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Florida Water Resources Monitoring Council (FWRMC)
Public Meeting of Statewide Council –January 21 & 22 2015
Day Two- January 22 2015

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)	Kal Knickerbocker		
Department of Health (DOH)	Charlie Donahue		
Fish & Wildlife Conservation Commission (FWC)	Amber Whittle		X
Department of Environmental Protection (DEP)	Kate Muldoon	X	
Northwest FL Water Management District (NFWFMD)	Kris Barrios	X	
Suwannee River Water Management District (SRWMD)	Erich Marzolf	X	
St Johns River Water Management District (SJRWMD)	Aiša Cerić	X	
Southwest FL Water Management District (SWFWMD)	Roberta Starks		X
South FL Water Management District (SFWMD)	Linda Crean		X
US Environmental Protection Agency (USEPA)	David Melgaard		X
National Oceanic & Atmospheric Administration (NOAA)	Chris Sinigalliano		
US Geological Survey (USGS)	Scott McBride		
FLERA – Northwest; Escambia County (Co.)	Keith Wilkins		
FLERA - Suwannee River; Alachua Co.	Gus Olmos		
FLERA - St Johns River; City of Jacksonville	Tom Carey	X	
FLERA – Southwest; Manatee Co.	Rob Brown	X	
FLERA – South; Miami-Dade Co.	Lisa Spadafina		X
Volunteer Monitoring Programs; FL LAKEWATCH	Mark Hoyer	X	
FL Lakes Management Society (FLMS)	Sean McGlynn		
Coastal Ocean Observing System (COOS Consortium)	Patrick Welsh		
Agency	Alternate Members	In Person	Webinar
DOH	Bob Vincent		
FWC	Paul Carlson		
DEP	Rick Copeland	X	
NFWFMD	Tony Countryman		
SRWMD	Tom Mirti	X	
SWFWMD	Granville Kinsman		
SFWMD	Julianne LaRock		X
USGS	David Sumner		
FLERA – Northwest; Escambia County (Co.)	Chips Kirshenfeld		
FLERA - Suwannee River; Alachua Co.	Chris Bird		
FLERA - St Johns River; Volusia Co.	Michelle Leigh		X
FLERA – Southwest; Pinellas Co.	Kelli Levy		
FLERA – South; Palm Beach Co.	Rob Robbins		
Agency	Council Chair	In Person	Webinar
DEP	Gail Sloane	X	
Agency	Council Liaison	In Person	Webinar
DEP	Lisa Van Houdt	X	

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Agency	Guests	In Person	Webinar
DEP	Kyle Ferris		X
DEP	Tom Frick	X	
DEP	Cindy Fischler		X
DEP	Denise Miller	X	
FWC	Jessica Griffith		X
University of South FL (USF)	Jan Allyn		X
EPA- R.4	Simona Platukyte		X

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Introductions: Gail Sloane (Chair, DEP) and Tom Frick (DEP)

Gail Sloane (GS) welcomed everyone to the meeting and indicated that this morning's meeting would include presentations on current Workgroup products, the Watershed Information Network (Replacement for STORET), and Council business from the Planning Meeting held in October. Tom Frick commended the excellent work of the Council, and indicated the need for the Council as a forum to communicate monitoring efforts among agencies. He discussed the issue of continuous monitoring (CM), requesting members' input on the challenges and solutions.

Council members responded with the following:

- Watershed data are most important to the public for obtaining critical information concerning flood protection and water levels, both for recreation and water supply.
- Upper management, legislators, and policymakers need to realize what it takes to gather good data, including the components of hydrology, water quality, and biology.
- To gather good data from CM devices, monitoring entities requires funding for operations and maintenance as well as the capital outlay for the monitoring devices.
- Managing the data from CM devices is a considerable challenge to be addressed.
- The public needs education and outreach concerning watershed and springs systems.

Tom is interested in cost efficiency and noted that CM devices are a hot topic among Florida legislators, especially since session starts in March.

Workgroup Updates:

Salinity Network Work Group Update (FDEP) - Rick Copeland

The Salinity Network Work Group "SalNet" is a network of existing monitoring networks covering the entire state. It emphasizes groundwater but works closely with surface water monitoring programs. It is unfunded. The SNW coordinates the efforts of its members. The intended audience of the Workgroup products are the general public, water managers and policy makers, and the scientific community. Currently the SNW is developing: (1) a groundwater level index and (2) a groundwater quality index. The purpose of the indices is to assist the public in understanding the conditions of Florida's water resources with regard to saltwater encroachment.

The Groundwater Level Index: The reason for addressing levels is that when groundwater levels decline, the potential for saltwater encroachment increases, especially in the Upper Floridan aquifer (UFA). The UFA, which underlies most of Florida, is the principal source of groundwater supplies in the state. It is susceptible to saline water encroachment through coastal saltwater intrusion and the upwelling of deeper mineralized water. The Groundwater Level Index is based on percentile rankings of the groundwater levels for the period of record, which often go back in time for several decades. GWLs in each well are converted to percentile ranks. The highest water level for a well is 1.00 (100%) and the lowest is 0.01 (1%). The use of the index will commence in May of this year and will be produced every May (low levels) and September (high levels). It currently is restricted to the Upper Floridan aquifer, but can be expanded to other aquifers of the state.

The Groundwater Salinity Index: This index is just now in its beginning stage of development. It is expected to take about two years to fully implement the use of the index. The index is based on specific conductance (SC). SC data is obtained instantly with inexpensive portable meters in the field. It can be mathematically converted to total dissolved solids (TDS), as well as other saline indicators such as chloride, sodium, and sulfate. The plan is to periodically produce maps of TDS and Chloride, and possibly other maps of groundwater quality for all aquifer in Florida.

Coastal Salinity Monitoring Network:

The Governor's office has encouraged FDEP to develop a Coastal Salinity Monitoring Network (CSMN), which will eventually include surface water. As with the GW Quality index, the development of a CSMN is

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in the initial stages of development and should take about two years to develop.

Watershed Information Network (WIN)–Denise Miller (DEP)

The Watershed Information Network (WIN) project is the replacement for FL STORET.

- Phase 1a (for data input, storage and maintenance) and Analysis and Design (C&I) was concluded in February, 2014.
- Phase 1a Construction and Implementation (C&I) was initiated in June, 2014
- Phase 1b (reporting) Analysis and Design (A&D) was concluded in November 2014
- Currently drafting a contract addition for Phase 1b C&I
- Pending approval, Phase 1b C&I will begin in April 2015, to run concurrently with Phase 1a C&I.

Pending approval of contract additions and modifications:

- Phase 1a (data input, storage and maintenance) is scheduled to go live by early 2017;
- Phase 1b (reporting) is scheduled to go live in two 2017 deployments;
- Early 2017 for advanced reporting, within ~two months of Phase 1a go live;
- Late 2017 for additional reporting;
- Testing of required WIN functionality based on determined Minimum Data Quality Standards (MDQS).

WIN Next Steps:

Phase 1:

- DEP to contract for & initiate C&I of Phase 1b (April, 2015);
- DEP Implementation Planning and Communications;
- Minimum Data Quality Standards (MDQS) updates including SVLs (Standard Value Lists);
- Type of data for WIN (e.g., guidance non-regulatory database);
- Data Provider Implementation Planning for Phase 1a:
- MDQS are the “blueprint”
- Updated versions of MDQS provided at the following site (latest update with message imminent):
- ftp://ftp.dep.state.fl.us/pub/outgoing/STORET/WIN_MDQS
- Data providers requested to use MDQS to prepare for WIN Phase 1a Go Live in early 2017

WIN Phase 2: Continuous Monitoring

- DEP to resume A&D for WIN continuous monitoring data;
- Planned development & execution of contract addition by 2016 to resume and complete Analysis & Design;
- WIN Phase 3: Biology
- DEP to initiate DEAR planning discussions for WIN biological monitoring data needs

Catalog Network Work Group Update (DEP) – Kate Muldoon

Phase I Water-CAT has both tabular and a spatial search functions, and currently contains information on about 75 monitoring entities and 104,800 stations in Florida. Searchable metadata for surface water, ground water, freshwater, coastal, and some biological monitoring can be exported as CSV, TXT, or KLM files. This version of the Water-CAT is more elegant and functional due to fixes based on recommendations from a period of beta testing.

To populate the Water-CAT (Phase II), USF hired a graduate student to assist, and developed a plan and tracking spreadsheet. To increase the functionality of the search feature, the team has contacted STORET and non-STORET data providers for additional metadata parameter information. To improve the

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accuracy of information returned in a search, data providers were asked to provide clarification and additional information on:

- Confirming active vs. Inactive projects & stations - Information will narrow results to only on-going monitoring projects, to provide a more accurate representation of current efforts.
- Monitoring Frequency- Information will allow users to narrow searches based on frequency.
- Project Description- Information will provide a description of the project, and keywords which can be used in a general search.
- Data Quality Objectives- data providers can include these in the Project Description.

DEP met with data managers of groundwater, springs, and biological monitoring projects to arrange metadata uploads. Secondary categories and keywords for biological parameters were recommended during Beta testing to broaden search results. DEP developed a draft list which will be reviewed at the next Catalog workgroup meeting.

Phase II has also included steps to refine the Catalog. USF is reviewing a new data download from STORET to ensure that current revisions are not overwritten; which should be completed in about one month. To assess “Active vs. Non-Active Projects and Stations” USF will run an algorithm to determine “presumed active” from “presumed inactive” projects and stations, until both can be confirmed. This will reduce data provider fatigue to populate this information for each project, and will be completed in about 6 months. USF is also in the process of aligning spatial and tabular databases, which will take about two months.

Next steps: USF will continue to work with data providers to populate the Catalog, and Redesign tabular search to absorb additional biological parameter and keyword search capability. The list of secondary biological parameters and keywords will be “finalized” during the next Catalog Workgroup meetings.

Adverse Events Response Plan- Roberta Starks (SWFWMD), Amber Whittle (FWC)

The Adverse Events Response Plan is under development to facilitate monitoring coordination among stakeholders in response to events that cross different environmental agency jurisdictions. This was identified as a need as a result from lessons learned from an extensive variety of crises, including the Deepwater Horizon oil spill and the sea grass, marine mammal and bird die-off in the Indian River Lagoon.

The first step was to develop a list of parameters for which would be pertinent in a variety of adverse events (e.g. event responsibilities, available equipment, and agency contact information). To ensure that this basic format would work for all contributing entities, Council members reviewed this initial list with their agencies/organizations and provided feedback.

Based on suggestions gathered during this review period, it was decided that the best medium for a database containing this information would be a Map Viewer with searchable features. As of January 2015, SWFWMD has created an alpha version of the map viewer. Users will be able to conduct a preliminary asset search and obtain respective agency contact information. Next steps include refining the map viewer, expanding the list of searchable parameters, and developing the “Plan” associated with this viewer in the form of accompanying text.

Next steps: SWFWMD will continue to refine the Map Viewer, and structure for capturing information and will distribute further information for another comment period.

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Council Business:

Recap of Planning Meeting:

Vision Statement: At the Planning Meeting it was decided that Linda Crean and Kate Muldoon would modify the vision statement and distribute it to Council members for comments. KM presented the latest version of the statement.

Modified Vision Statement:

“The vision of the Florida Water Resources Monitoring Council is to support the protection, preservation, conservation, management, and restoration of water resources throughout the State of Florida by fostering communication, cooperation, collaboration and coordination among all water resource data collection entities. We strive to build relationships that facilitate data and resource sharing to reduce redundancy and ensure efficiency and effectiveness, and to increase data comparability among all Florida monitoring entities, ensuring that data and metadata are available to all users. We remain committed to following the highest ethical standards to assure the scientific and legal defensibility of the data that are collected by Council affiliates and stakeholders. We will continue to seek the most efficient water resource monitoring technologies available to promote cost effectiveness, high data quality, and data integrity, and stay abreast of new technologies, as well as emerging water resource issues, to ensure that we meet future monitoring objectives throughout the state. “

Conclusion: Council members requested that this latest version be distributed to all for further comments.

Update: The comment period closed on 2/27 and no revisions were submitted. This version will be adopted for 2015.

Statewide Trends using LAKEWATCH Data:

Currently Mark Hoyer (MH) (LAKEWATCH, UF) is attempting to find funding for a full-time person to coordinate the collating and analysis of multiple long-term data sets that are available. The primary (but not the only objective) should be to determine natural long-term background variability (spatially and temporally) for variables that are keystone environmental factors (e.g., nutrient concentrations) or natural commodities (e.g. ground water supply) that need potential regulation. Finding monies for this position is proving to be difficult. Until these resources are captured, there are some things that could move this initiative forward.

There are over 120 lakes with greater than 20 years of data in the LAKEWATCH database. Currently, MH is in the process of compiling the following data for analyses of variance and trends over a large geographical area:

- Water chemistry (Nutrients, chlorophyll, water clarity, color, conductivity/alkalinity)
- Bathymetric maps
- Aquatic plant data (LAKEWATCH and FWC)
- Nearest rainfall station (data 1950 to present)
- Watershed area and land use in the watershed from the early 1990s and late 2000s

FDEP, Water Management Districts and County agencies may have additional lakes with similar data that we could add for statewide analyses of temporal patterns over geographical ranges. However, at the present the long-term (>20 years) data, Dr. Hoyer would like to acquire for each of the LAKEWATCH lakes listed in are, in order of importance:

- Lake level data
- Nearest groundwater level and conductivity if available
- Stream discharge at the nearest river station

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- Additional aquatic plant data because data I have currently has multiple years of missing data
- Lists of any management activities that have occurred on the lakes (e.g., grass carp, dredging, alum treatments etc.)
- Soil pH and nutrient concentrations in the watershed

Conclusion: LVH will distribute this information to all, and anyone is interested in helping let MH know and he will set up a conference call to discuss options. Those not interested in participating but have data should send to MH and he will continue to collate the data.

Meeting Structure:

At the October 2014 Planning Meeting, the Council agreed that future meetings would be **“Themed Meetings”**. Presentations will be selected based on topics of interest indicated by members at a Planning Meeting, to be held regularly (frequency to be determined) and at Council meetings to allow for urgent emerging issues. Each topic of interest will be presented from several agencies/entities to provide a statewide vision of current efforts. The presentations will be followed by a discussion session to determine the Council’s future course of action. A future course of action may include further investigation at a future meeting, a new Workgroup, issue resolution, or a product. These presentations and subsequent discussion sessions will better utilize the Council as a forum to address the charge of Council to “Coordinate Florida’s ongoing fresh water monitoring with coastal and marine monitoring networks” and “Coordinate Florida’s state monitoring efforts with local and federal monitoring programs” as defined in the Action Plan.

Conclusion: Council members agreed that this first “Themed Meeting” was a success, and future meetings should continue with this format. Webinar participants suggested that the discussion session should not be available for webinar participation in the future, as the audio quality made it difficult to participate.

Topic List: The topic list resulting from the Planning Meeting was presented.

Conclusion: There were no suggestions to remove or add topics to this list.

Continuous Monitoring: The Council discussed challenges and successes of current Continuous Monitoring initiatives on the first day of the meeting.

Conclusion: It was suggested that a workgroup may be formed to address the CM issues identified, and serve as a forum for coordinating efforts and sharing this information further by populating a shared resource for this information (e.g. webpage, white paper) The Liaison will distribute a summation of discussions, and Doodle poll for dates of an initial “Workgroup” meeting to discuss next steps.

GS Thanked the participants for their continued support of the Council and Adjourned the meeting.