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Florida Water Resources Monitoring Council (FWRMC)

Guana-Tolomato-Matanzas NERR, January 31, 2017

Attendees (X indicates present, * indicates guest attending as a representative for a Council member):

Agency	Primary Members	In Person	Webinar
Department of Agriculture & Consumer Services (DACS)	Jill Fleiger		
Department of Health (DOH)	David Polk		X
Fish & Wildlife Conservation Commission (FWC)	Amber Whittle		X
Department of Environmental Protection (DEP)	Kate Muldoon	X	
Northwest FL Water Management District (NFWMD)	Edward Chelette		X
Suwannee River Water Management District (SRWMD)	Darlene Saindon Velez	X	
St Johns River Water Management District (SJRWMD)	Christine Mundy	X	
Southwest FL Water Management District (SWFWMD)	Roberta Starks		X
South FL Water Management District (SFWMD)	Linda Crean	X	
US Environmental Protection Agency (USEPA)	Simona Platukyte		X
National Oceanic & Atmospheric Administration (NOAA)	Chris Sinigalliano		
US Geological Survey (USGS)	Scott McBride		
FLERA – Northwest; Escambia County (Co.)	Chips Kirschenfield		
FLERA - Suwannee River; Alachua Co.	Gus Olmos		
FLERA - St Johns River; City of Jacksonville	Tom Carey		
FLERA – Southwest; Manatee Co.	Rob Brown		
FLERA – South; Miami-Dade Co.	Lisa Spadafina		
Volunteer Monitoring Programs; FL LAKEWATCH	Mark Hoyer	X	
FL Lakes Management Society (FLMS)	Sean McGlynn		
Coastal Ocean Observing System (COOS Consortium)	Patrick Welsh	X	
Agency	Alternate Members	In Person	Webinar
DOH	Bob Vincent		
FWC	Paul Carlson		X
DEP	Rick Copeland		X
NFWMD	Tony Countryman		
SRWMD	Margaret Guyette	X	
SWFWMD	Granville Kinsman		X
SFWMD	Julianne LaRock		X
USEPA	<i>Alternate needed</i>		
USGS	David Sumner		
FLERA – Northwest; Escambia County (Co.)	<i>Alternate needed</i>		
FLERA - Suwannee River; Alachua Co.	Chris Bird		
FLERA - St Johns River; Volusia Co.	Michelle Leigh		
FLERA – Southwest; Pinellas Co.	Kelli Levy		
FLERA – South; Palm Beach Co.	Rob Robbins		
Agency	Interim Facilitator	In Person	Webinar
Volunteer Monitoring Programs; FL LAKEWATCH	Mark Hoyer	X	
Agency	Technical Guru	In Person	Webinar
DEP	Stephanie Sunderman-Barnes		X

Morning Session - 9:00-11:30 am Council Business Meeting**Introduction**

Dr. Mark Hoyer, Interim Facilitator, welcomed everyone to the meeting. Both in-person and webinar-based participants introduced themselves, and stated their affiliations.

Business meeting

- a. Adverse Events Response spreadsheet/call tree & Map: Roberta Starks (RS), SWFWMD, provided background, updates, and rationale for moving forward with the Adverse Events Response spreadsheet/call tree & Map Viewer. Chris Mundy (CM) wanted to know how this effort would complement those of the state Dept. of Emergency Management (DEM). Both Kate Muldoon (KM) and RS indicated that this effort would provide long-term monitoring resources for DEM. Patrick Welsh indicated that the universities should be involved, although they are usually unable to participate unless funding is available. Linda Crean (LC) noted that SFWMD must use its own Office of Emergency Management, which must go through the DEM. LS also indicated that she would complete the Adverse Events Response spreadsheet/call tree with her name, e.g., she would serve as the chief point of contact.

Mark Hoyer took a vote using the 1 – 5 (strongly disagree → strongly agree) voting method, which resulted in a vote of yes to continue the Adverse Events Response spreadsheet/call tree & Map. *Action item: KM will send out the Adverse Events Response spreadsheet/call tree & Map specifics to the Council again with a deadline for completion.*

- b. Charter for Council workgroups: Kate Muldoon. This item was deferred due to a lack of time. The Council noted that all charters adopted by the Council should be reviewed annually.

Action item: KM will send out the three draft charters to the Council with a deadline for review and comment.

Paul Buchanan & Dr. George Cole, SRWMD: “Use of Bathymetric LiDar for Mapping Florida’s Underwater Resources”

SRWMD mapped the three-dimensional diffusion of fresh water from the Manatee Springs run into the tidally-influenced Suwannee River using LiDar. This is part of a districtwide project using LiDAR to better understand water resource interactions. Dr. Cole also provided a brief presentation on the use of bathymetric LiDar to map Paleo-Indian archaeological sites in sunken river valleys of the Florida Big Bend.

Council members wondered whether the technology could be used with drones—it can.

Dr. Eric Hochberg, Bermuda Institute of Ocean Sciences (BIOS): COral Reef Airborne Laboratory

Dr. Hochberg presented on the pressing need to map coral reef and hardbottom as a monitoring baseline. The COral reef airborne lab uses spectral imaging to differentiate between healthy and diseased corals. Most of the recent research has focused on Pacific coral reefs, especially those around Palau and the Great Barrier Reef in Australia. Notably, research for Florida reefs has not been funded; however, the Council expressed great interest in obtaining baseline data for Florida reefs.

Britt Dean, US EPA: Water Sensor Data Interoperability

Britt Dean's presentation focused on the EPA's demonstration project under EPA's E-Enterprise Initiative, which is designed using open standards for the purpose of sharing continuously monitored, environmental sensor data. She provided background on project rationale, development, challenges, and shared solutions. Britt also discussed the Lessons Learned document that resulted from the study, as well as the Currents Data Discovery Tool at <http://54.210.62.171/>. EPA is currently developing a mobile application based on this project.

Richard Walker, SFWMD: Infield Total Phosphorus Analyzer

SFWMD has been using infield total phosphorus and total reactive phosphorus instruments for many years due to CERP requirements; the presentation focused on the process of appropriate deployment, design & logistics, accuracy, operations & maintenance, and occasional challenges. Phosphorus analyzers are deployed in small, closed-system trailers that pump in water, dispense reagents, and report the results using telemetry. Its high-resolution P results identify diurnal cycles and effects of pulse flow, as well as ongoing study of P movement and trends in the system.

Several members of the Council requested information on the unit, including the MDL of the analyzer, which Richard indicated is 2 ppb. They also asked about the cost of a complete unit, which runs about ~ \$50,000. He also noted that the analyzer uses Greenspan Technology, whose business was recently bought out by another company (yikes!).

Afternoon Session 1:00 – 3:00 pm**Kim Wren, Apalachicola NERR: Sentinel sites to determine changing water level effects on saltmarshes**

The Apalachicola NERR is one of 5 U.S. NERRs participating in the Sentinel Site Cooperative pilot project. It has installed a series of sentinel sites in saltmarshes to 1) measure the change in sea level and 2) determine whether sediment deposition or subsidence is occurring. It uses Surface elevation tables—mechanical devices permanently installed in wetlands—to measure small changes in surface elevation precisely and accurately. ANERR began its program several years ago, and will collect data in 5 yr. increments. The project is expected to expand nationally after the pilot is complete.

Dr. Paul Carlson, FWRI/FFWCC: UAVs for Research and Monitoring

The presentation covered FWRI's use of UAVs for 2012-13 seagrass monitoring in Florida Bay, and quadcopters for smaller projects. For a short presentation, it was comprehensive. It covered the salient points necessary to operate UAVs and quadcopters: UAV-mounted hyperspectral sensors, comparisons of platforms and sensors, pros and cons of using each type of remote vehicle, and FAA safety requirements for operation & rules regarding the aircraft.

Roberta Starks, SWFWMD: Inter-District Coordination Workgroup

Provided information to make the Council aware of this initiative, in the hopes that the Council can be used as a forum for this workgroup's efforts, and the workgroup can be used as a springboard for potential Council discussions. SWFWMD is developing a scientific data collection coordination workgroup to facilitate outreach and communication among Water Management District (WMD) management staff who are involved in similar tasks. The goal of this workgroup is to increase coordination and sharing of ideas, discuss emerging technologies (risks/benefits), and re-integrate professional contacts due to staff changes at each WMD. RS also mentioned that the SWFWMD has been working over the past three years to ensure that each of their long-term, ongoing water quality and hydrologic data collection sites/networks have relevant/update statistical designs, data quality objectives (DQOs) in place, and that the data collected from these networks align with Strategic Plan and Core Mission priorities. The SWFWMD contacts for this group are Sandie Will and Granville Kinsman.

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Chris Mundy requested additional information on this effort.

Action item: RS offered to present on SWFWMD's recent and current activities at a future Council meeting.

Discussion

Mark Hoyer led the discussion by inquiring whether the Council had additional questions or wished to discuss any of the emerging technologies presented during the meeting. MH asked whether the Council would be interested in forming a workgroup to address any of the issues associated with emerging technology platforms or use. At this time, the Council did not see the need to form a separate workgroup. RS mentioned that Dr. Al Karlin of SWFWMD has formed a workgroup (LiDARpalooza) of technology proficient individuals from state and local agencies to share resources and information. He expressed interest in presenting information on this effort to the Council.

Action item: In the future, Dr. Al Karlin, SWFWMD, will present information on LiDAR Coordination Workshops that are occurring among statewide participants to the Council.