quality and quantity issues in Florida. Respondents were most familiar with the Clean Water Act, with just 19% who reported they were "moderately familiar" with this act.
- Seventy-percent of respondents have their own yard, and 54% of those with a yard take care of it themselves.

Background

Blessed with bountiful freshwater resources, heavy 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.

Methods

In December 2013, 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 516 completed responses. To ensure the respondents were representative of the Florida population according to the 2010 U.S. Census (seen in Table 1), the data were weighted to balance their geographic location in the state, age, gender, and race/ethnicity(Kalton & Flores-Cervantes, 2003). Weighting procedures are commonly used in non-probability samples to compensate for selection, exclusion, and non-participation biases (Baker et al., 2013), and as a result can yield results comparable or in some cases better than standard probability-based samples (Abate, 1998; Twyman, 2008; Vavreck & Rivers, 2008). Public opinion research commonly utilizes non-probability samples to make population estimates (Baker, et al., 2013).

The survey instrument was developed by Dr. Alexa Lamm 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).

For more detailed methods, please refer to our website: www.piecenter.com.

Demographic Category	Percentage of Florida residents in 2010 U.S. Census
Gender	
Male	48.9%
Female	51.1%
Race and Ethnicity	
Hispanic	22.5%
Native American	0.2%
Asian	3%
African American	17%
White	77.1%
Age	
19 and younger	1.3%
20-29 years	12.8%
30-39 years	12.2%
40-49 years	14.2%
50-59 years	13.5%
60-69 years	11.1%
70-79 years	7.4%
80 and older	4.9%
Rural Urban Continuum	
Metro- Counties in metro areas of 1 million population or more	63.1%
Metro- Counties in metro areas of 250,000 to 1 million population	25.7%
Metro- Counties in metro areas of fewer than 250,000 population	4.8%
Nonmetro- Urban population of 20,000 or more,	3.5%
adjacent to a metro area	
Nonmetro- Urban population of 2,500 to 19,999,	2.6%
adjacent to a metro area	
Nonmetro- Completely rural or less than 2,500 urban	0.3%
population, adjacent to a metro area	

Results

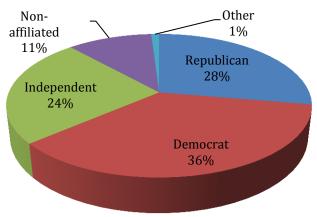
Description of Respondents

Table 1: Florida Census Data from 2010

Political Values and Affiliation

Thirty-six percent of the respondents were registered Democrats, followed by 28% who were registered Republicans and 24% who were registered Independents (Figure 1).

Figure 1: Political affiliation



Most respondents considered themselves to be politically moderate (44%), followed by 25% who considered themselves "conservative" and 19% who considered themselves "liberal" (Figure 2). Only 5% and 6% considered themselves "very conservative" and "very liberal," respectively.

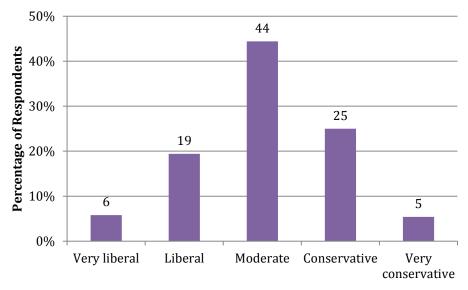
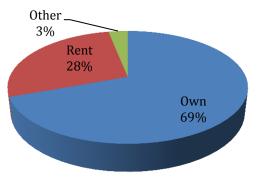


Figure 2: Political ideology

Home Ownership and Participation in HOA

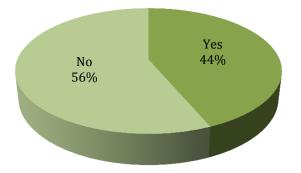
Respondents were asked whether they own or rent their current home. An "other" category was included for those who neither rented nor owned their home. The majority, 69%, own their own home, while 28% rent their home (Figure 3).

Figure 3: Ownership status of current residence



Those who indicated they own their current home were asked whether they were part of a homeowner's association (HOA). Of those who owned their own home (n = 358), 44% were part of an HOA (Figure 4).

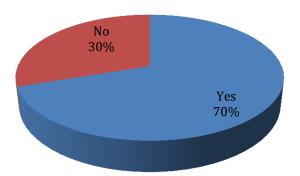
Figure 4: Participation in a homeowner's association (HOA)



Yard Ownership and Care

Respondents were asked whether they had a yard they were responsible for maintaining. Seventy-percent of respondents did have a yard they were responsible for maintaining at their home (Figure 5).





The respondents that reported having a yard (n = 360) where asked who was responsible for its maintenance. Fifty-four percent maintained their own yard, and 25% hired someone to maintain their yard (Figure 6). Twenty-two percent either had someone else in their household care for the lawn, or shared responsibility with someone in their household.

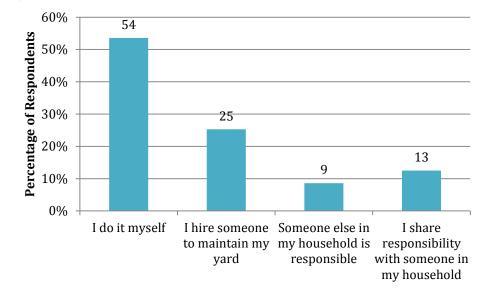
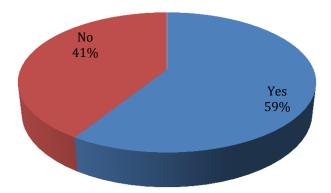


Figure 6: Person responsible for yard maintenance

Restrictions on Water Use

Respondents who indicated they had a yard (n = 360) were also asked whether they currently have to abide by water restrictions for their lawn. Fifty-nine percent of these respondents replied "yes," they currently have to abide by water restrictions for their lawn (Figure 7).

Figure 7: Yard water restrictions



Drinking Water Source

Respondents were asked to indicate the main source of their drinking water supply. The majority, 51%, accessed their drinking water through public supply provided by a municipal area. Twenty-five percent relied on purchased bottled water (Figure 8).

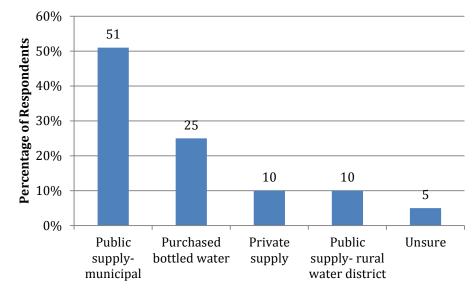


Figure 8: Main source of drinking water supply

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 1 displays the percentage of respondents rating each issue as extremely or highly important. When ranked, water is listed third, behind the economy and healthcare, with 83% of respondents who considered water as extremely or highly important in Florida (Table 2).

Table 2: Importance level of Florida issues

Florida Issue	% of respondents rating the issue as highly or extremely important
The economy	89%
Health care	89%
Water	83%
Taxes	78%
Public education	77%
Environmental conservation	69%
Food production	69%
Housing and foreclosures	64%
Immigration	59%
Climate change	51%

Importance of Clean Water Resources

Respondents were asked to indicate how important they considered the presence of various clean water sources. Overall, respondents believed clean water was highly or extremely important, regardless of the water body focused upon. Almost all (97%) of the respondents considered clean drinking water as highly or extremely important, compared to 80% who considered it highly or extremely important to have clean water for shellfishing (Table 3).

Table 3: Importance level of clean water resources

Importance of clean water	% of respondents rating the issue as highly or extremely important
Clean drinking water	97%
Clean lakes, springs, rivers	89%
Clean oceans	87%
Clean groundwater	87%
Clean bays and estuaries	86%
Clean beaches	86%
Clean water for shellfishing	80%

Importance of Plentiful Water Resources

Respondents were also asked to consider how important it is to have plentiful water for various purposes. The most important purpose amongst respondents was to have plentiful water in aquifers, springs, rivers, and lakes (88%) compared to just 11% who considered it highly or extremely important to have plentiful water for golf courses (Table 4).

Table 4: Importance level of plentiful water resources

Importance of plentiful water	% of respondents rating the issue as highly or extremely important
Plentiful water in aquifers, springs, rivers, and	88%
lakes	
Plentiful water for cities	86%
Plentiful water for agriculture	85%
Plentiful water for commerce/industry/power	66%
Plentiful water for household landscapes	35%
Plentiful water for recreation	35%
Plentiful water for golf courses	11%

Level of Importance Associated with Water Issues

Respondents were asked to indicate how much they agreed that saltwater intrusion and red tide were important issues in Florida. Respondents tended to agree that saltwater intrusion was an important issue in Florida, with 59% who agreed or strongly agreed (Figure 9). Slightly more, 65%, agreed or strongly agreed that red tide was an important issue in Florida (Figure 10).

Figure 9: Importance of saltwater intrusion

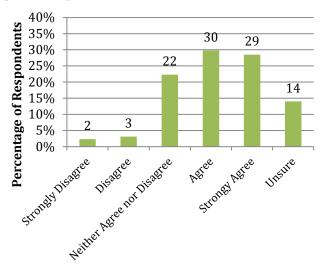
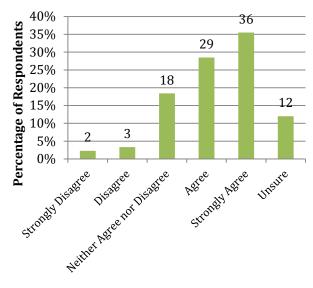


Figure 10: Importance of red tide



Water Wars

Respondents were asked about the ongoing water conflict over water use between Florida and Georgia, historically described by the media as Water Wars. Respondents were asked about their knowledge levels and attitudes towards the Apalachicola-Chattahoochee-Flint River Basin conflict and the recent Apalachicola Bay oyster production decline. Respondents were asked to read the following paragraph prior to responding to a set of survey questions specific to this issue:

The proper mix of fresh water and salt water is required for oysters to grow in Apalachicola Bay. Historically, Apalachicola Bay has produced 90% of Florida's oysters, and 10% of the oysters consumed in the United States. Since 2010, there has been a large decline in oyster production in Apalachicola Bay and in 2012 the bay was declared a fisheries disaster area by the federal government. The oyster collapse has been attributed to a variety of factors including (1) over harvesting in the wake of the Deepwater Horizon oil spill in 2010, (2) the two years of drought that followed the oil spill, and (3) the lack of freshwater entering the bay from the river upstream. In August 2013, Governor Rick Scott filed a lawsuit against the state or Georgia for their perceived overuse of the water in Lake Lanier, which feeds into the Apalachicola-Chattahoochee-Flint River Basin. The Atlanta metropolitan area is assumed to be the major water user upstream, reducing the freshwater available in the river basin which feeds the Apalachicola Bay.

Previous Knowledge about Water Wars and the Oyster Production Decline

Respondents were asked four knowledge questions to determine respondents' knowledge levels about issues related to the Water Wars <u>prior to taking the survey</u>. Respondents had an overall low level of awareness of these issues prior to taking the survey. Seventy-four percent did not know that Governor Scott had filed a lawsuit against Georgia over water use, and 69% did not know about the declining Apalachicola oyster industry (Figure 11).

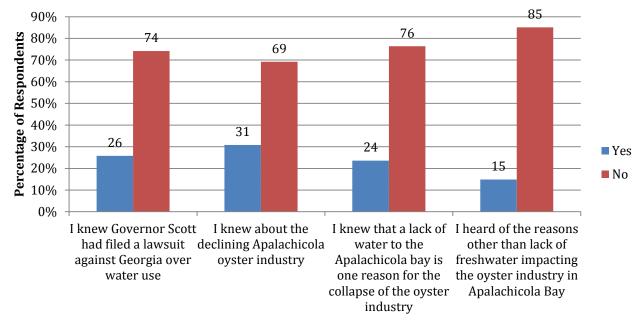
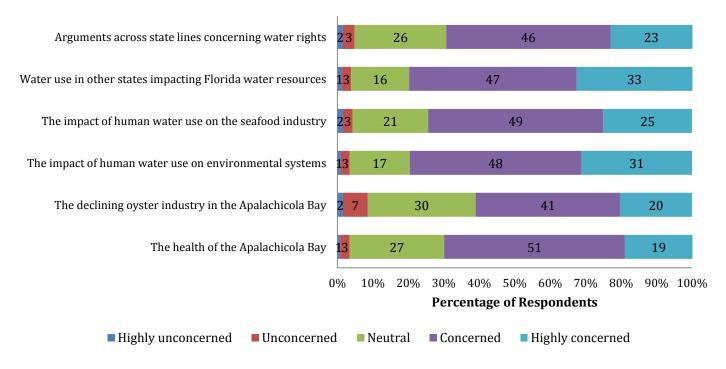


Figure 11: Knowledge of Water War Issues

Concern about Water War Issues

Next, respondents were asked to indicate the level of concern they associated with Water War issues. Eighty percent of respondents reported being concerned or highly concerned about water use in other states impacting Florida water resources, and 79% were concerned or highly concerned about the impact of human water use on environmental systems (Figure 12). Respondents were not as concerned about the declining oyster industry in the Apalachicola Bay with 39% who reported they were either neutral or unconcerned about this issue.

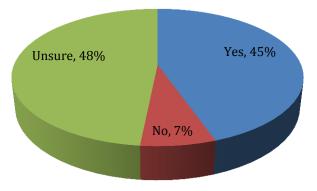
Figure 12: Level of concern regarding Apalachicola Bay/River Basin issues



Attitude about Water War Issues

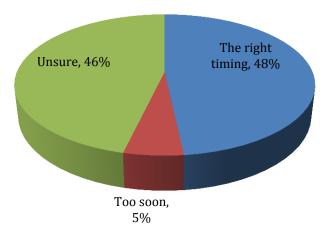
Respondents were asked to indicate how they felt about the current lawsuit between Florida and Georgia. When asked if they believed Governor Rick Scott was doing the right thing for Floridians by suing the state of Georgia over water use, 45% believed the Governor was doing the right thing for Florida and only 7% were opposed to the action taken by the Governor (Figure 13). Almost half of the respondents were unsure.





Respondents were also asked whether they agreed with the timing of the lawsuit. Forty-eight percent believed the lawsuit was occurring at the right time (Figure 14).

Figure 14: Belief in lawsuit occurring at the right time



Finally, respondents were asked about their level of agreement with several statements associated with the Water Wars. Eighty-three percent of respondents agreed or strongly agreed that water is something the state government should protect and 55% disagreed or strongly disagreed that it is a waste of time for politicians to fight over water use in a river (Figure 15).

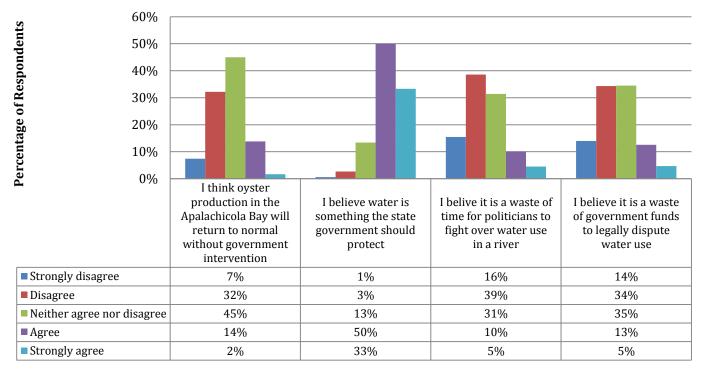


Figure 15: Attitudes towards Water War issues

Experience with Water Resources

Respondents' personal experience with water resources, including water availability, change in water quality, and negative experiences with water quality were also examined.

Confidence in Water Resources

First, respondents were asked to indicate their level in confidence that there will be enough water to meet the needs of their community in the next 10 years, as well as their level of confidence in the safety of the tap water in their home. Respondents reported a relatively similar level of confidence in future water availability for their community's needs and the safety of the tap water in their home, with slightly more respondents confident in the water availability for their safety of their community in 10 years (Figures 16 and 17).

Figure 16: Confidence level in future water availability for community use

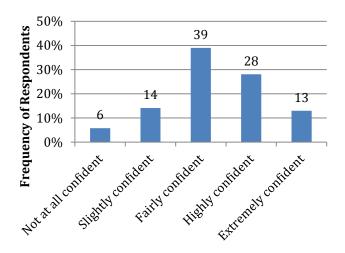
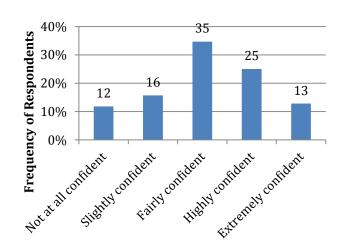


Figure 17: Confidence level in the safety of tap water in the home



Changes in Water Resource Quality

Respondents were asked whether they thought the quality of various water resources are getting worse, better, or remaining the same over time. Forty-six percent of respondents reported they felt rivers were getting worse (46%) in quality and 43% reported they felt the quality of springs was remaining the same (Figure 18). Very few respondents felt water quality was getting better in any of the water bodies.

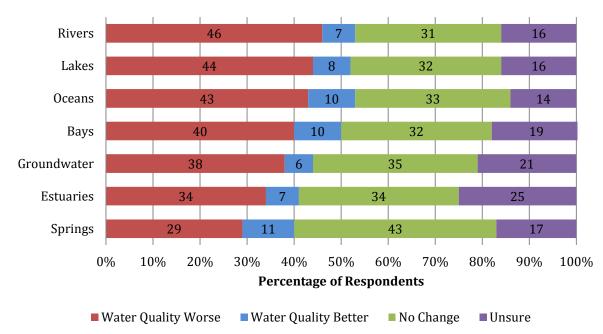
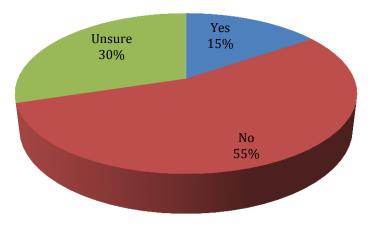


Figure 18: Changes in water resource quality

Wastewater Availability

Respondents were asked whether recycled wastewater was available for them to use when irrigating their yards and landscapes. Only 15% reported that recycled wastewater was available for their use. The majority, 55%, reported that recycled wastewater was not available to them and 30% reported they were unsure (Figure 19).

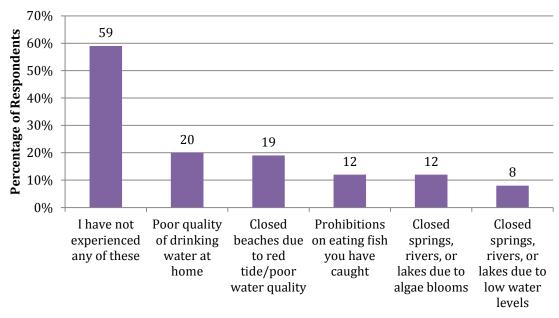




Experience with Negative Impacts of Water Quality

Next, respondents were asked to indicate whether they had experienced any negative impacts due to poor water quality, such as closed springs, rivers, lakes, beaches, or poor drinking water quality. Twenty percent of the respondents had experienced poor quality drinking water at home, and 19% had experienced closed beaches due to red tide or poor water quality (Figure 20).





Engagement in Environmental and Conservation Behaviors

Respondents were asked to describe their current environmental and conservation behaviors along with the likelihood they would engage in environmental and conservation behaviors.

Current Engagement in Water Conservation Behaviors

Respondents were asked to describe whether or not they engaged in indoor water conservation behaviors at home. Forty-five percent of respondents reported they turn off the water while brushing their teeth "every time," while only 14% of respondents reported they shower for no more than five minutes every time they bathe (Figure 21). Twenty-eight percent of the respondents reported they "sometimes" leave the water running while washing or rinsing dishes.

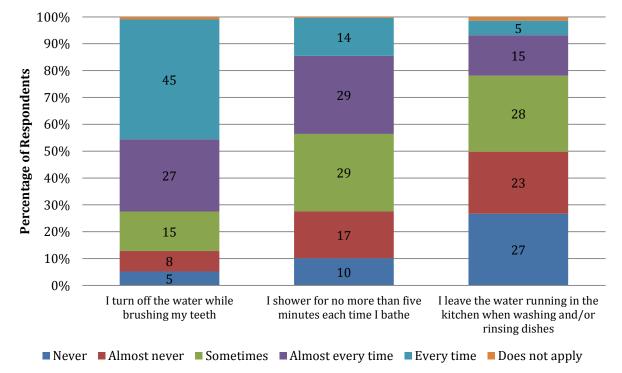


Figure 21: Indoor household conservation activities

When asked about water conservation behavior engagement associated with outdoor home activities, 47% of the respondents reported they "never" let their sprinklers run when it has rained or is raining, and 41% "never" hose down their driveway (Figure 22). The larger amount of "does not apply" responses for these four items indicated that many respondents do not own or care for a lawn or yard.

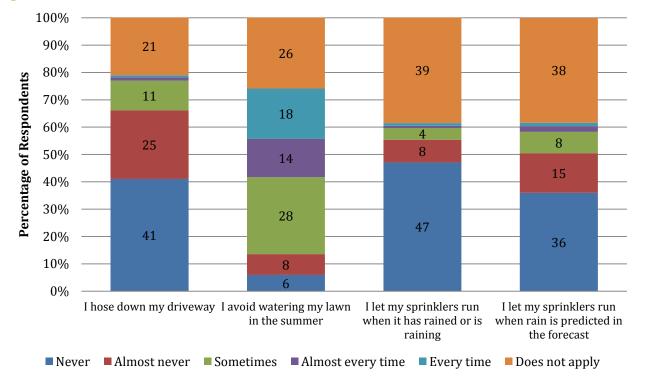


Figure 22: Outdoor household conservation activities

When asked about the treatment of waste77% of respondents reported they "never" allow motor oil to run down a storm drain and 89% "never" flush cooking oil down the toilet (Figure 23). Slightly less, 47%, reported they "never" allow soapy water to run down a storm drain.

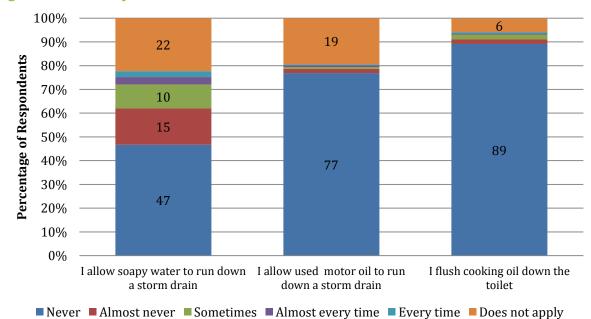


Figure 23: Waste disposal conservation activities

Ownership of Water Conservation Products and Infrastructure

Respondents were asked whether they owned products in their home to assist in conserving water. The most commonly owned products were low-flow shower heads (54%) and water-efficient toilets. Fifty-four percent of respondents owned low-flow shower heads and 58% owned water-efficient toilets (Figure 24). Eighty-three percent of respondents did not own a rain barrel, and 71% did not use recycled wastewater to irrigate their lawns/landscapes.

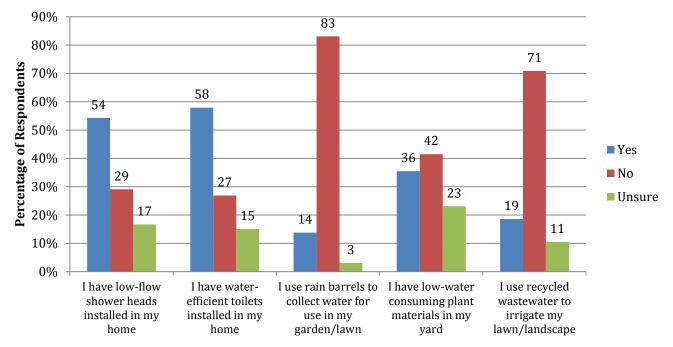


Figure 24: Ownership of water efficient products and infrastructure

Likelihood of Participating in Environmental and Conservation Behaviors

Respondents were asked to indicate how likely or unlikely they were to engage in a variety of behaviors that can help reduce water use and protect the environment more broadly. The activity respondents were most likely to participate in was only running the washing machine when it is full. The activity respondents were least likely to engage in was purchasing a specialty license plate that supports water protection efforts (Table 5).

Environmental/conservation behavior	% of respondents indicating they are likely or very
	likely to participate
Only run the washing machine when it is full	90%
Responsibly dispose of hazardous materials	84%
Support water restrictions issued by my local government	80%
Vote to support water conservation programs	78%
Sweep patios and sidewalks instead of hosing them down	75%
Only run the dishwasher when it is full	75%
Avoid purchasing plants that require a lot of watering	74%
Use biodegradable cleaning products	69%
Vote for candidates who support water conservation	69%
Reduce your use of natural resources	69%
Only water your lawn in the morning or evening	62%
Reduce the number of times a week you water your lawn	57%
Reduce use of fertilizer if your landscape quality would	50%
decrease	
Reduce the use of pesticides if your landscape quality	48%
would decrease	
Visit springs, lakes, state parks, etc. to learn about water	45%
issues	
Donate to an organization that protects water	29%
Keep a timer in the bathroom to help you take a shorter	29%
shower	
Volunteer for a stream clean up or a wetland restoration	26%
event	
Join a water conservation organization	21%
Buy a specialty license plate that supports water	20%
protection efforts	

Table 5: Likelihood of participating in environmental/conservation behaviors

Likelihood of Participating in Household Water Conservation

Regarding household water conservation,70% of respondents reported they are "very likely" to responsibly dispose of hazardous materials, 67% were "very likely" to only run the washing machine when it is full, 61% were "very likely" to only run the dishwasher when it is full and 60% were "very likely" to sweep patios instead of hosing them down (Figure 25). Respondents reported mixed attitudes regarding their likelihood of keeping a timer in the bathroom to help shorten showers; only 14% reported they were "very likely" to engage in this behavior.

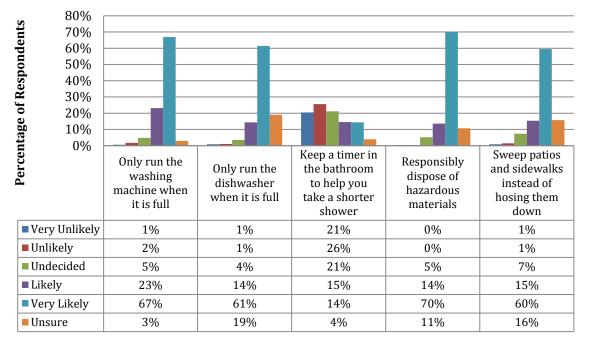


Figure 25: Likelihood of participation in household water conservation behaviors

Likelihood of Participating in Civic Behaviors Related to Water Conservation

When asked about participating in civic behaviors to conserve water, respondents were more likely to support water restrictions issued by the local government or to vote to support water conservation programs and candidates than to volunteer for a stream cleanup or to join a water conservation organization. Forty-two percent were "very likely" to support water restrictions issued by their local government, while only 7% reported they were "very likely" to join a water conservation organization (Figure 26).

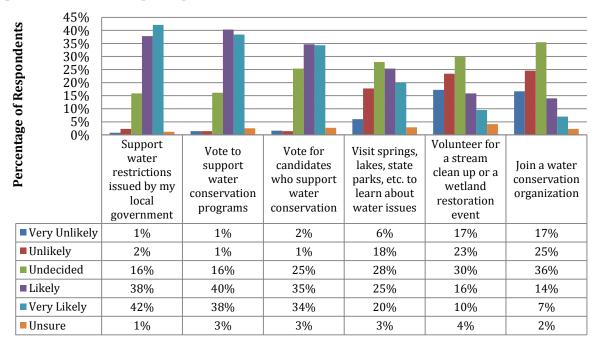
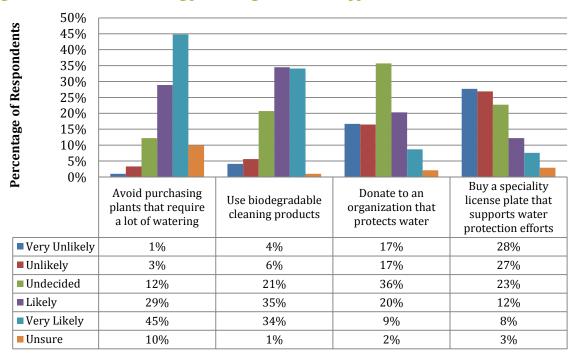


Figure 26: Likelihood of participation in civic behaviors related to water conservation

Likelihood of Altering Purchasing Behaviors to Support Water Conservation

Respondents indicated they were more likely to avoid purchasing plants that require a lot of watering than to buy a specialty license plate that supports water protection efforts. Forty-five percent reported they were "very likely" to avoid purchasing plants that require a lot of watering compared to just 8% who reported they were "very likely" to buy a specialty license plate that supports water protection efforts (Figure 27).





Likelihood in Altering Current Landscaping Practices to Support Water Conservation

When asked about their interest in altering landscaping practices to those that support water conservation, respondents were more likely to reduce watering their lawn than reducing the amount of fertilizer and pesticides they use if it caused a decrease in lawn quality. Forty-eight percent of respondents reported they were "very likely" to only water their lawns during the morning and evening, while just 23% and 24% were "very likely" to reduce their fertilizer and pesticide use if it caused a decline in lawn quality, respectively (Figure 28).

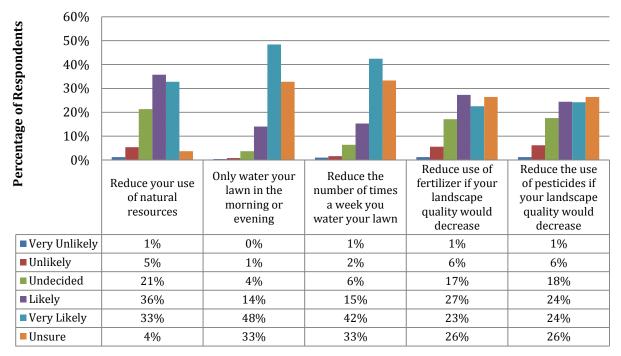


Figure 28: Likelihood of altering landscaping practices to support water conservation

Willingness to Pay for and Conserve Water

Respondents were then asked a series of questions to better understand their willingness to pay for water conservation.

Willingness to Conserve Water

The first set of questions asked respondents to indicate whether they would be willing to take action to conserve water even if a certain outcome occurred. Respondents were willing to take action to conserve water if it meant reducing the amount they water their lawn (81% were willing or very willing) however only 42% were willing or very willing to do so if it meant portions of their grass may die and need replacing (Figure 29).

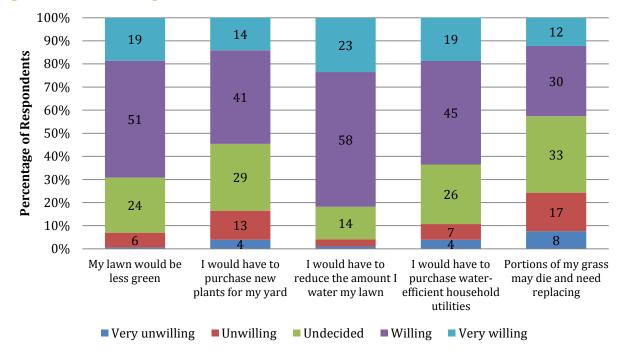


Figure 29: Level of willingness to conserve water

Respondents were also asked whether they would be willing to pay more for their water bills if they knew it would help ensure enough water resources in Florida in the future. Respondents who indicated they had a yard they are responsible for maintaining were given a larger hypothetical average water bill (\$100) than those who reported they did not have a yard (\$50). Respondents were asked two questions, 1) whether they would be willing to accept a 10% increase to their water bill, and 2) whether they would be willing to accept a 50% increase to their water bill. Sixty-nine percent of respondents would be willing to have their water bill increase by 10% if it ensured a future water supply in Florida, but only 7% were willing to do so if it required a 50% increase in their water bill (Figure 30).

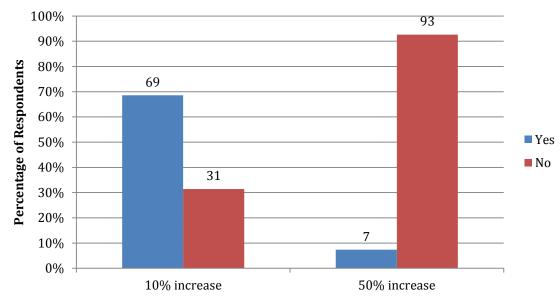


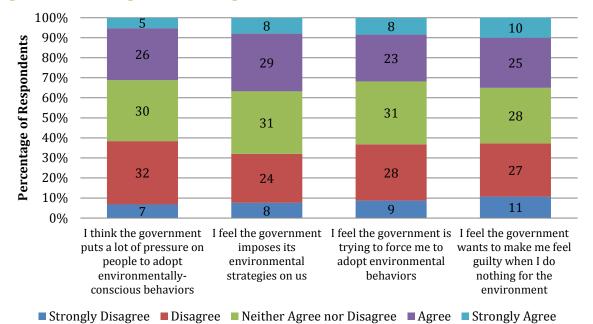
Figure 30: Willingness to pay for increased water bill

Knowledge and Attitudes towards Government and Policy

Respondents were also 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.

Attitude towards Governmental Influence on Environmental Issues

Overall, respondents 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 31).





When asked if the government positively encourages them and gives them freedom of choice to participate in programs that protect the environment., 56% percent agreed or strongly agreed they have a choice to use the strategies provided by the government to help the environment, and 55% agreed or strongly agreed they have a choice to participate in environmental programs established by the government (Figure 32).

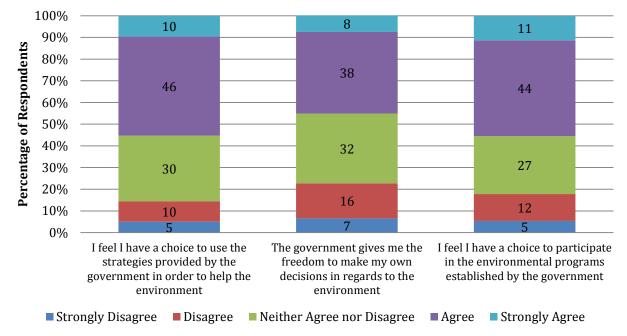


Figure 32: Perceived governmental positive influence on environmental behavior

Voting on Agriculture and Natural Resource Policies

Respondents were asked what actions they engage in when preparing to vote on a policy impacting agriculture and natural resources. Ninety-one percent of respondents agreed or strongly agreed they would consider both positive and negative implications that could result from a new policy before voting, while only 68% agreed or strongly agreed they would discuss their opinion with others (Table 6).

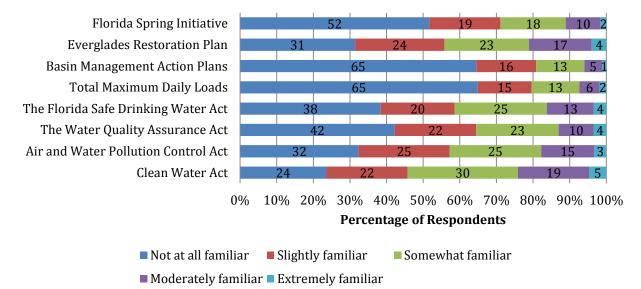
Table 6: Voting preparation behavior

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

Knowledge of 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. Sixty-five percent of respondents admitted to not being familiar with the Basin Management Action Plans or Total Maximum Daily Loads (Figure 33). Overall, respondents have a low level of familiarity across all water acts and policies, with the Clean Water Act having the highest level of familiarity (54% were somewhat, moderately or extremely familiar).

Figure 33: Familiarity with water acts and policies



Education about Water Issues

The final section of the survey asked respondents to indicate their interests in learning more about water issues and how they prefer to learn about such topics.

Interest in Water Topics

Respondents were asked to indicate whether they had any interest in a variety of topics related to water. They were allowed to choose any and all that applied to their interests. The highest level of interest was for the topic "home and garden landscaping ideas for Florida yards," with 36% of respondents who were interested (Figure 34). The lowest level of interest was for the topic "water shed management," with just 12% of respondents who indicated an interest in this topic.

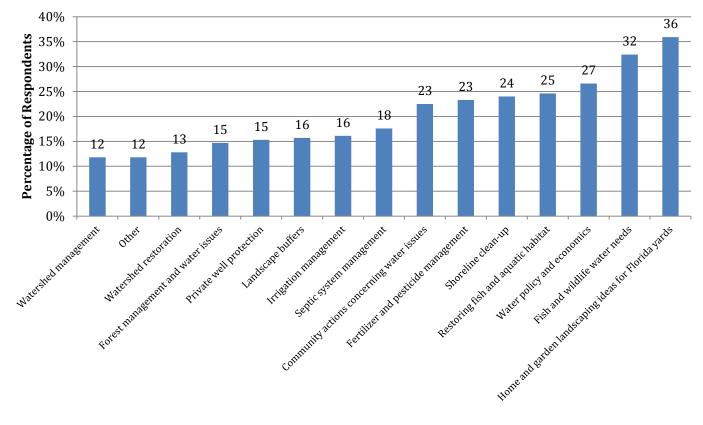


Figure 34: Interest in water related topics

Preferred Mode of Learning

Next, 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. The most common mode of learning was "visit a website," with 69% of respondents who reported they would most likely take advantage of this opportunity, followed by 55% who would do so by watching television coverage (Figure 35). Only 8% of respondents reported they would like to get trained for a regular volunteer position to learn more about water issues.

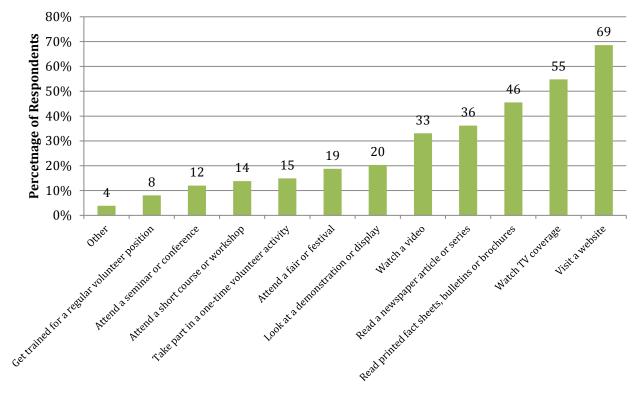


Figure 35: Type of learning opportunity most likely to take advantage of

References

Abate, T. (1998). Accuracy of online surveys may make phone polls obsolete. The San Francisco Chronicle, D1.

- Baker, R., Brick, J. M., Bates, N. A., Battaglia, M., Couper, M. P., Dever, J. A., Gile, K. J., & Tourangeau, R. (2013). Report of the AAPOR task force on non-probability sampling. American Association for Public Opinion Research. Retrieved at <u>http://www.aapor.org/AM/Template.cfm?Section=Reports1&Template=/CM/ContentDisplay.cfm&Conte</u>
- Green-Demers, I., Blanchard, C., Pelletier, L.G., & Béland, A. (1994). *Perception of government environmental strategies by the citizens: The government style questionnaire (GSQ).* (Research Paper No. 13). Ottawa: University of Ottawa Institute for Research on Environment and Economy.
- Kalton, G. & Flores-Cervantes, I. (2003). Weighting methods. Journal of Official Statistics, 19(2), 81-97.
- Mahler, R. L., Smolen, M. D., Borisova, T., Boellstorff, D. E., Adams, D. C., & Sochacka, N. W. (2013). The National Water Survey Needs Assessment Program. *National Sciences Education, 42*, 98-103. Retrieved from <u>https://www.crops.org/publications/nse/pdfs/42/1/98</u>
- Odera, E., Lamm, A., Dukes, M., Irani, T., & Carter, H. (2013). *Water Issues in Florida: How Extension Can Facilitate Stakeholder Engagement and Involvement.* (EDIS Publication WC151). Retrieved from Electronic Data Information Source website: <u>http://edis.ifas.ufl.edu/wc151</u>
- Patterson, L. (2012). 2012 RBC Canadian water attitudes study. RBC Blue Water Project. Retrieved from http://www.rbc.com/community-sustainability/environment/rbc-blue-water/index.html
- Twyman, J. (2008). Getting it right: Yougov and online survey research in Britain. *Journal of Elections, Public Opinions and Parties, 18*, 343-354.
- Vavreck, L., & Rivers, D. (2008). The 2006 cooperative congressional election study. *Journal of Elections, Public Opinion and Parties, 18*(4), 355-366.