

**bold italicized text is used to indicate items requiring attention before next meeting*

Florida Water Resources Monitoring Council (FWRMC)
Public Meeting of Statewide Council – October 9, 2012

Tuesday, October 9, 2012 (8:30am – 5:00pm)

Attendees (X indicates present):

Agency	Primary Members	In Person	Webinar
Department of Agriculture & Consumer Services (DACS)	Chris Brooks		
Department of Health (DOH)	Bob Vincent		
Fish & Wildlife Conservation Commission (FWC)	Amber Whittle		X
Department of Environmental Protection (DEP)	Kate Muldoon	X	
Northwest FL Water Management District (NFWMD)	Nick Wooten		
Suwannee River Water Management District (SRWMD)	Megan Wetherington		
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)	Cathy Tortorici		
US Geological Survey (USGS)	Rafael Rodriguez		
FLERA – Northwest; Escambia County (Co.)	Keith Wilkins		
FLERA - Suwannee River; Alachua Co.	Chris Bird		
FLERA - St Johns River; City of Jacksonville	Vince Seibold		
FLERA – Southwest; Manatee Co.	Rob Brown		X
FLERA – South; Miami – Dade Co.	Susan Markley	X	
Volunteer Monitoring Programs; FL LAKEWATCH	Mark Hoyer		X
Agency	Alternate Members	In Person	Webinar
DACS	Kal Knickerbocker		
DOH	Charlie Donahue		
FWC	Paul Carlson		
DEP	Rick Copeland	X	
NFWMD	Graham Lewis		X
SRWMD	Louis Mantini		X
SJRWMD	Tom Mirti		
SWFWMD	Granville Kinsman	X	
SFWMD	Julianne LaRock	X	
USGS	David Sumner		
FLERA - St Johns River; Volusia Co.	Michelle Leigh		
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	Stephanie Sunderman	X	X

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Agency	Guests	In Person	Webinar
NOAA	Chris Sinigalliano	X	
National Park Service (NPS)	Kevin Kotun	X	
US Army Corps of Engineers (USACE)	Jim Riley		X
DEP	Devan Cobb		X
DEP	Julie Espy		X
DEP	Russ Frydenborg		X
DEP	Charles Kovach		X
DEP	Denise Miller		X
DEP	Anita Nash		X
DEP	Becky Prado		X
DEP	Erin Rasnake		X
DEP	Chris Sedlacek	X	
DEP	Andrea Small		X
DEP	Steve Wolfe		X
SWFWMD	Dave DeWitt		X
SWFWMD	Carol Kraft		X
SWFWMD	Catherine Wolden		X
SFWMD	Dee Azeredo	X	
SFWMD	Brad Robbins	X	
SFWMD	Sherry Scott		X
Escambia Co.	Taylor Kirschenfeld		X
Orange Co.	Julie Bortles		X
City of Jacksonville	Betsy Deuerling		X
Cooperative Institute for Marine & Atmospheric Studies, University of Miami	Maribeth Gidley	X	
University of South FL	Jim Griffin	X	
University of West FL	Jan Caffrey		X
Palm Beach Atlantic University	Linda Sedlacek	X	
Hach Hydromet	Jennifer Zimmerman	X	
Private	Tracy Francis		X

Introduction

Gail Sloane (GS) welcomed everyone to the meeting and indicated that the meeting would include presentations on current monitoring efforts, updates from the Salinity Network and Monitoring Catalog workgroups, discussion of progress on action items, and updates on several DEP projects, as requested at previous FWRMC meetings.

South Florida Water Management District

Linda Crean (LC) presented information about current monitoring activities at the South Florida Water Management District (SFWMD)

(Presentation slides can be found in the 2012 archive section of the FWRMC website.)

- LC is the section administrator of the Water Quality (WQ) Monitoring Section of the Water Quality Bureau. The WQ Section is responsible for sample collection and monitoring network design for SFWMD's long-term monitoring networks.
- SFWMD was formed in 1949, and is the oldest and largest WMD in FL. SFWMD encompasses an 18,000 square mile region, and serves 16 counties and 7.7 million residents. There are over 1.3 million acres of publicly owned land within SFWMD boundaries.

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- Three major monitoring networks: Surface water (SW) network – WQ monitoring; Hydrologic network - flow and water level monitoring, with some meteorological monitoring; Groundwater (GW) network – mostly ions.
- SW Network
 - o WQ monitoring conducted using grab samples and flow and time proportional autosamplers.
 - o Conduct atmospheric deposition monitoring as part of the National atmospheric Deposition Program, Mercury Deposition Network.
 - o Collect SW, fish tissue, and sediment samples for pesticides and ultra-trace mercury monitoring in project sites in storm water treatment areas.
 - o Continuous data probe monitoring network located in rivers and estuaries.
 - o Vegetation and sediment samples collected at transects downstream of storm water treatment areas.
 - o Major SW monitoring networks include Kissimmee River, Lake Okeechobee, St Lucie River, Caloosahatchee River, Everglades Agricultural Area, Everglades storm water treatment areas, Everglades National Park, Biscayne Bay, Florida Bay, Ten Thousand Islands, and Rookery Bay
 - o Samplers access sites by wading, paddling, and using air boats, motor boats, and trucks.
 - o All samples are processed, filtered, and preserved in the field, except for those at sites accessed by helicopter (where gear space is limited), which are processed at the lab within a four hour holding time.
- Biological Monitoring (aquatic fauna, benthic oysters, birds, submerged aquatic vegetation, soil, and vegetation) conducted by Applied Sciences Bureau, to answer specific management questions.
- GW Network includes participation in Regional Floridan GW monitoring program
- Monitoring purposes
 - o For operations permits. Locations include Lake Okeechobee, storm water treatment areas, non-everglades construction project (waters flowing into the Everglades that are not part of storm water treatment permit projects), and Comprehensive Everglades Restoration Plan (CERP) projects such as Biscayne Bay coastal wetlands and C111 western features.
 - o As part of Everglades settlement agreement in Everglades National Parks, in inflows, and within the water conservation areas.
 - o To support rules (Total Phosphorus Rule, Everglades Agricultural Rule)
 - o To optimize operations in storm water treatment areas and reduce nutrient levels in outflows.
 - o To assess ambient water conditions in coastal waters and for source control
- Environmental Services Laboratory / Field Operations Center
 - o Gold LEEDs certified building.
 - o NELAC Certified laboratory, specializing in nutrients with a focus on low-level phosphorus.
- Field and Lab software
 - o Chemware New Horizon Laboratory information Management System (LIMS)
 - o Customized field information collections program, Horizon Field Data Management System (HFDMS) helps to reduce transcription errors by allowing samplers to log samples collected and associated field data in the field, and automatically generate custody sheets.
 - o NuGenesis metadata database
 - o Remote phosphorus autosampler collects samples, analyzes them in the field every three hours, and transmits near real-time data back to the lab.
- Logistical challenges include constructing access walkways that will provide site access during low and high water level conditions, insects or vegetation contaminating autosamplers, wildlife damaging equipment or making site access difficult, damage to sites and equipment during storms and hurricanes, and sites being too dry to properly collect a sample.
- Other challenges include litigation, demand to meet new project mandates and permit requirements, monitoring programs developed by multiple stakeholders / agencies, and mission creep.
- WQ and hydrologic data is housed in DBHydro (access available through www.sfwmd.gov). WQ data is periodically uploaded to FL STORET. Biological data housed in Everglades Research and Data Production (EDRP) database (access available through data stewards).
- Estimate of monitoring effort for Water Year 2011:
 - o 77 projects; > 22,000 site visits
 - o 313,000 analytical tests
 1. 271,000 analyzed by SFWMD lab; 23,000 analyzed by DEP lab; 17,000 analyzed by Dade Co.
 2. 102,000 nutrients tests; 37,000 general chemistry tests; 27,000 metals / ions tests;
 3. 2.2% of data in DBHydro is qualified

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- Quality System
 - o Follow DEP Quality Assurance (QA) Rule
 - o Quality management plan developed for WQ Bureau and Applied Sciences Bureau
 - o Quality manuals developed for field sampling and laboratory
 - o Field sampling follows DEP standard operations procedures (SOPs), supplemented with District SOPs
 - o Develop operational and compliance monitoring plans for every project
 - o Follow consistent data quality objectives (DQOs)
 - o Collect quality control samples
 - o Robust data validation program
 - Data is electronically validated and goes through ADaPT (Automated Data Processing Tool) before it is uploaded to DBHydro
 - Data stewardship program
 - Customer service unit in laboratory addresses quality concerns
 - o 6-month field sampling certification process for all sample collectors
 - o Field and laboratory audit program
- Data Synthesis and Reporting
 - o Compliance, Assessment and Reporting Section led by Julianne LaRock (JR) produces the South FL Environmental Report, a consolidated annual report for most permit projects, and the Settlement Agreement Report for Everglades Technical Oversight Committee
 - o Applied Sciences Section produces monthly Ecological Conditions Update Report for the SFWMD governing board
- Monitoring / Data Improvements and Optimization
 - o Networks are re-evaluated annually
 - o Implementation of compliance monitoring tracking system.
 - o New monitoring is reviewed by chief scientists on Environmental Monitoring Review Process Team.
 - o Automated data entry and documentation.
 - o Moving toward using recorded flow monitoring to identify conditions appropriate for sample collection.
 - o Consolidated reporting
 - o Increased monitoring for restoration strategies and project compliance with no budget increase by reviewing existing networks and objectives, eliminating redundancies, and re-evaluating frequencies, use of surrogate stations, methodologies, and parameters.
- Points of Contact:
 - o WQ Monitoring - Linda Crean, (561)753-2400x474, lcrean@sfwmd.gov
 - o Laboratory - Dave Struve, (561)753-2400x4521, dstruve@sfwmd.gov
 - o Data Assessment and Reporting - Julianne LaRock, (561)682-6747, jarock@sfwmd.gov
 - o Research Monitoring - Linda Lindstrom, (561)682-6820, llindst@sfwmd.gov
 - o Data Stewardship - Brian Turcotte, (561)682-6579, bturcott@sfwmd.gov
 - o Quality Assurance Officer - Ming Chen, (561)682-6252, mchen@sfwmd.gov

Questions / Discussion:

GS asked what type of flow data is available in DBHydro. LC indicated that all flow data is available in DBHydro. Most data is collected at structures, but some is available from culverts.

Miami-Dade County

Susan Markley (SM) presented information about current monitoring activities in Miami-Dade County (Co.)
(Presentation slides can be found in the 2012 archive section of the FWRMC website.)

- Former Miami-Dade County Department of Environmental Resource Management (DERM) has been merged into larger Department of Regulatory and Economic Resources (DRER)
- Most DRER monitoring programs are collaborative efforts with SFWMD or USGS.
- SW Monitoring - Biscayne Bay (BB) WQ Program
 - o Program started in 1979. Currently 107 stations. Several stations throughout watershed in canal systems were added in the 1980s, and recently there have been a few changes to cover coastal stations that were previously monitored by Florida International University (FIU)
 - o Data collected includes physio-chemical, water clarity (PAR, TSS, turbidity), and urban / agricultural contaminants (sewage, stormwater runoff, illegal discharges) via bacteria, nutrients (phosphorus, ammonia, nitrate / nitrite, chlorophyll a), and toxics (metals, synthetic organics).

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- o WQ data (over 3 million WQ records to date) is available in FL STORET.
- o Funded by Miami-Dade Co., DEP (past), and SFWMD (present).
- o Objectives: identify status of BB, identify spatial patterns and temporal trends, and supports ecological assessment, management (restoration and enhancement) decisions, regulatory process, numeric nutrient criteria development, NPDES / IWR / TMDL programs, WQ and ecological modeling, and CERP restoration targets / ecological indicators.
- o QA: Miami-Dade Co. lab is NELAC certified, and is has very low detection levels for P. Field and lab components follows DEP approved QA plans and participate in audit program.
- o BB is a highly oligotrophic naturally clear system supporting a healthy seagrass community. Phosphorus (P) is the limiting nutrient for BB SW. Most areas have median P concentrations less than 10 ppb (the threshold level in the Everglades Conservation Area). Long term monitoring played a crucial role in documenting an extensive phytoplankton bloom from 2005 – 2008.
- o Ammonia is very low throughout BB, and the only areas with elevated concentrations are near landfills. Nitrate / nitrite is also very low throughout BB, and the only areas with elevated concentrations are near agricultural areas. Currently these areas with higher N are not listed as impaired because P is the limiting nutrient, but new ways of assessing numeric nutrient criteria may change this.
- o Canals: One (Cutler Drain) is impaired for nutrients. Several canal segments are also impaired for fecal coliform. Miami Canal is one of the most highly impacted waters in FL.
- o SW data available through STORET, DBHydro, and upon request. Contact: Steve Blair, (305)-372-6853, blairs@miamidade.gov.
- Metadata considerations: for BB WQ Program, information (monitoring purpose, cost sharing / partners, and period of record / sampling frequency for each parameter) varies greatly from station to station.
- NOAA's SW monitoring program in BB includes chlorophyll a data collected from vessel tracks using a continuous flow through fluorometer.
- GW monitoring – Wellfield GW WQ Monitoring Program
 - o Program began in 2000. Currently 21 wells sampled 2 or 3 times per year. Some wells are associated with consumptive use permits (from SFWMD) and others are from FL Keys Aqueduct Authority.
 - o Objective is to recognize contaminants before they get to the well head.
 - o Additional concerns in Northwest wellfield related to rock mining and SW influence on GW.
- GW Monitoring – Ambient GW Monitoring Program
 - o Program started in 1981-1985 using existing USGS wells. Program was restarted in 1989 to complement DEP's ambient GW monitoring program.
 - o Objective is to establish baseline WQ data and identify early indicators of WQ degradation.
- GW data collected includes pesticides, chlorinated herbicides, nutrients, volatiles, semivolatiles, coliform bacteria, metals, and physio-chemical. Data on protozoans collected in the Northwest Lake Belt.
- Collaboration with USGS for salinity and chloride monitoring in GW networks (saltwater intrusion is a major concern, and management goal is to prevent inward movement of salt intrusion line at the base of the aquifer).
 - o Most data available on USGS website (some available in real time).
 - o Electromagnetic survey data used to show the boundary between freshwater and saltwater at the base of the Biscayne Aquifer (BA)
- GW data available upon request through the Environmental Monitoring & Restoration Division of the DRER. . Contact (305)-372-6700, DERMPCD@miamidade.gov.

Questions / Discussion:

Jim Riley (JR) asked what the Miami-Dade Co. lab's reporting limit was for total phosphorus (TP). SM was not certain, but believes the reporting limit for total P is 2 ppb. LC added that the SFWMD lab's reporting limit for TP is also 2 ppb. SM clarified that the typical concentrations for chlorophyll-a in BB are 0.2 – 0.7 ug/L, and the typical TP levels are around 4 – 5 ppb.

National Park Service

Kevin Kotun (KK) presented information about current monitoring activities in FL at the National Park Service (Presentation slides can be found in the 2012 archive section of the FWRMC website.)

- Hydrologic Monitoring Programs objectives are focused on identifying water resource status and trends
- Marsh Monitoring Network

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- o Program started in late 1940s with 6 stations, and has grown to include 65 stations in Everglades National Park.
- o SFWMD supports similar network in Big Cypress
- o Data collected: water level and rainfall; salinity at stations near coast to monitor sea level rise and saltwater intrusion
- o Data transmitted daily to USACE Interagency Data Exchange FTP server and USGS EDEN (which then adds data to NWIS). Data also available by request at EVER_data_request@nps.gov.
- Marine Monitoring Network
 - o Program started collecting continuous information in FL Bay and Gulf Coast in early 1990s, and currently has 36 stations.
 - o Data collected: salinity, water temperature, water level, rainfall
 - o Funding support from SFWMD
 - o Data transmitted daily to NOAA National Data Buoy Center (<http://www.ndbc.noaa.gov>), and Sensor Observation Service provides a data summary in Google Earth (as part of weather, current conditions). Data also available by request at EVER_data_request@nps.gov.
- SW WQ Monitoring Network
 - o Currently 9 stations in main drainages through Everglades National Park
 - o Data collected: nutrients and cations / anions; historically collected data on metals and pesticides.
 - o Funding support from SFWMD
 - o Samples collected according to SFWMD approved Comprehensive Monitoring Plan.
 - o Samples analyzed at SFWMD laboratory.
- Biscayne National Park Marine Monitoring
 - o Currently 18 stations collecting data at both surface and bottom depth
 - o Collect continuous data for salinity and water temperature
 - o Funding support from CERP Monitoring and Assessment Program
- USGS has additional stations located in northeast Shark Slough, nearby urban areas, and Everglades Conservation Areas
- Hurricanes in 2005 destroyed marine monitoring network station equipment. Rebuilding the network has taken about 3 years, selecting replacement equipment that will hopefully report data from future hurricanes.

Questions / Discussion:

Jan Caffrey (JC) asked if NPS data is in DBHydro. KK clarified that data is shared daily with partner organizations. The WQ data is in DBHydro, but the period of record information is maintained at the NPS. The data in USGS only goes back to 2000. Since data with partner databases is not comprehensive, the best way to locate information is by emailing a data request to EVER_data_request@nps.gov.

South Atlantic Alliance

Becky Prado (BP) and Andrea Small (AS) presented information about the South Atlantic Alliance (SAA)

(Presentation slides can be found in the 2012 archive section of the FWRMC website.)

- SAA is relatively new, compared to the Gulf of Mexico Alliance (GOMA)
- Mission is to increase regional collaboration among South Atlantic states (FL, GA, SC, NC), with federal agency partners and other stakeholders, to sustain and enhance the environmental (coastal / marine), natural resource, economic, public safety, social, and national defense missions of the respective states and the South Atlantic region.
- In 2009, states' governors signed a partnership agreement, identifying four regional priority issues: healthy ecosystems, working waterfronts, clean coastal and ocean waters, and disaster resilient communities. This agreement setup the framework for starting the alliance, and created partnership among federal, state, and local governments, academia, nongovernmental organizations (NGOs), businesses, and the public.
- The SAA provides a structure and forum for collaborating, coordinating, and sharing information that will support: resource sustainability, improved regional alignment, cooperative planning and leveraging resources, integrated research / observations / mapping, increased awareness of challenges facing the region, and inclusiveness and integration at all levels.
- SAA structure:
 - o Governor of each state has an appointed representative in the steering group to make executive level decisions in SAA

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- o Alliance Executive Planning Group is responsible for planning and implementation, and includes state, federal, and partner (private sector, NGOs, regional organizations, etc) representatives. BP is the representative for FL.
- o Four Technical Teams (corresponding to four regional priority issues) each have representatives from every state, along with federal and partner representatives.
- Healthy Ecosystems Technical Team
 - o Jan Landsberg (FWC) is the FL representative.
 - o Currently working on documenting spatial and temporal data available and developing a plan to integrate that information to help the Team move forward with other efforts.
- Working Waterfronts Technical Team
 - o Julie Dennis (FL Department of Economic Opportunity (DEO)) is the FL representative.
 - o Currently working on coastal planning issues and advocating for striking a balance between new development, historic uses, and sustained resources.
- Disaster-Resilient Communities Technical Team
 - o Julie Dennis (DEO) is the FL representative.
 - o Focuses on short- and long-term changes in weather and climate. Recently hosted a summit to assess post-disaster redevelopment planning efforts in FL with FEMA support, and plan to host additional meetings to build upon model discussed.
- Clean Coastal and Ocean Waters (CCOW) Technical Team
 - o Mike Shirley (DEP) is the FL representative.
 - o Mission is to provide coastal managers with the best information, so that they can make informed decisions that will affect ocean WQ.
 - o Established the Watershed Improvement Work Group (WIWG): a regional technical level work group for sharing watershed WQ improvement processes. Workgroup members (one from each state) working on a report that will catalog watershed regulatory process, identify inconsistencies between states, and develop recommendations for promoting consistent regulation and process.
 - o Developed recommendations on processes and protocols to transfer knowledge and implement Best Management Practices (BMPs) for point and non-point source controls. Potential focus is Total Maximum Daily Loads (TMDLs). Use WIGGIO website tools to post and share documents to review, and plan to post final list on CCOW website.
- SAA Progress
 - o October 2009 - Governors signed partnership agreement
 - o December 2010 – published Governor’s Action Plan (high level objectives)
 - o June 2010 – Executive Planning Group published Implementation Plan (pathway to achieving objectives)
 - o September 2011 and September 2012 – held annual meetings
 - o Secured funding for FY2011 and FY2012 from NOAA Regional Ocean Partnership Funding Program to develop a regional framework for coastal and marine spatial planning (CMSP)
 1. Regional Information Management System (RIMS): A regional level decision making tool, with a focus on sediment management and port expansion. Framework to access data and information with limited decision support tools. Project principal investigator (PI) is Debra Hernandez (Southeast Coastal Ocean Observing Regional Association (SECOORA)).
 2. Regional Hazard Vulnerability Assessment: A geospatial analysis tool for evaluation of vulnerability to coastal hazards. Focus is on estuarine coastline. Project PI is Clark Alexander (Skidaway Institute of Oceanography).
- Collaboration is encouraged. Interested entities are encouraged to communicate with state leads (currently DEP) in SAA and GOMA.

Questions / Discussion:

Kate Muldoon (KM) asked what interface or catalog the SAA is currently supporting to provide metadata for monitoring programs. BP indicated that the need for WQ program metadata has been identified in the Action Plan, but the current focus of the RIMS project does not include WQ program information. The contractors responsible for developing the RIMS applications and tools will be responsible for providing metadata associated with the data and results displayed, but formatting specifics have not yet been discussed.

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Salinity Network Workgroup Update

Rick Copeland (RC) gave an update on the Salinity Network Workgroup's (SNW) Activities.

(Presentation slides can be found in the 2012 archive section of FWRMC website. For a more information on recent Salinity Network Workgroup meetings, please see the archived materials from the meeting on 8/8/2012.)

- RC is Chair of SNW and Dave DeWitt (SWFWMD) is Co-Chair
- SNW (also referred to as the Salinity Monitoring Network, SalNet) is a network of existing monitoring networks, and cooperation is necessary for success. Current participating organizations include: 5 WMDs, USGS, USACE, DACS, DEP, Alachua Co., Palm Beach Co., Escambia Co., Miami-Dade Co., Broward Co., Lee Co. and FL LAKEWATCH. Other counties and cities are welcome to join.
- SNW will focus on GW monitoring, but is committed to working closely with SW monitoring programs and considering GW/SW interactions if applicable
- Action Items resulting from last SNW meeting in August
 - o RC is working on inviting counties and cities not currently participating in SNW activities
 - o SNW mission, goals, and objectives have been ratified.
 - o Beginning development of a glossary.
 - o Proceeding with an Upper Floridan Aquifer (UFA) pilot study
- Current SNW Priorities
 - o Develop a framework document for SNW. Will use EPA 10 steps document (<http://water.epa.gov/type/watersheds/monitoring/statemonitoring.cfm>) as a guide. Mission, goals, and objectives have been completed, but other elements are dependent on results of pilot study.
 - o Complete pilot study.
 - o Develop and use a GW level index. This will be part of the pilot study.
 - o Develop a GW WQ index. This will be discussed during the next meeting on November 7.
 - o Use volunteer monitoring data is applicable. LAKEWATCH has been making progress with this effort.
 - o Manage / Transfer pertinent data as needed. This will be a part of the pilot study.
- Pilot Study
 - o Goal is to generate a draft statewide percentile rank index (PRI) map for the UFA for May/June 2010.
 - o Purpose is to work out issues encountered while undertaking a project with the large and diverse group of SNW participants.
 - o In the future PRI index maps may be produced for other localized aquifers, and potentiometric maps may be produced side-by-side with PRI maps.
 - o Methods: GW level (GWL) indices are useful for conveying information to the public. PRI is the chosen GWL index because 3 WMDs and USGS already use variations of it.
 - o Issues to be worked out
 1. Because of regional variations, the value of any one stations on a statewide map may be questionable
 2. Some WMDs use their own PRI methods. If a statewide map is generated using different methods, it may be slightly different that the analogous PRI map produced by the WMD.
 3. Regional and statewide maps will need to be hydrostratigraphically consistent among WMDs or other boundaries.
 4. Need to determine how GWL index (PRI) will be related back to salinity. GW chemistry (saline indicators) is scheduled to be addressed at the SNW meeting on November 7.
 5. All caveats must be adequately described in final report / map.
 6. Need to select a consistent POR. Suggested PORs include 1998-2011 or 1992-2011. Will need to determine minimum number of GWL measurements needed, and select a subset of wells that meet the POR criteria.
 7. Need to define the PRI algorithm used. Simple example: $PR_{(x)} = [(# \text{ observations } < x) / (n)] * 100$.
 8. Data Transfer is the most significant obstacle. Currently there is no central GW database. Need to determine if SNW members (pilot study participants include 5 WMDs, DEP, and Alachua Co.) can use a single format to transfer the following data fields (well ID, station name, organization maintaining well, latitude, longitude, aquifer tapped, measuring point elevation, water level value, specific conductance value, collection data, agency collecting data). LAKEWATCH agreed to store data if it can be transferred. Participants have voiced concern that transfer process is labor intensive. Proposed solutions to reduce data provider effort include: 1) data providers transferring data into a standard format, 2) data providers send data in its current format to DEP and DEP transfers each

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entity's data into a standard format, 3) modify the transfer method, 4) wait until DEP's Watershed Information Network (WIN) database is able to store GW data

- Contact Information: Rick.Copeland@dep.state.fl.us

Questions / Discussion:

AS asked what GW database RC was referring to. RC clarified that the WIN database (STORET replacement) is in development and plans include incorporating GW data.

Roberta Starks (RS) asked for clarification regarding what data RC was referring to during the data transfer discussion. RC clarified that the data of interest for transfer now is only the data for the SNW UFA pilot study.

Discussion: FWRMC Regional Councils

GS indicated that she and Stephanie Sunderman (SS) have compiled the list of regional contacts provided by Council members. The template for the letter of invitation has been drafted and reviewed by the statewide Council, and the individual letters are ready to be routed through the DEP Division of Environmental Assessment and Restoration (DEAR).

GS indicated that this effort will require leaders in each of the regions, and summarized some of the collaborative efforts that are already occurring in some regions. In the southwest region, the Regional Ambient Monitoring Program (RAMP) has facilitated round robins, data exchange, and sampling coordination. In the St Johns River Region, the DEP Central District office is working with the WMDs and local governments to coordinate sampling for monitoring efforts.

GS suggested that each of the Regional Councils could focus on issues like these. GS also suggested using these groups as a way to find out about other monitoring efforts going on in each Region, and provide outreach for statewide FWRMC activities such as the Salinity Network and the Monitoring Catalog. RC suggested, for example, that the Suwannee River and St Johns River Regions could add discussions of GW issues to their agendas

Rob Brown (RB) indicated that the RAMP group recently held one of their quarterly meetings, and discussed how they could help with the FWRMC Southwest Regional Council effort. RAMP participants have been working together for over twenty years; however they realize that there are some organizations that are not currently involved in the effort. There is interest in coordinating these regional efforts, and RAMP participants will start reaching out to other potential participants in the southwest region. RB and other RAMP participants can help with the FWRMC Southwest Regional Council effort by scheduling the first meeting, and presenting a summary of RAMP's organization, history, and projects / accomplishments.

GS indicated that she has requested funding through an EPA grant to supplement and offset some initial needs that the Regional Councils may have.

GS reiterated that this effort will require leaders and support in each of the regions, and indicated that an individual regional council may not be started if leaders are not identified within that region. LC asked if the leaders need to be statewide Council members. GS indicated that the statewide Council members could appoint others to lead the regional Councils.

- RB has indicated that he and Keith Kibbey will assist in leading the Southwest Regional Council.
- Nick Wooten (NW) has indicated that he would assist in leading the Northwest Regional Council.
- ***LC and JR indicated that they would work on finding a leader for the South and Southeast Regional Councils.***
- Aiša Cerić (AC) suggested that DEP find a representative from the Central District office to lead the St Johns River Regional Council. ***GS indicated that she would inquire about finding a representative from the Central District.***
- ***Louis Mantini (LM) indicated that he and Megan Wetherington would discuss finding a leader for the Suwannee River Regional Council.***

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Questions / Comments / Open Member Dialog

GS reminded everyone that the presentation slides and meeting summaries from all FWRMC meetings are available on the FWRMC website (<http://www.dep.state.fl.us/water/monitoring/council/index.htm>). A list of existing collaborative groups, online catalogs, and data portals that include water resources monitoring in FL is also available on the FWRMC website's monitoring resources section (<http://www.dep.state.fl.us/water/monitoring/council/index.htm>).

GS followed-up on some of the information that she presented about the DEP Watershed Monitoring Section (WMS) during the last statewide FWRMC meeting in June. WMS is collecting samples to analyze for sucralose, as a potential tracer for waters associated with wastewater treatment or septic tank areas. These areas where sucralose is present may indicate that other substances of concern (pharmaceuticals, hormones, personal care products, bacteria, etc.) are present. Preliminary evaluation revealed that sucralose is present in ambient waters. Sucralose was detected at 57 of the 76 SW Trend Network Sites that are sampled monthly. Sucralose was consistently detected (detected in at least 5 out of the 6 months sampled) at 35 sites, and 28 sites had sucralose detections every month, for the six month period analyzed. Next steps will be to send samples from locations with sucralose detects to USGS for analysis of other emerging substances of concern.

GS highlighted some of the information available on the WMS website (<http://www.dep.state.fl.us/water/monitoring/index.htm>). Information on specific SW Trend Network sites is available at <http://waterwebprod.dep.state.fl.us/ambient/swtv/default.htm>. Each station's location can be displayed using DEP's Map Direct, an interactive online mapping application, as part of a layer containing locations of all stations in FL STORET. The data collected at each station is also available through the STORET public data retrieval site (<http://storet.dep.state.fl.us/DearSpa/>).

Monitoring Catalog Workgroup Update and Discussion

Kate Muldoon (KM) gave an update on the Monitoring Catalog Workgroup's Activities.

(Presentation slides can be found in the 2012 archive section of the FWRMC website.)

- The FWRMC [action plan](#) identifies the need for a statewide Catalog of Monitoring Programs for: aiding in aligning freshwater and coastal monitoring efforts, serving as a starting point for assessing metadata/data comparability, minimizing duplication of efforts, leveraging resources between different monitoring programs, and aligning SW and GW monitoring efforts.
- Over the past year, the Monitoring Catalog Workgroup (MCW) has gathered information on existing catalogs and data portals, which could serve as potential collaborators for the Monitoring Catalog project. A list of existing online catalogs and data portals (with links and brief descriptions) that the Workgroup has discussed are posted on the FWRMC website, on the "Monitoring Resources" subpage (http://www.dep.state.fl.us/water/monitoring/council/monitoring_resources.htm).
- MCW has reviewed 18 web-based interactive catalogs and atlases, assessing three major criteria: user interface (ease of navigation, ability to perform spatial and text-based searches, etc.), ability to search metadata for program / project level information, and availability for data providers to upload and update their own monitoring station information.
- MCW decided that it would be more efficient to collaborate with an existing / ongoing effort. Review of existing catalogs and atlases identified three existing efforts as potential collaborators for the Monitoring Catalog effort.
 - o Gulf of Mexico Alliance (GOMA) Catalog of Monitoring Programs (developed by University of Miami, UM)
 - o Water Atlas (developed by University of South FL, USF)
 - o DEP Map Direct
- During May 2012, KM sent a preliminary statement of needs document to the three potential collaborators, inviting them to compose a pre-proposal that would aid the Workgroup in gathering information about several logistical items that would need to be addressed if the FWRMC were to pursue a collaborative project.
- GOMA Catalog of Monitoring Programs (UM) and Water Atlas (USF) responded with pre-proposals
- MCW reviewed pre-proposals in June and August, 2012. MCW wanted to assess/interact with both projects, so they requested extra time to evaluate the GOMA Catalog of Monitoring Programs, which was expected to be released in early September. However, the public release of the GOMA Catalog of Monitoring Programs has been delayed
- MCW met again on October 3, 2012. KM encouraged MCW to use the information available to move forward in developing a recommendation for how to proceed with the FWRMC Monitoring Catalog effort.

**bold italicized text is used to indicate items requiring attention before next meeting*

- MCW conducted final comparison of UM and USF pre-proposals.
 - o Estimated cost and completion times are similar.
 - o Water Atlas staff appear to have more experience with this type of web-enabled databases and GIS.
 - o USF Water Atlas has dedicated support and infrastructure, and is a major ongoing project, while GOMA Catalog of Monitoring Programs is a relatively new project at UM.
- Participants in the October MCW meeting agreed to move forward with a recommendation to collaborate with the USF Water Atlas for the FWRMC Monitoring Catalog development.
- Next step for Monitoring Catalog effort will be for the Statewide FWRMC to discuss this recommendation and either accept it or request that the MCW conduct additional research. (See Questions / Discussion below.)
- MCW also discussed issues that will need to be resolved, if the Council agrees to collaborate with the USF Water Atlas.
 - o Need to decide if FWRMC Monitoring Catalog will be a part of the existing Water Atlas website or a completely separate website.
 - o Need to discuss how much time will be needed to associate monitoring sites with waterbodies.
 - o Need to determine the properties of the fields included in the database (e.g. domain-limited or free text)
 - o Need to decide on the list of metadata elements to include in the catalog (including level of detail desired, priorities, timeline to accomplish this task, and how sites / stations will be represented for probabilistic versus deterministic networks).
- MCW began discussion of challenges associated with developing the list of metadata elements.
 - o “Who?” – Organization and project names are desirable, but program names are subject to frequent changes. Need to identify level of detail for contact person desired (e.g. should this be project-specific or a general point of contact for the organization).
 - o “What?” – Need to discuss how the database primary key will be defined. Need to identify the level of detail desired for parameters, medium, and sampling frequency. GW Stations may present additional challenges, to capture pertinent information about depth, aquifer sampled, etc. Need to discuss how to include links to the monitoring data.
 - o “When?” – Need to discuss level of detail desired for time information (period of record / start and end dates, frequency of sampling for each parameter, etc.)
 - o “Where?” – Geographic location must be required. Information must be provided using a standard format.
 - o “Why?” – Data quality objectives (DQOs) are critical information to include, but DQOs can change over time and information can be collected at the same station for several purposes. Need to discuss how to link DQOs to the project / station / parameters being monitored.
 - o Explored the metadata elements included in the Southeast Coastal Water Quality Monitoring Metadata Web Portal (<http://www.gcrc.uga.edu/wqmeta/>), as a possible starting point.
 1. Required fields include: program, site code, site name, latitude, longitude, start date, and parameters.
 2. Optional fields include: site description, location description, state, county, 8- and 12-digit hydrologic unit codes (HUCs), end date, website URL, data URL.
 3. Listing all parameters ever monitored at a station, without clarifying period of record for each parameter may not be desirable for FWRMC effort.
 4. Will need to clarify if “site codes” refer to the data providers’ external databases or to the Southeast Coastal Water Quality Monitoring Metadata Web Portal database.

Questions / Discussion:

GS indicated that there had been previous concern regarding the time / resources required from data providers to enter information into the catalog, and added that the contractors will be able to mine information from existing databases (especially those already on the Water Atlas).

GS indicated that funding has been received to support a catalog of monitoring programs that meets the FWRMC’s needs.

JR asked what other procurement steps will need to occur. GS indicated that if the Council agrees to collaborate with the Water Atlas for development of the FWRMC Monitoring Catalog, a contract would be developed between DEP and USF per F.S. 287.057.

RS commented that including the DQOs with the station location information will be very helpful.

**bold italicized text is used to indicate items requiring attention before next meeting*

RS asked if the Water Atlas would work with each of the data providers to provide a variety of options for delivering their metadata information to the FWRMC Catalog. Jim Griffin (JG) indicated that there will be a variety of options for uploading information. The Water Atlas currently downloads data from STORET and works with individual labs to upload their data. KM indicated that this should be clearly addressed in the contract. ***The MCW will need to develop a list of acceptable options for metadata transfer.*** RS asked if each STORET data download overwrites the existing information or only adds new records. JG indicated that each STORET download completely overwrites that previous one, so that any corrections to previous records are captured. The frequency of these STORET downloads is specified by requests from the Water Atlas partners.

KM commented that the FWRMC Monitoring Catalog will also serve as a central repository for GW monitoring information, which is currently absent in FL.

SM indicated that there is still a lot of work to be done to identify the mandatory metadata elements that will be included in the catalog and suggested that the MCW focus on that task first, as that will define the database structure which will inform the other decisions about the catalog development. SM also suggested making a short list of mandatory metadata elements, with a longer list of optional or narrative fields. This may help to encourage participation by data providers, as the minimum effort required will be smaller. KM indicated that ***developing the list of required metadata elements will be a major focus of the next MCW meeting.***

GS polled Council members in attendance regarding partnering with the Water Atlas (USF) to develop the FWRMC Monitoring Catalog.

- Each agency / monitoring entity on the Council ranked the idea using a 5 through 1 scale.
 - o 5 means wholehearted support – 3 votes
 - o 4 means support – 4 votes
 - o 3 means neutral but will support to the outside world - 3 votes
 - o 2 means there are still questions that need to be asked – 0 votes
 - o 1 blocks the decision – 0 votes
- The absence of any rankings less than 3 indicates that a consensus was reached and the Council agrees to pursue partnering with the Water Atlas (USF) to develop the FWRMC Monitoring Catalog.

JG commented that he is looking forward to working with the FWRMC participants. The catalog development will be an iterative process using frequent webinar meetings to get feedback from MCW participants.

Watershed Information Network (WIN) Update

Denise Miller (DM) presented information about the WIN project

(Presentation slides can be found in the 2012 archive section of the FWRMC website.)

- DEP uses data from FL STORET for assessment of waters for the Impaired Waters Rule (IWR) and development of Total Maximum Daily Loads (TMDLs), Basin Management Action Plans (BMAPs), Strategic Monitoring Plans, and water quality criteria. DEP also provides data as required to US EPA and to the public.
- WIN is intended to be a replacement for the current FL STORET, and will address the needs for a centralized environmental data management platform.
- There are several phases to the WIN project for manageability, and DEP is currently engaged in Phase 1. Phase 1 addresses front-end quality assurance, data input, storage, reporting, and extraction of SW, GW, and continuous monitoring station and result data. Subsequent WIN phases will address front-end quality assurance, data input, storage, reporting, and extraction of biological data (biological indices, habitat assessment, and perhaps taxonomic data), and program-specific modules for management of IWR and TMDL analysis decisions.
- WIN goals include performing better assessments based on improved quality data, having a web-based application instead of local installations, providing a scalable framework, providing an audit trail, and having a spatial component.
- WIN Phase 1 timeline
 - o April 2012 – Hired a contractor, Enterprise 24x7, to conduct analysis and design for WIN Phase 1. Currently documenting DEP program and system requirements towards specifications for Phase 1. Contractor has reviewed background from past STORET replacement efforts, and have engaged with DEP staff in more than 30 joint requirements planning (JRP) sessions to document current business

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processes, determine Department and Program minimum data quality standards requirements, and develop the WIN Phase 1 business process flow.

- o June 2013 – WIN Phase 1 analysis and design project scheduled to be completed. DEP will consider the recommended solution and contract for construction and implementation of WIN Phase 1. Construction and implementation are anticipated to take approximately two years.
- Requirements and responsibilities
 - o Establish DEP requirements to be able to conduct business
 - Federal requirements (Clean Water Act) include monitoring and assessment through the IWR, and uploading data to US EPA's Water Quality Exchange (WQX). Therefore, WIN data requirements will need to be combined with WQX requirements, to make data transfer efficient.
 - Statutory requirements include DEP's responsibility to provide an environmental data management system and ensure that it meets data quality objectives. Data providers are responsible for providing data to DEP.
 - DEP Rule requirements include the QA rule and program-specific rules and requirements.
 - o Utilize resources (data sources) as efficiently as possible
 - Need to achieve efficiencies in accessing monitoring data from a variety of sources (e.g. avoid duplicating efforts), assuring the quality of data, and providing data to users in an accessible format.
- Before year's end, WIN Phase 1 team intends to engage with data providers (outside of DEP) through a survey and a draft of the minimum data quality standards (MQDS).
 - o Survey will be designed to gather information such as the draft examples listed below:
 - Do you have technical staff on site to modify your existing deliverable for the purposes of WIN?
 - For GW monitoring locations, would you have difficulty reporting the following attributes in feet: well casing depth, well total depth, well screen begin depth, well screen end depth?
 - Can your lab(s) produce an ADaPT deliverable?
 - Can you submit monitoring locations in decimal degrees or degrees minutes seconds?
 - o Draft MQDS will be distributed to data providers for comment
 - Will data providers be able to provide data to these MDQS?
 - Provide assistance in clarifying or adding anything missing from draft MQDS (especially related to GW data).
 - MQDS will include data element names, data types, definitions, whether element is required by the data provider, whether element values is domain limited, minimum standard error checks, etc.
 - Using FL ADaPT Laboratory Deliverable Specifications as a guide for the MQDS format.
- Points of contact:
 - o Denise Miller, Environmental Administrator, WIN Project Champion, 850-245-8516, denise.miller@dep.state.fl.us.
 - o Julie Zimmerman, Environmental Consultant, WIN Project Business Lead, 850-245-8508, julie.m.zimmerman@dep.state.fl.us.

Questions / Discussion:

JR indicated that SFWMD will likely need to add a line item to their budget to accomplish database re-programming required for transition to WIN, and asked for clarification on the anticipated timeline. DM indicated that there will be future discussions with data providers to develop specific strategies for implementation. This planning stage is anticipated to begin in June 2013 and implementation is anticipated to take a few years.

New Numeric Criteria in FL: Nutrients and Dissolved Oxygen

Russ Frydenborg (RF) presented information about numeric nutrient criteria (NNC) and dissolved oxygen (DO) criteria

(Presentation slides can be found in the 2012 archive section of the FWRMC website.)

NNC

- Existing narrative criteria in paragraph 62-302.530(47)(b), F.A.C. states that "in no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna."
- Method for numerically interpreting the narrative nutrient criteria, on a site-specific basis, is provided in Rule 62-302.531, F.A.C.
- Hierarchical approach to interpretation:

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1. Look at existing nutrient TMDLs, site-specific alternative criteria (SSAC), estuary-specific criteria, and WQ-based effluent limitations.
 2. For lakes and springs, use statewide stressor-response relationships.
 3. In streams, stressor-response relationship was not robust, so reference stream-based thresholds combined with biological data are used.
 4. In areas where specific criteria mentioned above do not apply (wetlands, intermittent streams, south FL flowing waters) narrative criteria still applies.
- Site-specific estuarine criteria (hierarchy 1 interpretations) adopted in December 2011 for Clearwater Harbor through southwest coast to Biscayne Bay. Completion of criteria for panhandle estuaries anticipated by 2013, and completion of criteria for the remaining estuaries anticipated by 2015.
 - o For each estuary segment, determined total nitrogen (TN), total phosphorus (TP), and chlorophyll criteria.
 - o Using three approaches to develop criteria: cause- effect stressor approach, historic conditions approach, and maintaining existing conditions approach for systems that are currently healthy and well-balanced.
 - NNC for lakes based on stressor-response relationship between nutrients and chlorophyll a. Numeric interpretation presented in table that lists the chlorophyll a concentration (expressed as an annual geometric mean) and the range of TN and TP concentrations (expressed as annual geometric means) in lakes, categorized according to their long-term geometric mean color and alkalinity.
 - NNC for spring vents based on a stressor-response relationship between nitrate-nitrite and nuisance algal mats. Numeric interpretation of narrative criterion is 0.35 mg/L of nitrate-nitrite (expressed as an annual geometric mean), not to be exceeded more than once in any three consecutive calendar year period.
 - NNC for streams based on a weight of evidence evaluation for flora and the Stream Condition Index (SCI). NNC is achieved if information on chlorophyll a levels, algal mats or blooms, nuisance macrophyte growth, and changes in algal species composition do not indicate an imbalance in flora or fauna AND EITHER the average score of at least two temporally independent SCIs is 40 or higher with neither of the two most recent SCI scores less than 35 OR the nutrient thresholds (expressed as annual geometric means) are not exceeded more than once in a three year period.
 - o Nutrient Water Regions were based on kriging of nutrient data from undisturbed reference sites.
 - o Floral tools include:
 1. Linear Vegetation Survey (LVS), which looks at species composition in 10 species lists in a 100m stretch of stream and uses the coefficient of conservatism and the abundance of exotics to determine if community is healthy and well-balanced.
 2. Rapid Periphyton Survey (RPS), where 99 measurements of algal thickness are taken. If cover of algae thicker than 6mm is greater than 20%, autoecology is considered
 3. Phytoplankton chlorophyll a
 4. Habitat Assessment (HA)

DO

- As part of DO criteria development, DEP assessed the accuracy of the SCI regions using non-metric multidimensional scaling (NMDS) to explore community similarity. Formation of a new region, the Big Bend, was warranted, with minor adjustments to other borders to include watershed boundaries. New scoring did not change biological condition gradient results, so SCI score threshold of 40 remains.
- Current DO criteria based on 1970s data and does not allow for deviation based on background conditions.
- Proposed revisions for freshwater (streams and lakes) DO criteria are based on DO vs. SCI relationship, and reductions of 0.1 mg/L or less, from background conditions, would be presumed to not cause adverse impacts and would not require SSAC.
- Proposed revisions for marine DO criteria are based on DO vs. laboratory toxicity tests of marine waters (EPA Virginian Province approach). This approach used measured responses of 25 genera of sensitive organisms to low DO levels, to establish exposure durations.
 - o For Class II, Class III, and Class III-Limited predominantly marine waters, minimum DO saturation levels shall be as follows: (1) The daily average percent DO saturation shall not be below 42 percent saturation in more than 10 percent of the values, and (2) The weekly average DO percent saturation shall not be below 51 percent more than once in any twelve week period, and (3) The monthly average DO percent saturation shall not be below 56 percent more than once per year.
 - o DO reductions of up to 10% could be allowed without SSAC if demonstrated to not cause adverse impact to local biota.

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- Have had four public workshops on DO, and anticipate bringing proposed revisions to the Environmental Regulation Commission (ERC) in December 2012 or January 2013 for potential adoption. Legislative ratification may be required, due to the increased minimum DO threshold for the Panhandle West region.

Questions / Discussion:

JG asked what criteria will apply to tidal creeks. RF indicated that DEP does not currently have enough data to promulgate numeric criteria for tidal creeks, so narrative criteria will apply to those segments.

SM indicated that south FL canals present interesting challenges for criteria development. These canals often intersect GW and tend to be low in DO, even if they do not have a nutrient enrichment issue. Canals are managed for flood control and drainage but connect to very sensitive areas like BB. RF indicated that DEP (with collaboration from SFWMD and counties) is in the early stages of conducting a large canals study in south FL. Site reconnaissance has been completed, and ~40 canal sites have been identified to begin the project. A before after control impact (BACI) design will be used to assess how management actions affect WQ and biota. This study will help to determine what acceptable DO conditions are for protecting organisms living in canals and in downstream waters. SM indicated that Miami-Dade Co. would like to collaborate with DEP as part of this study, and share the canals data that they have collected over past years. SM also suggested using the data that the DEP WMS has collected in canal sites.

RF added that the floral metrics (LVS, RPS, HA) have become very important for assessing streams. DEP district biologists have been trained in floral assessment techniques, and efforts will be made to ensure that other data providers are trained to conduct these assessments and have developed databases to store biologic information for use in numeric nutrient assessment.

Strategic Monitoring Plans

Julie Espy (JE.) presented information about DEP's Watershed Assessment Program (WAP) and strategic monitoring plans

(Presentation slides can be found in the 2012 archive section of the FWRMC website.)

- WAP assesses SWWQ for the purpose of meeting the State's duty under Section 303(d) of the Federal Clean Water Act (CWA). 303(d) requires states to annually submit lists of waters that do not meet applicable WQ standards, including designated uses, identify pollutant causing or expected to cause impairment, and establish a schedule for developing TMDLs for these waters.
- WQ standards (62-302 F.A.C.) and Impaired Waters Rule (62-303 F.A.C) contain assessment methodology used by WAP. Designated uses include aquatic life (metals, nutrients, pesticides, and biological assessment), primary contact and recreation (bacteria, beach advisories), fish and shellfish consumption (pathogenic bacteria, mercury, shellfish classification), and drinking water (metals, pesticides, bacteria).
- In July 2000, DEP began implementing WAP through a watershed management approach.
 - o Program includes monitoring and assessment, TMDL development, TMDL implementation, and watershed restoration.
 - o Approach involves a five-phase cycle that rotates through all basins in the state over a five-year period. State's basins are divided into five groups (typically one basin in each group located in each of the DEP districts, where field work is conducted) and basins are subdivided into waterbody assessment units (WBIDS) which include the primary waterbody and waters of similar type (freshwater or marine) in its watershed.
 - o Basin groups cycle through five phases:
 1. Preliminary Assessment - strategic monitoring plans are developed.
 2. Targeted Monitoring and Assessment – monitoring occurs, impairment is verified, and the verified list is adopted by Secretarial order
 3. Develop and adopt TMDLs
 4. Implement TMDLs – BMAPs or other implementation options
 5. TMDL Implementation - restoration
- Focus on Phase 1 – Preliminary Assessment
 - o Strategic monitoring plans (SMPs) are prepared in the year prior to implementation
 - o Start by extracting FL STORET data from over 100 data contributors
 - o Identify waters that meet planning list thresholds in IWR using binomial approach with 80% confidence (minimum of 10 samples with 3 exceedances of WQ standards). Data period typically spans 10 years,

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and POR is also assessed to identify areas where POR may be small but results may be starting to indicate a possible problem.

- o Waters on planning list will be targeted for monitoring in Phase 2 during the following year.
- o Data used for assessment is from the most recent 7.5 years, and includes data collected during Phase 2.
- Implementation of NNC
 - o Bioassessment data will be required to assess impairment, in addition to TN, TP, and chlorophyll-a data.
 - o Training is available for flora and fauna measurement techniques (RPS, LVS, and SCI).
 - o Currently no universally applicable assessment method for estuaries, so seagrass survey data and other estuarine bioassessment data from other data providers will be very important in marine areas.
 - o Waters that do not have bioassessment data associated with them will be included on the study list.
- Purpose of SMPs is to ensure sufficient data are collected to verify whether or not waters identified as “potentially impaired” are “impaired”. Planning list is distributed to ensure that sampling locations and conditions meet objectives, and determine best monitoring strategy (TMDL vs. SSAC vs. UAA) for waters on the planning and study lists.
- WAP data collection must consider hydrologic conditions that can significantly influence results (do not want to include data that does not represent normal conditions due to drought, hurricanes, flooding, etc.). Data collection location is also important, and samplers need to target areas that are representative of the listed WBID (e.g. for streams, do not sample disconnected pools). Samplers must also identify any potential pollutant sources present in the WBID sampled.
- 2012 Strategic Monitoring Activities
 - o Sampling began January 2012 and will continue through December 2012. Results will be uploaded to FL STORET before June 30, 2013.
 - o Targeting Basin Group 2 (Apalachicola-Chipola Rivers, Lower St. Johns River, Middle St. Johns River, Tampa Bay Tributaries, St. Lucie-Loxahatchee Rivers, Charlotte Harbor) and Basin Group 3 (Caloosahatchee River, Lake Worth Lagoon-Palm Beach Coast).
 - o Strategic monitoring plans are available at <http://www.dep.state.fl.us/water/watersheds/assessment/smplan.htm>.
- Upcoming Strategic Monitoring Schedule
 - o October 2012 – develop monitoring plans for 2013.
 - o November 2012 – provide plans to DEP districts for review and input.
 - o December 2012 / January 2013 – present plans at kickoff meetings to local monitoring agencies to coordinate efforts.
 - o January / February 2013 – begin implementing monitoring plans.
- Summary
 - o More data are always needed to ensure good assessments.
 - o Appropriateness of data is important.
 - o Increased need for bioassessment data. Training is available for bioassessment methods.
 - o SMPs coming out soon for input and coordination. Kickoff meetings coming to districts in early 2013.
 - o Contact: Julie Espy, 850-245-8416, julie.espy@dep.state.fl.us.

Questions / Discussion:

SM noted that the current SMP focuses on monitoring waters that are (or may be) already impaired, and asked if there is any strategic planning being conducting for monitoring to ensure that waterbodies that are unimpaired remain unimpaired. JE indicated that the past and current focus of the SMPs has been to identify the waterbodies that are impaired, but future cycles of implementing the SMPs may be able to incorporate additional collection of data to support keeping unimpaired waters unimpaired. SM added that there has been a lot of pressure to reduce duplicative / excessive monitoring efforts, and indicated that it is important to educate decision makers about the importance of monitoring in unimpaired areas, as well as in those that are impaired.

GS added that the FWRMC Catalog of Monitoring Programs will be helpful for visualizing who is conducting monitoring for what purposes, developing monitoring plans, and conducting gap analysis.

Questions / Comments / Open Member Dialog

RC asked for clarification on the difference between WIN and the FWRMC Monitoring Catalog that will collaborate with the Water Atlas. GS indicated that the Monitoring Catalog will be a tool to look at metadata (who is monitoring what, where, when, and why) for all monitoring programs. WIN will be the replacement for FL

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STORET, and will only include information from those programs that upload their data to FL STORET. Metadata is not currently easily accessible in FL STORET, but future plans may facilitate better communication of metadata information between WIN and the Monitoring Catalog.

Tour of New SFWMD Laboratory (Optional)

Richard Walker (RW) led the group on a tour of the new SFWMD Environmental Services Laboratory.

- Construction of the new laboratory was commenced in November 2010 and completed in February 2012.
- Laboratory is first SFWMD facility that is LEED (Leadership in Energy and Environmental Design) certified.
- Laboratory is certified by the FL Department of Health (DOH) and the National Environmental Laboratory Accreditation Program (NELAP).
- Laboratory conducts over 250,000 analyses annually of SW and biota collected throughout SFWMD.

Meeting Evaluations

What topics / presentations were most useful?

- Southeast FL current monitoring efforts (SFWMD, Miami-Dade Co., NPS) (4 votes)
- Nutrient & DO Criteria (5 votes)
- Strategic Monitoring Plans / TMDL (2 votes)
- Watershed Information Network (WIN) (2 votes)
- Monitoring Catalog
- All were great.

What topics / presentations were least useful? Why?

- Regional Councils – not enough information available yet.
- South Atlantic Alliance – would like more information on possible linkage between SAA and FWRMC.

What topics would you like to see at the next FWRMC meeting?

- Demonstration of a GIS driven metadata search
- More focus on Regional Councils – need to get these started!
- Updates on other regional efforts (BMAPs, other councils, etc.)
- TMDLs and BMAPs
- NWQMC activities
- Water quality monitoring - inland vs. coastal, freshwater vs. saltwater
- A discussion regarding issues that the regional FWRMC entities could begin working on in the very near future is needed. I believe the audience likes the idea of regional councils, but do not fully grasp how the regional councils can work. The round-robin comparisons have assisted the SW region. However, I feel that the other regions just do not have the initiative to get started. What are they to address? The FWRMC can find ways to identify issues that they could / should address.

Meeting at SFWMD

- Good (6 votes)

Webinar

- Good (4 votes)

Presentation time / format

- Good (8 votes)

Discussion time / format

- Good (7 votes) / Fair (1 vote)
- Could possibly compress schedule a bit

Other comments / suggestions

- Thanks for having a meeting in southeast FL. Recommend a more formal RFP for Monitoring Catalog contracting to avoid controversy, even though this can be time consuming.
- Very much enjoyed it. Thank you.
- Southeast FL current monitoring efforts information was all new to me. Interesting that we are all experiencing the same issues.