Florida Association of
FANREP
Natural Resource Extension Professionals

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http:// anrep.ifas.ufl.edu/

MESSAGE FROM FANREP PRESIDENT!

Greeting FANREP Colleagues,

It is my pleasure to serve as the 2017 FANREP president. I hope that together we can raise the alarm to pressing natural resource issues here in Florida. This year has begun with uncertainty about national leadership on environmental efforts. I know that here and across the nation Extension will continue to serve our clients and the environment despite the uncertainty. FANREP members have always produced outstanding work which has been recognized both regionally and nationally. Let us cheer for the good work we do and support the work of all our members. GO TEAM!

The 2016 EPAF meeting was a tremendous success and a new format used this year will allow members to have a better opportunity to network with our peers. The new format will take out many of the in-service trainings and move them to the Extension Symposium in the spring. Make sure to attend the Extension Symposium April 17 - 19, 2017 in Gainesville, Florida. The EPAF 2017 announcement should be sent sometime in the spring. Be sure to put EPAF on your 2017 calendar for August 28 -31, Sanibel Harbour Marriott Resort & Spa, Fort Myers, Florida.

EPAF is an opportunity to share your good work with agents across the state. Take this opportunity to submit a poster or abstract and to share your success. FANREP awards, newsletters and the webpage are also great places to share your success. One success story can be used for awards and the newsletter!

The FANREP board will be working hard for you this year. We are developing and writing procedures that will make board transitions easy for future board members. Consider serving on the FANREP board, nominations will go out in July. We welcome self nomination. The board is here to serve your needs so don't hesitate to contact any board member with your questions or concerns.

Finally, I want to share a quote; "Saving our planet, lifting people out of poverty, advancing economic growth... these are one and the same fight. We must connect the dots between climate change, water scarcity, energy shortages, global health, food security and women's empowerment. Solutions to one problem must be solutions for all." - Ban Ki-moon
Thank you for all that you do.

FANREP President
Alicia Betancourt.

UF UNIVERSITY of FLORIDA
IFAS Extension

Watershed Education in Japan

Last August I traveled to Japan through a Provost's Professional Development Grant, studying the role of education, art and humanities in post-disaster communities. I renewed my friendship with Dr. Tsuyoshi Sasaki, Professor at Tokyo University of Marine Science and Technology. He has created an environmental center in the village of Hakoishi) in the mountains, 100 kilometers from the northern coastal city of Miyako that was devastated by the 2011 Tsunami.

Tsuyoshi has a watershed education project working with the coastal community youth. I was honored to participate in one of his trainings where he brought youth (ages 8-12) to his center to learn watershed principles and the hydrological cycle (from the mountain to the ocean). The youth did a pre-test, had a brief lecture, then donned wetsuits and participated in stream studies. Nothing different than what we do here.

Then they were asked to jump into the water and experience the joy of floating downstream. This activity was part of a 'hidden" goal for Tsuyoshi and colleagues. Many of the youth suffer from Post-Traumatic Stress Disorder due to the tsunami. Many youth not only lost home and possessions, but some lost family members. Tsuyoshi is one of many who are addressing these mental health (or "kokiro no kea", care for the heart) aspects through their work. Not only does he want students to learn water concepts, but he says he also wants to make sure "they are not afraid of the water" and to have "the youth smile again."

To watch these young people change from being very timid in the water, to smiling, laughing and splashing one another was one of my most gratifying moments in Japan. It also reminded me that whenever we do our educational programs, and no matter what discipline, we need to find ways to make them experiential….and fun.

Dr. Mike Spranger
Professor of Community Development
Department of Family, Youth, and Community Science
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What is Water Quality?

Water quality is the measure of the conditions of a body of water, relative to the needs of the species that reside in and around it. For our inland and coastal waters to be clean and clear, for fishing and tourism economies to endure, and for marine life and wildlife to flourish, we must maintain good water quality by adopting best management practices to reduce nutrients, pollutants, and sediments from entering into surface waters where they degrade water quality. Clean and clear water supports marine life and wildlife, helps our homes retain value, and promotes recreation and tourism. Good water quality comes from controlling pollution from two sources: point source and nonpoint source pollution.

Point source pollution is the type of pollution that you can literally point to, and comes from a single identifiable source, like an industrial plant pipe. Since the Clean Water Act of 1972, the United States has done a great job controlling point source pollution. The type of pollution that is more difficult to control is called **non-point source pollution,** which carries pollution into waterways from the land every time it rains. Non-point source pollution comes from fertilizers, pesticides, sediments, animal and human waste, petroleum products, and other pollutants, like heavy metals, that come from places we can't pinpoint to a single source. These pollutants arise from many diffuse sources, including yards, roadways, parking lots, boats, and improper disposal of household chemicals --- and reducing this type of pollution is up to you!

Stormwater runoff flows over pollutants on the ground throughout a watershed and carries them into coastal ecosystems. It is best to reduce the pollutants entering the waterway in the first place. We like to encourage you to think of your lakes, rivers, wetlands, and the ocean like your swimming pool – if you wouldn't put it in your pool, DON'T put it in the water!

Shelly Krueger, Florida Sea Grant Marine Agent
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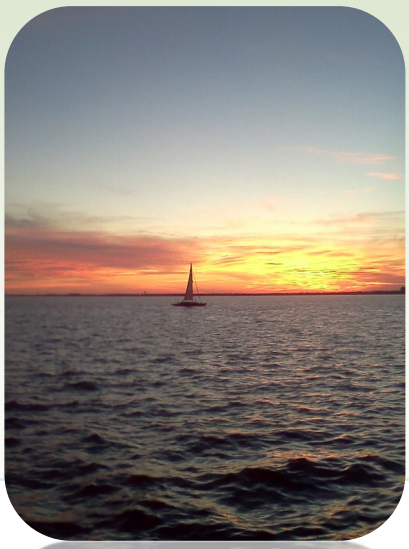
FANREP Travel Scholarship Program

We have a rolling application cycle to help with travel costs to conferences, workshops, in-service trainings, etc.

You must be an active FANREP member.
No more than one award / person each year
Maximum amount for the scholarship is $300

The due dates for the 2017 cycles are:
January 15 March 15 June 15 September 15

Florida Association of FANREP Natural Resource Extension Professionals



Each recipient will be asked to write a brief summary of their experience for the newsletter.

Applications can be found at http://anrep.ifas.ufl.edu/Scholarship.shtml.

All applications should be sent to Lloyd Singleton at lsingleton@ufl.edu

Food (Web) For Thought

Welcome back, FANREPers. Here's my latest offering for your consideration which I hope provides you fresh food for thought. I hope to inspire you to consider future collaborations across disciplines that will enhance the impact and scope of your Extension programs.

For this edition, I want to pick up from the last issue in sharing with you more about the concepts and principles of agroecology, especially as it pertains to natural resources Extension. In particular, there are some very interesting parallels of agroecology with current Extension programs such as Resilient Communities and Sustainability. Let's examine the science of agroecology to evaluate such a conclusion.

Agroecology draws many insights from the science of ecosystems in its application to agricultural systems. For example, the ecologist C.S. Hollings first introduced in 1973 the concept of resiliency to describe the persistence of natural systems in the face of changes in ecosystem variables due to natural or anthropogenic causes. In agroecology, best practices are designed to create greater structural and functional similarity of an agroecosystem to the natural ecosystem. This increases the likelihood the agroecosystem will recover from a diversity of disturbances.

The impact of Hollings' work has included the social applications of the cross-scale structure and dynamics of ecosystems, e.g., 'panarchy'. Panarchy is the structure in which systems, including those of nature and of humans, as well as combined human-natural systems, are interlinked in continual adaptive cycles of growth, accumulation, restructuring, and renewal. This is now the foundation of 'resiliency thinking' for many resilient community programs. Resiliency programs strive to develop the capacity of a community to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from shocks and stresses to the infrastructure, economy, and the environment. Example applications of resiliency thinking now include Extension programs for coastal communities, disasters, and food systems.

A comprehensive definition of agroecology describes agricultural systems as multi-dimensional systems, including social, environmental and economic components. Agroecology moves beyond any view of agriculture involving solely on increased yields and improved profit margins. Instead, practices and technologies are evaluated on their contributions to the overall sustainability of farm systems by looking at a complex set of biological, physical, chemical, ecological and cultural interactions. Agroecology also draws upon traditional agroecosystems to provide many examples of how a culture and its local environment have coevolved with processes that balance the needs of the people. These are expressed as ecological and socio-economic factors in a very sophisticated application of ecological knowledge.

The phrase "the triple bottom line" was first coined in 1994 by John Elkington, the founder of a British consultancy called SustainAbility. His argument was that companies should be preparing three different (and quite separate) bottom lines in order to take account of the full cost involved in doing business and to insure long term success. Today the foundation of the concept of sustainability describes a similar need for a triple bottom line of being socially equitable and appropriate, environmentally sound, and economically viable. These are the same principles developed in agroecology with the integration of ecological, social and economic sciences to offer solutions to modern agriculture's need for long-term sustainability, including excess dependence on fossil fuels and external inputs and overusing and degrading the soil, water, and cultural resources.

Until my next column, keep on building your food (web) of thought . . .

Robert A. Kluson

Past President, FANREP

High schoolers guard our water

Calibrating a sprinkler system isn't hard –but it requires twenty minutes of one's time, basic algebra, and adjusting an irrigation timer. Each of these barriers are significant enough to prevent action. People cringe when they hear "math" and can look at an irrigation timer as if they have to diffuse a bomb. "It's really not that complicated," I would say, "A high schooler could do it!"

And so, Florida-Friendly Landscaping and 4-H in Seminole County created the 4-H Water Guards. A new 4-H Spin Club, the Water Guards consisted of eleven high school juniors and seniors. For six weeks I met the club after school and discussed a different water conservation technique with as much hands-on activity as possible. The first eye-opening message was that water conservation goes beyond shorter showers and that irrigation efficiency has the biggest savings potential. We started off with the "tuna can test" where they measured the current sprinkler output and what the necessary irrigation run time would be to apply a half-inch of water. We constructed rain barrels, installed micro-irrigation, and learned about water quality on a kayak tour. Several club members never held power tools before, others hadn't been in a kayak. It is rewarding empowering our youth!

The rewards continued. The Water Guards were tasked with calibrating as many household irrigation systems as possible. The Water Guard who presented the highest water savings (I supplied them with an Excel sheet to make it easily quantifiable) was awarded a $500.00 4-H scholarship. The Water Guards saved a total of 240,000 gallons of water per year for 13 households. Additionally we asked for a multi-media display to spread a water conservation message. We received blogs, videos, and even a personality quiz. We awarded $250.00 and a 4-H Legislature scholarship to a young lady, who produced a charismatic and informative video. We were so pleased with everyone's accomplishments.
Combining FFL and 4-H worked seamlessly. We each had our strong suits: I could easily talk about water conservation and 4-H handled all the paperwork and youth criteria. Meeting with a small group week-to-week was fun and sociable. Ultimately I think our measurable impacts were worth the fairly low time demand.

4-H Water Guards could pop up in any county, but we also had some lessons learned. I think a personal appeal convinces more households to calibrate their sprinklers, but the club members did not have as many neighborhood connections as I had hoped. Also high schoolers are busy! Homework, sports, and other clubs limit their time. Fortunately, we met at their high school, which was more convenient for them. Also their environmental science teacher really helped corral and motivate them further. If you would like to start a Water Guards club, think realistically what their water conservation goals should be and how much time to assign them. In the end, we had new friendships, better skills, gained perspectives, and gallons saved!

Taryn Sudol
Florida Friendly Landscaping Agent
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Panhandle Outdoors LIVE! Is well received in Apalachicola

A beautiful fall day, topped-off with an eagle soaring overhead, provided a stunning backdrop for the final UF/IFAS Extension Water School for 2016. The one-day workshop, which focused on water-related issues of the Apalachicola River and Bay, was the last in a series of three workshops conducted during 2016 by Natural Resource Agents in the University of Florida's NW Extension District. Each event highlighted local topics of importance and related them to a larger watershed management context. The first workshop covered the Wakulla Springs watershed and was hosted at Wakulla Springs State Park. The second event involved a paddle trip on Econfina Creek in Washington County to gain an understanding of another karst (limestone) watershed. Franklin County provided a magnificent case study, with the tri-state Apalachicola-Chattahoochee-Flint (ACF) Watershed, for the 30 participants who joined in on the fun.

Participants of UF/IFAS Water School discuss Apalachicola River Issues in the Field

The day started with an indoor session and two presentations by Franklin County Extension Director Erik Lovestrand. The first session set the stage regarding water management issues in the larger context of the ACF Basin and related river flow issues to impacts in the lower Apalachicola sub-basin, including Apalachicola Bay and the seafood industry. The second presentation brought things home to the local level with a focus on the current oyster situation in the Bay. There was good discussion between the participants who travelled from as far away as Milton (over 3 hours by car) and many surrounding counties to participate in the day.

To help solidify a more personal connection to the resources that were discussed in the morning sessions, everyone migrated to the river for an afternoon paddle trip up some of the lower river creeks into marshes just below the Apalachicola Northern railroad bridge. All in all, it was a great day of classroom and field time that provided a better understanding and appreciation of the incredible natural resources we are fortunate to have access to in this part of Florida. Thanks to all of the faculty, staff, volunteers, and participants who made the day an experience that will remain in the environmental consciousness of all who took advantage of this special opportunity.

Erik Lovestrand **Franklin County Extension Director, Sea Grant**

elovestrand@ufl.edu **(850) 653-9447**

Meet the New Water RSA's

Florida Association of FANREP Natural Resource Extension Professionals

South Florida Water Management District

Lisa Krimsky
2199 South Rock Road
Fort Pierce, FL 34945
772-468-3922 • 301-351-5747 (cell)
lkrimsky@ufl.edu

Focus Areas

- Protecting and enhancing water quality in coastal and estuarine ecosystems
- Water conservation
- Water as it relates to natural resources and the environment
- Water as it relates to utilities, the built environment, land use/water supply planning and land development

Education

- Ph.D., Marine Studies, University of Delaware, College of Marine and Earth Studies
- BS, Environmental Science and Policy, University of Maryland

University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Extension has created five new regional faculty positions to facilitate partnerships among various urban and agricultural stakeholders, state agencies, water management districts and the public. The five faculty will lead in developing applied research, educational programs, and partnerships related to water quantity and water quality. Each faculty member has unique expertise and is regionally associated with a water management district, but they work together as a cohort to address water sustainability needs in all parts of the state.

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Meet the New Water RSA's

Florida Association of
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St. Johns River Water Management District

Jim Fletcher
2725 S. Binion Rd
Apopka, FL 32703
(407) 410-6901 • (301) 351-5747 (cell)
jhfr@ufl.edu

Focus Areas

- Protecting and enhancing water quantity and quality
- Water conservation
- Water Policy
- Water supply for both public and agricultural sectors

Education

- MS, Animal Genetics, Virginia Tech
- BS, Animal Science, Virginia Tech

Southwest Florida Water Management District

Mary Lusk
1200 N Park Rd.
Plant City, FL 33563
(813) 757-2274 • mary.lusk@ufl.edu

Focus Areas

- Urban water quality, stormwater, and low-impact development for urban areas
- Urban fertilizer ordinances
- Pathogens in water bodies
- Onsite wastewater treatment (septic systems)
- Urban agriculture

Education

- Ph.D., Soil and Water Science, University of Florida
- MS, Soil Chemistry, Virginia Tech
- BS, Agronomy and Horticulture, Brigham Young University

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Meet the New Water RSA's

Florida Association of FANREP Natural Resource Extension Professionals

Northwest Florida Water Management District

Andrea Albertin
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Quincy, FL 32351
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Focus Areas

- Groundwater quality and quantity
- Agriculture and Green Industry Best Management Practices (BMPs)
- Septic systems
- Coastal water supply

Education

- Ph.D., Aquatic Biogeochemistry, University of Florida
- MS, Agroforestry, University of Florida
- BS, Biology, The College of William and Mary

Suwanee River Water Management District

Charles Barrett
7580 County Road 136
Live Oak, FL 32060
(386) 314-1194
cebarrett@ufl.edu • Twitter: @FLWater

Focus Areas

- Irrigation scheduling
- Vegetable crop production
- Ag water BMPs
- Building interagency relationships
- Developing water resource education materials

Education

- Ph.D., Horticultural Sciences, University of Florida
- MS, Horticultural Sciences, University of Florida
- BS, Biology, University of Florida

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SCARS HURT: A SOCIAL MARKETING CAMPAIGN TO REDUCE SEAGRASS DAMAGE

Seagrasses protect aquatic and shoreline ecosystems and support a robust fishing and boating economy in Florida. Healthy seagrasses reduce shoreline erosion, sequester carbon, improve water quality and form extensive structural habitat that supports a diverse array of species including economically valuable fishes and invertebrates. The importance of seagrasses is recognized statewide and the creation of numerous Aquatic Preserves placed over 1 million acres of habitat under state management. The Florida Fish and Wildlife Conservation Commission name seagrasses as one of the most threatened marine habitats in Florida, with the highest ranked stressors being altered water quality, habitat destruction and sedimentation. Seagrass scarring occurs via boat propellers and anchors cutting into seagrass tissues or through vessel groundings on the seagrass. Seagrass scarring is an increasing problem in Florida and an urgent issue because natural recovery from physical damage may exceed ten years. Over time, erosion and scouring in scarred areas can result in reduced resilience of the seagrasses to other stressors and lead to loss of seagrasses. Seagrass scarring is wholly preventable.

Along Florida's Gulf Coast, seagrass scarring mostly occurs because boaters encounter difficulties navigating in the shallow Gulf waters and lack awareness about the lasting ecological consequences of seagrass damage. Boater education and improvements to navigational aids are both strategies that are likely to reduce seagrass scarring in a cost-effective manner. To address this growing need for boater education, we partnered with several county governments and Aquatic Preserve managers from Southwest Florida, around the Big Bend and into the Panhandle to deliver and important message to boaters: "Scars Hurt".

This educational campaign is based on extensive social marketing research including interviews, surveys and focus groups. Campaign products includes signage at boat launch points that reminds boaters of the importance of seagrass resources for recreational angling and illustrates the procedures for transiting in shallow seagrass areas (i.e., troll or pole to deeper water before engaging motor). There are additional materials, such as graphics, maps, and videos, available online at http://beseagrasssafe.com. In some areas, boaters have been asked to sign a pledge to practice seagrass safe boating. After completing the pledge, boaters received a weatherproof sticker, suitable for placement on a boat, bait bucket or cooler, and/or a waterproof cell phone case. The sticker will serve as a reminder about seagrass safe boating and help spread the word about protecting seagrass resources to other boaters. Pre-campaign surveys indicated that boaters largely understand that seagrasses are important but do not tend to think about seagrass scarring as a threat to seagrasses. Future social marketing and boater education efforts will focus on linking seagrass scarring to loss of seagrass services to better connect boaters with the message of seagrass protection. **Savanna Barry, Florida Sea Grant; savanna.barry@ufl.edu**

Walton County's Morrison Spring

There are over 1000 springs identified in Florida. In the Panhandle, the majority of the springs are karst or artesian springs rising deep from the Floridan Aquifer System. Springs are unique and can be identified by perennial flows, constant water temperature and chemistry, and high light transparency. This yields a freshwater ecology dependent on these features. Springs are classified based upon the average discharge of water but exhibit a lot of variability based on water withdrawals and rainfall. These springs are some of our most precious water resources, supplying the drinking water for our communities, as well as great recreation opportunities.

Morrison Springs is a popular spring in northwest Florida and is one of 13 springs flowing into the Choctawhatchee River Basin. It is a large, sandy-bottomed spring surrounded by old growth cypress. The spring pool is 250 feet in diameter and discharges an average of 48 million gallons of water each day from three vents as a second

magnitude spring. The spring contains an extensive underwater cave system and is popular for scuba diving, swimming and snorkeling, kayaking, canoeing and fishing. Historically, it was a privately owned spring however in 2004, the state of Florida purchased the land and leased it to Walton County for 99 years. The county created a 161-acre park with a picnic pavilion, restroom facilities, boat ramp and a wheelchair-accessible boardwalk.

Morrison Springs was previously considered one of the cleanest springs in Florida until 2010 (Florida Springs Initiative). All of Florida springs are currently at risk as the state population continues to increase. Spring flows are decreasing as the result of increasing extraction of groundwater for human uses. Development, and the resultant over pumping, and nitrogen pollution from agriculture both have impacts on the aquifer recharge areas. Existing groundwater pumping rates from the Floridan Aquifer in 2010 were more than 30% of average aquifer recharge (Florida Spring Initiative). Extension agents in the Panhandle offer interpretive tours of the springs, encouraging participants to join in efforts to protect the springs.

Laura Tiu
Florida Sea Grant Agent
UF/IFAS Extension, Okaloosa—Walton County
lgtiu@ufl.gov (850) 763-6469

Meet the New Sea Grant Agent in Miami-Dade!

Hello, FANREPers!

I'm Ana, the new Miami-Dade County Program Extension Agent for Florida Sea Grant. I started in this role right at the new year, stepping into the position formerly held by Lisa Krimsky. I'm thrilled to be a part of UF, IFAS and Sea Grant, and look forward to bringing programs to the Miami-Dade County community. I plan to focus enhancing marine literacy and stewardship, as well as promoting sustainable practices to conserve and protect marine resources.

As more of a marine gal, I'm jazzed for the opportunity to learn about all of the other Extension program areas like 4-H, Agriculture, Horticulture, Master Gardener, and more.

Prior to this position, I worked at FDEP's Coral Reef Conservation Program, also based in Miami. I served as CRCP's Awareness & Appreciation Coordinator, in charge of all things outreach and communications-related. Additionally, I participated in various fieldwork activities on snorkel and SCUBA: seagrass surveys, reef visual census, coral bleaching assessments, and also documented coral disease through a photo project at four ESA-listed coral species sites. I'll take any reason I can to drive a boat or be underwater.

Following my graduate work at the University of Miami's Rosenstiel School of Marine and Atmospheric Science, I completed two internships and a stint as a Park Ranger at Biscayne National Park here in south Florida. I'm still an active volunteer at BNP, performing mooring buoy maintenance, removing lionfish, and completing other random tasks as they emerge.

Thank you for welcoming me to this organization. I'm looking forward to meeting and working with all of you!

Ana Zangroniz
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2016 FANREP AWARDS

Florida Association of FANREP Natural Resource Extension Professionals

Friends of FANREP

Tonya Clayton, Ph.D.

Tonya was awarded the Friends of FANREP Award for her dedication to UF/IFAS Extension Pinellas County. Tonya is an active member on the Overall Advisory Committee and is an impactful advocate for Extension. She provided significant contributions through the development of state-wide curricula for the new Florida Waters Stewardship Program. Tonya's contributions to Extension will have a positive, lasting effect.

Outstanding Specialist

Tatiana Borisova, Ph.D.

Tatiana Borisova is an assistant professor with the UF/IFAS Food and Resource Economics Department. She works with Agents on the design, implementation, and evaluation of programs that focus on the value of water resources to Florida's economy, the effectiveness of water quality and allocation policies, and the costs of pollution abatement and water conservation strategies for agricultural and urban areas. Programs like Water Schools and the Florida Waters Stewardship Program would not be possible without her support and contributions.

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2016 FANREP AWARDS

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Early Career Leadership

Shelly Krueger

As the Florida Sea Grant agent in Monroe County for the UF/ IFAS Extension, Shelly Krueger has been successful in developing an extensive extension program to address timely and relevant coastal issues such as water quality, habitat restoration, citizen science, and fisheries management. She created Florida Keys Water Watch, a volunteer water quality monitoring program that teaches residents, students and teachers to collect chemical water quality data in residential canals. She is the education and outreach lead for a large-scale sponge community restoration program in Florida Bay in partnership with the Florida Fish and Wildlife Conservation Commission and several nonprofit organizations.

Mid Career Leadership

Rebecca Jordi
CED
Environmental Horticulture
Nassau County

The first person in the county to ever use micro-irrigation on municipal property; the first to develop a demonstration garden to represent the 9 Principles of Florida Friendly Landscapes at a location where the BOCC meet twice a month and a building that houses the County Supervisor of Elections, the County Property Appraiser, the County Manager and the Director of Office and Budgets for the County are located; the first to provide CEU for municipal employees and the first to challenge municipals workers to get pesticide licenses to comply with State laws.

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2016 FANREP PROGRAM AWARDS

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Individual Program Leadership

Maia McGuire

The Florida Microplastic Awareness Project is a statewide citizen science effort to quantify the amount of microplastics in Florida water bodies. It is tied to an outreach effort to get people to reduce the amount of plastic waste that they generate. As people discover how abundant microplastics are in their local waterways, we are finding that they are willing to make behavior changes to reduce their contribution to the problem.

Outstanding 4-H/Youth Development

Sheila Dunning

"Dunes in Schools"
Grade school youth are trained in coastal ecosystems and plant production through in class, online and hands-on experience. Coordination with a local non-profit group, AmeriCorps volunteers, teachers and state park system enables each child to grow and install Sea Oats as part of Northwest Florida dune restoration.

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2016 FANREP PROGRAM AWARDS

Florida Association of FANREP Natural Resource Extension Professionals

Innovative Program

1st place – Team
Sheila Dunning, Jennifer Bearden, Scott Jackson, Laura Tiu, Brooke Saari, Dawn Pack, & Brittney Tate

"For Dunes in Schools"
Grade school youth are trained in coastal ecosystems and plant production through in class, online and hands-on experience. Coordination with a local non-profit group, AmeriCorps volunteers, teachers and state park system enables each child to grow and install Sea Oats as part of Northwest Florida dune restoration.

2nd place – Libby Carnahan

"Tampa Bay Climate Science Advisory Panel"
In response to a stated need, the Agent recruited 16 key research scientists and 9 designated alternates from 12 local, regional, state and federal agencies as well as 4 county governments to serve on the Tampa Bay Climate Science Advisory Panel (CSAP), an ad-hoc workgroup whose goal is to provide scientific counsel to local governments planning for a changing climate. A few of the scientific organizations represented include the Tampa Bay Estuary Program, Tampa Bay Regional Planning Council, Tampa Bay Water, Florida Sea Grant, Florida Climate Institute, the National Weather Service, the National Oceanographic and Atmospheric Administration, and the US Geological Survey.

3rd place - Team
Jim Davis, Moffis, B.L., Boughton, R.K., Daniels, J.C., Demers, C., Enloe, S.F., Hill, J.E., Johnson, S.A., Pienaar, E.F., Westervelt, D., Clothier, A., Stout, R., Lester, W.

"Wildlife and Invasive Species Education"
This event was formed after assessing the need for more education on invasive species and native wildlife from UF/IFAS Sumter County Hike Sumter events, which were established in 2013. W.I.S.E. provides continuing education to Florida Master Gardeners and Florida Master Naturalists to promote and educate on native wildlife, native plants and the control of invasive species in Florida.

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2016 FANREP PROGRAM AWARDS

Florida Association of FANREP Natural Resource Extension Professionals

Educational Materials: Promotional Materials

1st place Lara Milligan "ECO Teacher Training Workshop Promotion"

Description: Promotional materials for this workshop included a save-the-date card, program flyer, and two videos. Save-the-date cards and flyers were mostly distributed electronically, but don't showcase all the ECO Teacher Training Workshop has to offer. This is where the two promotional videos come into play, highlighting snippets of workshop activities, participant interviews and benefits of participating, and this is all done in a positive and professional manner.

2nd place – Team - Mary Derrick, Elizabeth Bolles, Sheila Dunning, Mike Donahoe, Tracy Bryant, Johanna Welch "Formosan Termites" Workshop flyer

The Formosan Termite Awareness in the Panhandle Event Flyer was created to promote 4 workshops in 3 adjoining counties. 248 individuals attended the workshops and learned about the biology of the Formosan termite, how to better protect their homes from the pest and how to interpret their termite contracts for coverage for this termite species.

3rd place – Team - Susan Webb & Erin Elsberry – "School and Community Garden Brochure" brochure to promote the assistance (technical and educational) the school and community garden programs offer to clientele in Polk County. The brochure is intended to advertise these programs with target audiences specific to school and community gardening.

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2016 FANREP PROGRAM AWARDS

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Education Materials: Brief Publication

1st place Lisa Hickey "Palm Nutritional Deficiencies Chart" Our project was a quick reference guide created for homeowners to understand the nutritional deficiencies for palm trees. Palm nutritional deficiencies is the number one question asked in our plant diagnostic clinic and the short publication gives residents handy information and photos to address most palm deficiencies.

2nd place – Chris Verlinde - "Navarre Beach Seashore Life" - A Folding Pocket Guide to Familiar Species This publication was developed in response to tourists looking for a comprehensive guide about local wildlife they observed along Navarre Beach (NB), the NB Pier, on the NB Marine Sanctuary (a near-shore snorkeling reef) and in the Santa Rosa Sound. In addition, many visitors are not aware of beach safety precautions and what the beach warning flags mean, so this information was included.

3rd place –Erin Elsberry - "Putting the Garden to Bed for the Summer" - The factsheet was created to assist the target audience with developing a garden summer maintenance plan. The intended audience included teachers, administrators and volunteers. The document was distributed to school garden teams during a gardening workshop, as well as individual contact teachings.

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2016 FANREP PROGRAM AWARDS

Florida Association of FANREP Natural Resource Extension Professionals

Education Materials: Short Publication

1st place – Libby Carnahan – "Recommended Projection of Sea-Level Rise in the Tampa Bay Region"

Under the facilitation of the Sea Grant Agent, the Climate Science Advisory Panel participated in a year-long iterative process of literature review, expert speaker presentations, and facilitated discussion, and in September 2015 published the final "Recommended Projection of Sea-Level Rise in the Tampa Bay Region". With this shared projection, local governments are coordinating, developing, and implementing appropriate coastal adaptation and risk reduction strategies.

2nd place – Mary Derrick – "The Panhandle Butterfly House Expands Environmental Awareness"

"The Panhandle Butterfly House Expands Environmental Awareness" is a 9-page article that was accepted and published in the peer-reviewed Journal of the National Association of County Agricultural Agents, Volume 8, issue 2, in December 2015. The publication seeks to inspire other Extension professionals to partner with similarly focused organizations or groups to foster environmental awareness, particularly butterfly and pollinator protection, through the operation of a butterfly house.

3rd place – Lisa Hickey – "Fresh New Landscape" Factsheet Series

The factsheet series were developed to increase the awareness of residents in landscape designs, to help avoid landscaping pitfalls, to determine appropriate plant usage, and to determine the wildlife benefits of selected plant material. The series were supplemental factsheets that supported existing educational workshops and our "Landscape Assistance Program" and to be utilized as residential reference material when they started a new landscape.

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Education Materials: Long Publication

1st place – Team - Holly Ober & Bill Giuliano

A series of EDIS publications created a series of eight EDIS documents to provide information to the general public about wildlife that commonly cause problems for people in Florida. The documents outline recommendations on how to deal with wildlife that are considered by many people to be either dangerous or damaging, including panthers, bears, coyotes, wild hogs, deer, alligators, snakes, and non-native frogs.

2nd place – Team - Sheila Dunning, Jennifer Bearden, Scott Jackson, Laura Tiu, Brooke Saari, Dawn Pack, & Brittney Tate - "Dunes in Schools Volunteer and Student Workbook"

Grade school youth are trained in coastal ecosystems and plant production through in class, online and hands-on experience. Coordination with a local non-profit group, AmeriCorps volunteers, teachers and state park system enables each child to grow and install Sea Oats as part of Northwest Florida dune restoration. The workbook orientated the volunteers to the various stations that are utilized at the installation field trip. Students a provided with worksheet at each learning station.

3rd place – Team – Team - Jim Davis & Chris Demers – "Wildlife and Invasive Species Management Education" Booklet

The booklet was used as a supplement to the educational workshop, Wildlife and Invasive Species Education or W.I.S.E. The booklet contains information and resources for native wildlife and invasive species.

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Florida Association of FANREP Natural Resource Extension Professionals

Education Materials: Newsletter

1st place – Chris Demers – The quarterly Florida Land Steward newsletter is sent by mail and electronically to Florida landowners, foresters and natural resource professionals. It was described by one private landowner recently as the "Times Union of the Florida Woods".

2nd place – Team - Mary Derrick, Elizabeth Bolles, Molly Jameson, Matt Lollar, Sheila Dunning, Les Harrison, Gary Knox, Julie McConnell, Matt Orwat, Judy Biss, Carrie Stevenson, Blake Thaxton, Taylor Vandiver, Pete Vergot, Larry Williams, J. Xin – "Gardening in the Panhandle" Newsletter upgrade
Gardening in the Panhandle is an online weekly newsletter that conveys timely and pertinent research-based knowledge on topics such as plant disease, proper gardening practices and new plant varieties to residential clients. Authors are agents and specialists throughout the panhandle. Email links were sent to 3,074 subscribers leading to 78,120 views in 2015.

3rd place – Lynn Barber "A series of articles published in the Florida Community Association Journal"
The Magazine's focus is homeowner associations, boards of directors, property managers, landscape professionals and community attorneys and community association residents. The monthly horticulture articles were based on Florida-Friendly Landscaping™ (FFL) Principles. The four samples I submitted included Gardening with Perennials, Heat-seeking Annuals, Favorite Funky Flowers and Rainwater Harvesting. The purpose of the articles was to provide Florida-Friendly Landscaping™ water conservation, environmental horticulture and plant selection information to the target audience above; providing science based information to educate and empower communities (and residents) in making environmentally responsible decisions for their businesses and residents.

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Education Materials: Series of Articles

1st place – Susan Haddock - Pesticide Poisoning and Exposure.

The series of articles was published in the *In The Field Magazine,* 2015 issues, which is circulated throughout Hillsborough County, with the goal is to "raise awareness of agriculture, the farmer, rancher and the blood, sweat and tears that goes into getting the safest food supply to your table each day and to create a bond with those not directly involved in agriculture in order to build a better understanding of the industry". The series of articles serves to present a complex and serious topic over several months, so as not to inundate the reader with fear, but with a better understanding of the topic and how to respond appropriately. Part 1 defines integrated pest management, the types of pesticide exposure and distinguishes between pesticide exposure and poisoning. Part 2 speaks specially to the potential for pesticide poisoning and the effects of pesticide poisoning. Part 3 addresses responding to and diagnosing pesticide poisoning.

2nd place – Nicole Pinson -

The project was a series of articles created for homeowners to address landscape issues. Articles were written for The Laker/Lutz News and topics included beneficial insects, fall vegetable gardens, garden safety, and pet-friendly landscapes. Printed newspapers are mailed to homes and businesses in Lutz, Land O' Lakes, Wesley Chapel, Zephyrhills, Dade City, and San Antonio. Timely, relevant and straightforward articles enable readers to apply the information to their landscapes.

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2016 FANREP PROGRAM AWARDS

Florida Association of FANREP Natural Resource Extension Professionals

Education Materials: Radio

1st place – Judy Biss

This radio broadcast was part of the regularly aired Calhoun County Extension News radio program. In partnership with the local radio station, our goal is to educate the public on topics related to natural resources, agriculture, and horticulture that are current and relevant to the community in the listening area.

2nd place – Taryn Sudol ' Radio Interview for pond restoration

Cox Media and News96.5 WDBO reached out to Kids House and myself for an 26 minute interview. The talk covered both Kids House objectives and the importance of stormwater ponds and ways to improve them. It aired on five separate local station. My hope is that this conservation inspired people to think more about how they fit into the watershed and how the waterbody their closest to can be improved. Since the air date, the county and I made a slide show to match with the interview and post it on YouTube so that it is available to anyone interested.

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Florida Association of FANREP Natural Resource Extension Professionals

Education Materials: Video / Video Disk

1st place – Taryn Sudol "Protecting the Lake"

In October 2015 I created a 3:30 minute video discussing aquatic plants and best management practices in the yard to reduce nutrient and pollutant impacts on water quality. My intention was to have a short video, putting less demand on people's time, but within that time, delivering simple behavior changes and increasing the residents' awareness of vegetated waterfronts.

2nd place – Elizabeth Staugler "The Great Bay Scallop Search Orientation"

The Great Bay Scallop Search is a citizen science event designed to evaluate the health and population status of the Florida bay scallop. Up to 150 volunteers are recruited in each of four southwest Florida estuaries and two panhandle estuaries annually. Volunteers are trained in survey methods and sent out to survey assigned locations. 122 scallop search participants indicated that they had seen the video prior to participating in the search.

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Education Materials: Computer Software / Application

1st place – Team – Carrie Stevenson, Libbie Johnson, Rick O'Connor, Blake Thaxton, Chris Verlinde – "Discover Naturally EscaRosa On-line Application"

The Discover Naturally Escarosa Application complements the Naturally EscaRosa website. It was developed to attract the growing number of users that utilize technology to receive information. The marketing program was developed so that visitors, locals, and businesses would be aware of the website and app, what the sites offer and to increase use of this technology. The application has been marketed at two conferences, overall advisory meetings, with the website and on the website.

Education Materials: Web Page

1st place - Team - Shannon Carnevale & Lara Milligan

The project was a wildlife webinar series which sought to reduce human/wildlife conflict through web-based education. The project included planning and hosting five webinars in 2015 and six in 2016. All webinars were recorded and are available for viewing on our county UF/IFAS Extension websites.

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Education Materials: Mixed Materials

1st place – Eric Lovestrand - The project involved the creation of a website, a radio PSA and two printed pieces. They were utilized in an outreach campaign as part of a larger effort to improve sea turtle nesting beach habitat and assist property owners by increasing compliance with a local sea turtle lighting ordinance in Franklin County.

2nd place – Team - Shannon Carnevale & Lara Milligan - The project was a mixture of wildlife webinars which sought to reduce human/wildlife conflict through web-based education. In addition, we used social media and graphics, a newsletter article, a graphic flyer, and email advertisement to engage users who are likely to be interested in web-based program delivery.

Sustainability – New Category

Leon County Extension Office Sustainability Best Practices

UF/IFAS Leon County's Zero Net Energy Extension Center has been used to teach 736 clientele participating in workshops, tours and day camps how a 50-year-old building can be renovated into net-metered office space using solar PV and closed loop geothermal HVAC in tandem. Instructional aids developed include fact sheets, kiosk, signage, posters and Web-based energy monitoring feeds. Saving taxpayer's money, stewardship of the environment and improving the quality of life in Leon County were the primary reasons for pursing net zero energy goals. Special attention was paid to minimizing peak demand and associated utility costs. The net zero approach also serves to protect the county from risk associated with increasing energy costs and utility bills.

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JCEP: Enjoying an International Conference, Locally
By: Shannon Carnevale, Natural Resources and Conservation, Polk County

I'd like to start by thanking the FANREP Board for approving my scholarship application so early in the year; you made it possible for me to attend and present at JCEP!
I attended JCEP's 2017 Conference in Orlando as part of a presentation team with Ramona Madhosingh-Hector, Lara Milligan, and Michelle Atkinson. Additionally, Libby Carnahan was a part of the team and abstract submission but was unable to present at the conference due to a pre-existing engagement.
We presented during session II-4, Tuesday morning, on "Facilitating Issues Based Extension Programs" to an audience of approximately 30 Extension professionals from around the country. During our presentation we demonstrated ice-breaker activities as a tool for trust-building and audience engagement, shared tips for dealing with dominant personalities, and reviewed three facilitated extension events as examples in using structured meetings to address complicated community issues. Audience participation was high during and after the presentation. Following our 45 minute presentation, an audience member from K-State Extension came up to thank the presentation team for "practicing what we preach" and making the presentation engaging and instructive.
On the whole, I really enjoyed attending JCEP's 2017 National Conference. The abstracts were informative and interesting and the networking was valuable to me as an agent just beginning the P/PS packet process. As is usual for local conferences, FANREP and UF/IFAS Extension had a good showing from our faculty and staff. Dean Place was a panelist during the first afternoon's "Virtual Town Hall" meeting and I saw Dr. Mukhtar perusing the poster session. Numerous attendees commented that the location was wonderful, the weather beautiful, and that they couldn't believe how many UF/IFAS Extension personnel were in attendance. High-five, team!

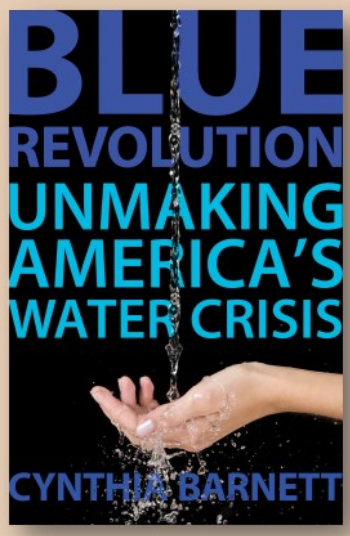
Books on Water Issues

In this edition we are highlighting media dealing with water issues. Environmental journalist Cynthia Barnett has written several books on the topic, some focusing specifically on Florida. Seth Siegel tells the story of how Israel has become water sustainable in an area of the world that should not be.

Blue Revolution: Unmaking Amercia's Water Crisis

Environmental journalist Cynthia Barnett brings into focus an important and wide reaching issue. Water quality and quantity concerns resonate deeply with many Floridians – but how can we solve these complicated problems? According to Barnett, what America needs is a water ethic. The illusion of cheap and abundant water must be addressed.

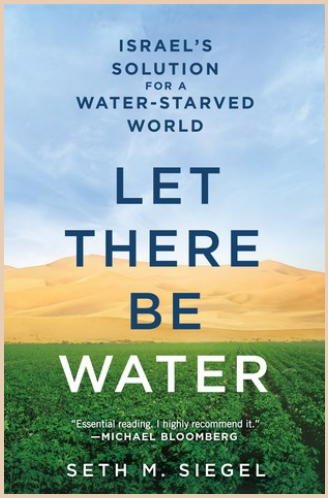
With the research to back it up, Barnett helps readers explore what could be an overwhelming issue through the lens of personal and societal value. Highlighting successes around the world leaves readers with hope for change without diluting the importance of the situation. Well written and engaging, *Blue Revolution* is an insightful look at what everyday citizens can do and how these actions matter in relation to and combination with more technical and infrastructure interventions.



As Barnett herself puts it, "somehow, America's green craze has missed the blue." This book is a gateway to fixing that.

Let There Be Water
Seth M. Siegel

Good or bad, a lot of times we do not get some of our greatest ideas and technologies until we are pushed to do so. At the time the nation of Israel was developing, and hoping to be recognized by the U.N., there was a need to show the world they could sustain themselves and require as little assistance from others as possible. One major problem for them was water; Israel is in an arid part of the world, bordered by the salty Red Sea and the very salty Dead Sea. Water was needed to grow crops and sustain the new population of European immigrants heading to the region.



To do this they developed a water program that is now the envy of many other countries. From how they developed their water resource policies to technologies for irrigation, desalination, and water usage, to educating the population on water conservation. Though not perfect, this program has been successful and there are lessons to be learned for nations who are now beginning to experience water shortages.

In this book, lawyer and activist Seth Siegel, tells the story of how Israel pulled this off.

New Water Page for UF IFAS

http://water.ifas.ufl.edu/

UF IFAS now has a new resource page for everyone interested in water.

UF IFAS Water Programs provides information on a variety of water topics including aquifers, invasive species, irrigation, TMDL's, and much more. **THERE IS EVEN AN APP!**

On the websites home page you will find four tabs to search for more information. Those tabs include: **Topics for Agriculture, Water in the Environment, Water Policy and Planning, and Urban Water**

http://water.ifas.ufl.edu/

Florida Association of

FANREP

Natural Resource Extension Professionals

FANREP is a statewide association for Cooperative Extension Service (CES) professionals working in environmental education, fisheries, forestry, wood sciences, Florida Friendly Landscaping (FFL), waste management, water, wildlife, community development and related disciplines. Our main objectives are to:

- Bring Extension professionals together to discuss mutual natural resource issues, needs, and opportunities.
- Advance natural resource Extension through continuing education for Extension professionals.
- Promote cooperation among states and regions, agencies, associations, and businesses on natural resource education programs.
- Develop, sponsor, and promote education and training programs that advance natural resource management.
- Strengthen communication with Extension administrators

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