

LID Practices, Water Quality, and Behavior

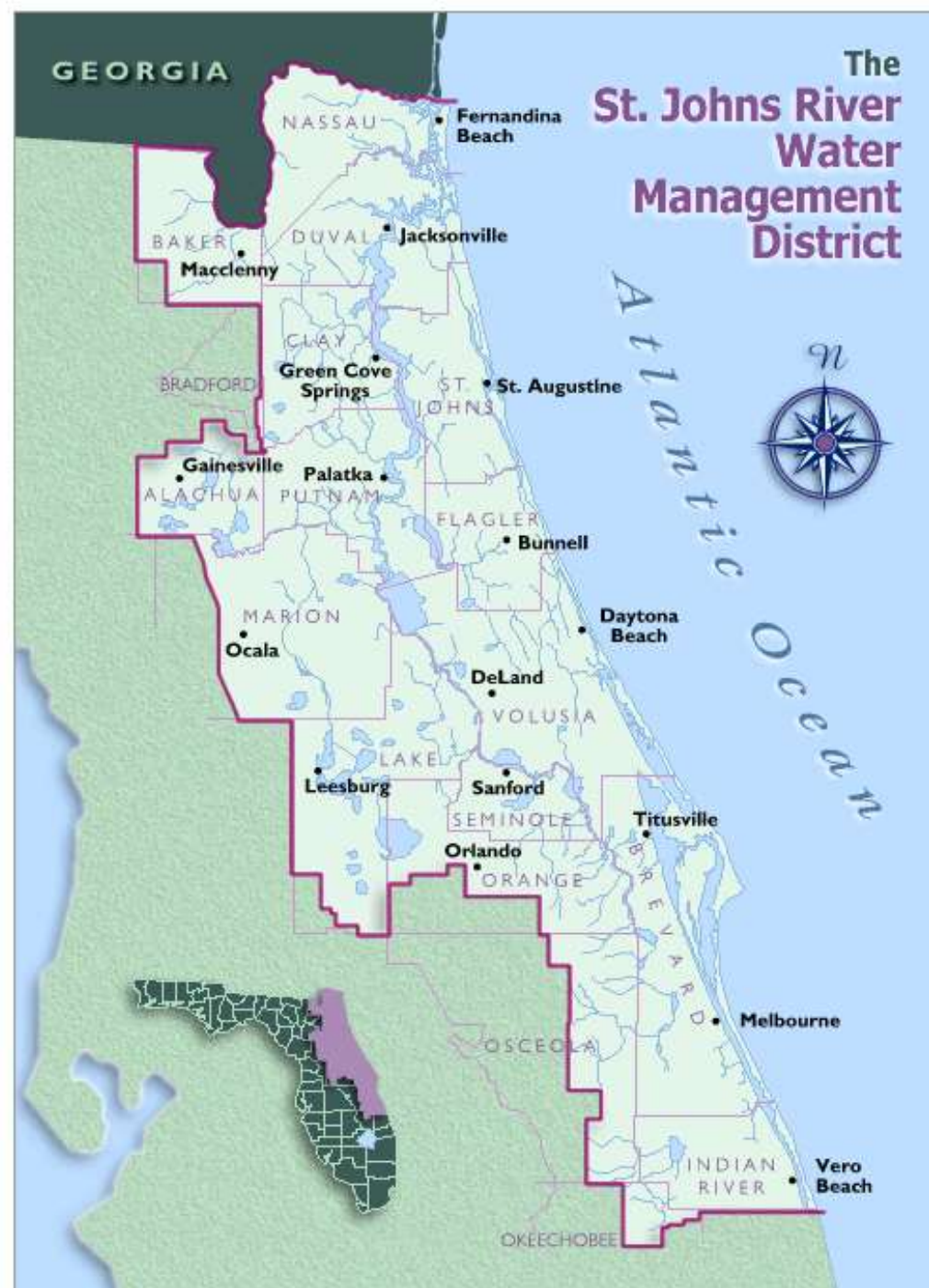
Paul F. Monaghan, UF Department of Agricultural
Education and Communication

Emily S. Ott, McNeal & Yochim, P.L.

Background: “Steps to Practicum”

- We love clean water to drink
- Water flows in and through Alachua County
- Water ways can and have become compromised
- Several ordinances recently passed that we can link to water conservation/preservation
- State wide TMDL requirements
- Multiple watersheds
- Thirsty to learn more!

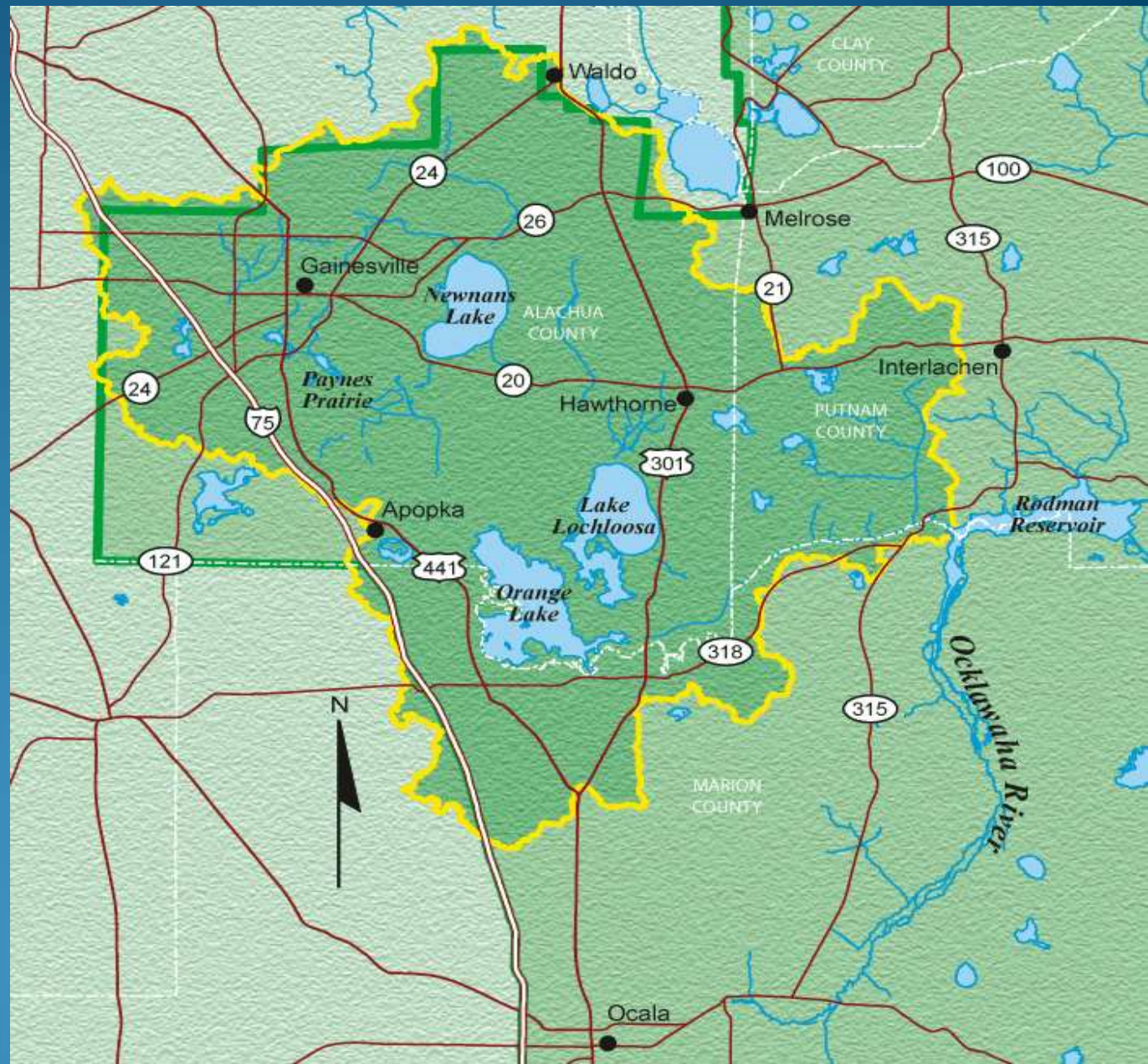
Alachua County's primary watershed: The St. Johns River



Alachua
County's
second
watershed:
the Santa Fe
River,
which flows
into the
Suwannee



Gainesville's
sub-basin: The
Orange Creek
(which has
developed
TMDLs)



How TMDLs Implemented

- Basin management action plan devised with 27 local entities and more than 60 individuals
- Addressed ways to manage and monitor fecal coliform and nutrient pollution in streams and lakes
- Projected future problems resulting from growth and stressed need for low impact development
- Future development will not have the same landscapes

Purpose

- Conserve/preserve watershed
- Research barriers to conserving behaviors

After meeting with (top) stakeholders:

- Contribute to pool of data useful to Extension Agent/DEP programs
- Raise awareness about city ordinances, BMP's

Stakeholders

- County Extension (Wendy Wilber)
- ACEPD (Staci Greco)
- HOA's/Residents
- Non-deeded/restricted residents
- Independent contractors
- Franchise companies
- Springs Working Groups
- Alachua County Waste Alternatives
- County commission
- Others TBD

STAKEHOLDERS	POSITIONS (wants)	INTERESTS (why)	POWER	CONTEXT	OTHER
County Extension (Wilbur)	<ul style="list-style-type: none"> -Education/eval ed. -Good programs -Get behavior change -Protect watershed 	<ul style="list-style-type: none"> -has to prove worth -to be/build rep. as effective -protect watershed -keep Alachua co. healthy/beautiful 	<ul style="list-style-type: none"> -medium: -connections -limited by volume of other commitments/funding 	<ul style="list-style-type: none"> -econ. program cuts -competition with Alachua Co. Waste Mgmt -busy busy busy 	<ul style="list-style-type: none"> -communication lines with public -muddled connections with other orgs.
ACEPD (Greco)	<ul style="list-style-type: none"> -effective BMPS -educate people on BMP's -push through storm water project she's proposed 	<ul style="list-style-type: none"> -job/save the world -keep Alachua Co. environment protected/healthy/beautiful -b/c she's already worked on/secured funding? for research/plans for landscaping BMP 	<ul style="list-style-type: none"> -medium: -established paths for communicating to public? -connections -limited by funding/manpower? 	<ul style="list-style-type: none"> -econ. program cuts -competition with Alachua Co. Waste Mgmt -must prove worth/effectiveness -hist. of evaluating projects 	<ul style="list-style-type: none"> -communication lines with public -muddled connections with other orgs.
Orange Creek Basin WG	<ul style="list-style-type: none"> -protect/preserve watershed -Action, actively solve problems/logistics of solutions 	<ul style="list-style-type: none"> -environmentally aware people -concerned citizens/perspective of changes to water quality over time -doers 	<ul style="list-style-type: none"> -medium: (research + active) -open to research findings/BMPs -have own research/data -est. communication lines -limited by time/resources-volunteers? 	<ul style="list-style-type: none"> -econ. -fertilizer ordinance -Action Plan announced 9/09 	<ul style="list-style-type: none"> -not enough public communication re: action plan
County Commission	<ul style="list-style-type: none"> -increase economic prosperity -keep Gainesville/Alachua Co. an attractive place to live/work -healthy, vibrant, thriving communities 	<ul style="list-style-type: none"> -econ. prosperity necessary for eco. Vitality/protection -attraction= more quality residents/social capital/taxes for services -happy people reelect them 	<ul style="list-style-type: none"> -medium: (administrative vs. active) -limited by volume of other commitments/decisions -must consider/bow to views of constituents -can make ordinances (enforcement?) 	<ul style="list-style-type: none"> -econ. on ppl's minds -fertilizer ordinance -other environmental/ landscaping considerations 	<ul style="list-style-type: none"> -mtgs= public awareness raising opportunity
HOA's/ Residents	<ul style="list-style-type: none"> -high property/resale values -attractive neighborhoods/yards -low cost maintenance -easy/inexpensive solutions 	<ul style="list-style-type: none"> -to be free/not trapped in home -people like pretty 	<ul style="list-style-type: none"> -HOA's can enact sweeping, required change on small scale -but, limited by historical requirements, bylaws that prevent new etc. 	<ul style="list-style-type: none"> -econ. in crapper -housing bubble has popped 	<ul style="list-style-type: none"> -diverse group w/many different HOA rules, SES, logistical issues
Non-Deeded/ Restricted Residents	<ul style="list-style-type: none"> -attractive landscape at rental property/apt. -perhaps to be free of yard work -low rent, pretty environ. 	<ul style="list-style-type: none"> -some may have sold upside down houses to be free from mortgage/ yard work 	<ul style="list-style-type: none"> -little when owners/mngrs control landscaping services -consumer power 	<ul style="list-style-type: none"> -econ. in crapper -housing bubble has popped 	<ul style="list-style-type: none"> -diverse group w/diff interests/reasons for renting/non-deed
Alachua Co. Waste Mgmt.	<ul style="list-style-type: none"> -educate children on recycling/waste mgmt -reduce environ. Cost of trash/less in landfill 	<ul style="list-style-type: none"> -men 18-35 litter most/recycle less -landfills temp. answer to increasing amts of trash -want to keep Alachua co. beautiful 	<ul style="list-style-type: none"> -lots of money/solid funding source -can educate ppl/kids through est. means 	<ul style="list-style-type: none"> -waste watcher campaign -not overly partnering with other orgs w/in cty. 	<ul style="list-style-type: none"> -ESO has volunteered with them -strong identity marketing/branding/foci
Independent Contractors	<ul style="list-style-type: none"> -competitive business/ quality service -increase clients/ speedy service -satisfied customers w/ nice yards -more \$ 	<ul style="list-style-type: none"> -compete with big names -hard working -want economic practices 	<ul style="list-style-type: none"> -can change behaviors -may be resistant to change -may charge per amt. of chemicals used-> inherent motivation to use/pollute more 	<ul style="list-style-type: none"> -economy -word of mouth business 	<ul style="list-style-type: none"> -need economic frame with environmental pluses
Application/ Franchise Companies	<ul style="list-style-type: none"> -strong brand power -quality uniform service -satisfied customers -bigger piece of mkt. share 	<ul style="list-style-type: none"> -keep services under brand name/brand quality -probably have some sort of guarantee -grow business, more \$ 	<ul style="list-style-type: none"> -can change behaviors as a company -conduct own research/cost analyses -limited by profit hunger, danger of slippery slope cause by acknowledging dangerous practices in one place 	<ul style="list-style-type: none"> -econ. -could charge per amt of chemical 	
Invisible?	?	?	?	?	?

Process:

- Meet with Greco and Wilber- network, brain storm, learn how to/who could help meet wide angle goals
- Rain Barrel interviews, contact information (email address) collection
- Survey instrument creation/IRB approval
- Review qualitative data from Greco
- Meet with Wilber, advertize/administer survey electronically

Findings: Greco interviews with landscapers

- Interviews focus on lawn service professionals and grass clippings in the street (contributes to nutrient loading in stormwater)
- Estimated 40% of residents hire landscapers
- Landscapers provide a uniform turf lawn
- Apply fertilizer and pesticides

Greco findings cont'd:

- Little communication with homeowners
- Professionals claim to remove grass clippings
- Can be difficult to keep them out of street
- Big companies versus “mow and blow”
- Will eventually have data from street sweepers on individual neighborhoods

Conclusions from landscaper stakeholder group

- Easier to train them than it is to train individual homeowners
- Still difficult to reach them and monitor their behavior
- Would work better with both homeowners and professionals working together (each demanding adoption of BMP behavior from the other)
- Education versus regulatory enforcement
- How much change can we expect? What are the costs?

Survey Instrument

- Made electronic out of necessity
- Extremely convenient
- http://www.surveymonkey.com/sr.aspx?sm=DCovnjivDguG3FJJjUGubs43eWxh8jhE4bHPivLPWBE_3d

Responses to online survey

- Only 27 out of 117 rain barrel recipients responded, a small number, but an interesting target audience for future interventions
- Half of them did have HOAs (usually the single most important factor determining turf grass and the use of fertilizer)
- The rain barrel seemed to characterize them as different from the average user of a landscape service.

Online responses cont'd:

- Most did not have an in-ground irrigation system (the single largest factor accounting for household water use statewide)
- Those that did, adjusted it seasonally or turned it on when they wanted to water (in contrast to most residents in the state who report never touching the setting)
- People who buy rain barrels are more aware of the water they use and the needs of their lawn

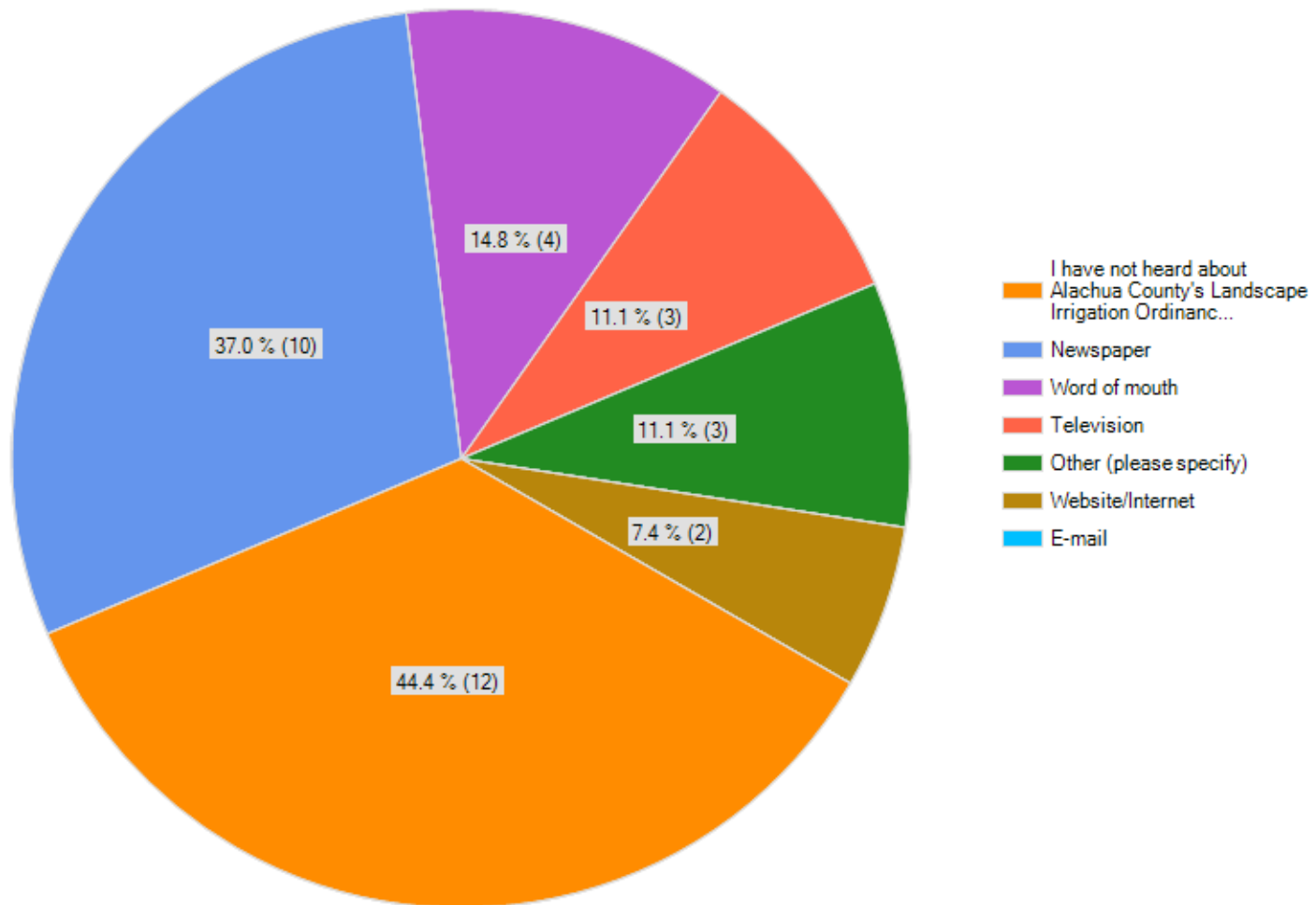
What do you like most about your landscape?

- Respondents were clearly in favor of having less turf and more plants
- They liked the reduced maintenance needs of their yards
- They wanted more native plants
- This shows at least a niche market for landscaping alternatives to turf grass

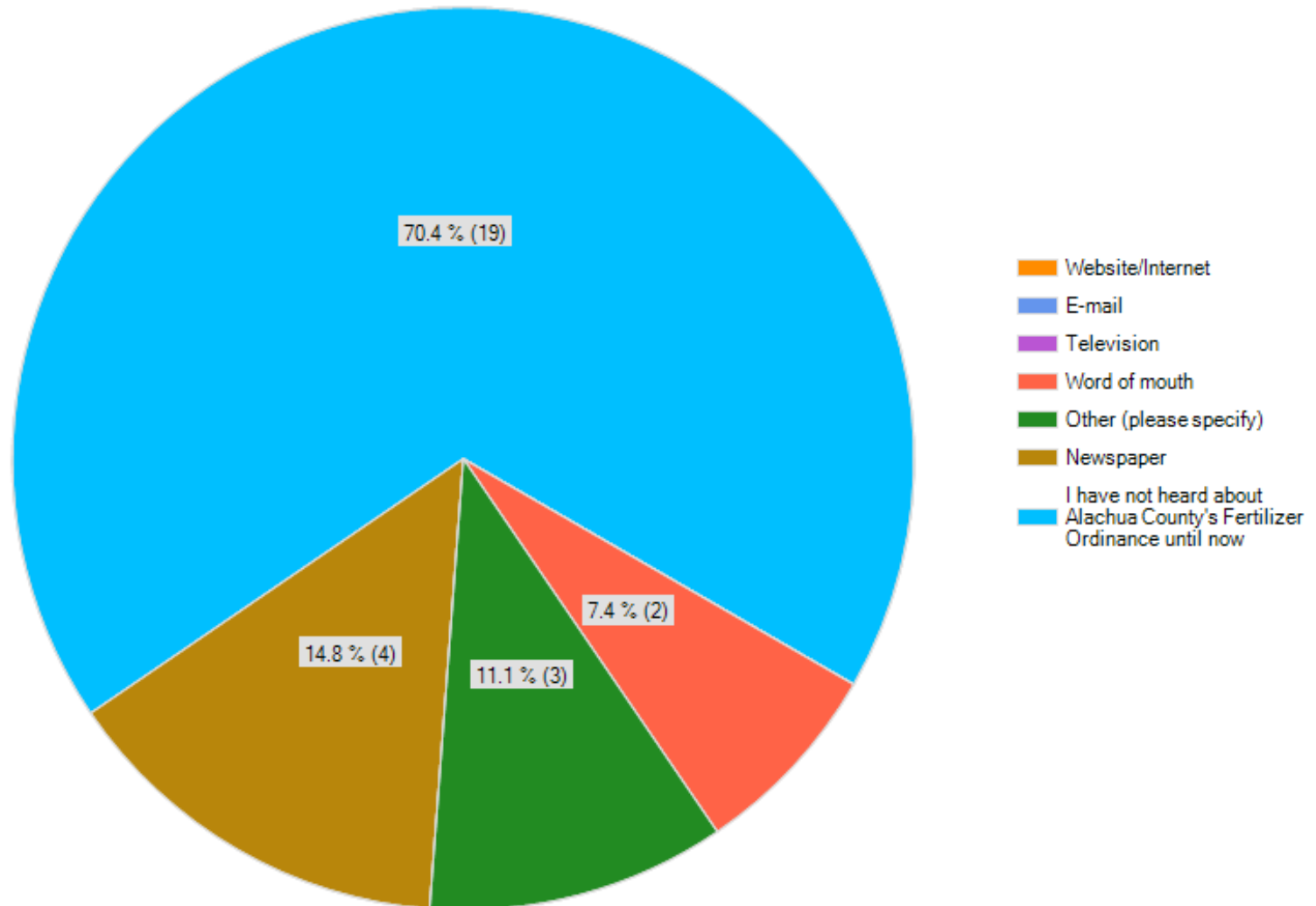
Questions about the rain barrel

- The 27 respondents were generally happy with their rain barrel (probably a biased sample)
- They used it mainly to water their gardens
- They also noted many other personal water conservation measures
- Should we distribute more rain barrels or create more rain barrel type residents?
- Can these people be water conservation opinion leaders or spokespersons?

How have you learned about Alachua County's Landscape Irrigation Ordinance?



How have you heard about Alachua County's Fertilizer Ordinance? (Select all that apply)



Lessons:

- Working backwards from goals- know where you want to be, fill in how to get there
- Everyone is very busy, persistence in scheduling is important
- In partnerships, different perspectives/skill sets can be valuable
- Electronic data collection is efficient and convenient
- Be as organized as possible for IRB process- additional email lists/survey groups require slight question variation AND new approval

Value/Impact

- Data- how many respondents learned about ordinances from taking the survey
- TBD plans to use data for developing programs
- Develop a product that can be useful to stakeholders

“High quality water is more than the dream of the conservationists, more than a political slogan; high quality water, in the right quantity at the right place at the right time, is essential to health, recreation, and economic growth.”

-Edmund S. Muskie, U.S. Senator,
Speech, 1 March 1966

“If there is magic on this planet, it is contained in water.”

-Loran Eisely, *The Immense Journey*, 1957