

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

Florida Water Resources Monitoring Council (FWRMC)
Public Meeting of Statewide Council – August 30-31, 2011

Tuesday - August 30, 2011 (12:30pm-5:00pm)

Attendees (X indicates present):

Agency	Primary Members	In Person	Webinar
DACS	Chris Brooks		
DOH	Bob Vincent	X	
FWCC	Amber Whittle		
DEP	Kate Muldoon	X	
NWFWMD	Nick Wooten	X	
SFWMD	Linda Crean		X
SJRWMD	Aiša Cerić	X	
SRWMD	Megan Wetherington		
SWFWMD	Roberta Starks		X
USEPA	Dave Melgaard		X
NOAA	Cathy Tortorici	X	
USGS	Rafael Rodriguez		X
FLERA-NW	Keith Wilkins	X	
FLERA-SR	Chris Bird		
FLERA-SJ	Vince Seibold	X	
FLERA-SW	Rob Brown	X	
FLERA-S	Susan Markley		
Vol. Monitoring Prgm – FL LAKEWATCH	Mark Hoyer	X	
Agency	Alternate Members	In Person	Webinar
DACS	Kal Knickerbocker		
DOH	Patti Anderson		
FWCC	Paul Carlson		X
DEP	Rick Copeland	X	
NWFWMD	Graham Lewis		
SFWMD	Julianne LaRock		X
SJRWMD	Steven Richter	X	
SRWMD	Louis Mantini		X
SWFWMD	Mark Rials		
USGS	David Sumner		X
FLERA-SJ	Michelle Leigh		X
FLERA-SW	Kelli Levy		X
FLERA-S	Rob Robbins		X

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Agency	Council Chair	In Person	Webinar
DEP	Gail Sloane	X	
Agency	Council Liaison	In Person	Webinar
DEP	Stephanie Sunderman	X	X
Agency	Guests	In Person	Webinar
DEP	Diana Bandlow		X
DEP	Steve Wolfe		X
DEP	Drew Bartlett	X	
Alachua Co.	Jim Myles		X
DEP	Denise Miller	X	
DEP	Gary Maddox	X	
SJRWMD	Tom Mirti	X	
DEP	Kalina Warren		X
UWF	Barbara Albrecht	X	
DEP (FGS)	Rodney DeHan	X	
FDEP	Julie Zimmerman	X	
Miami-Dade DERM	Steve Blair		X
Highlands Co. Parks & Nat. Res. Dept	Clell Ford		X
Palm Beach Co. Env. Resource. Mgmt.	Edmund Gibson		X
FDEP	Jay Silvanima		X
FDEP	Rebecca James		X
FDEP	Chris Sedlacek		X
UWF	Alex Maestre		X
FDEP	Shel McGuire		X

Welcome

Gail Sloane (GS) welcomed everyone, acknowledged that travel can be difficult, and explained that some participants would also be attending the meeting via webinar. GS introduced herself as the FWRMC Chair and Stephanie Sunderman (SS) as the FWRMC Liaison. GS pointed out the link to the FWRMC website (<http://www.dep.state.fl.us/water/monitoring/council/index.htm>) and asked that anyone interested in being added to the FWRMC email distribution list contact SS.

GS gave a brief introduction to the newly formed FWRMC, including the expanded membership of experts in ground water (GW), fresh water (FW), and marine resources. GS explained that the primary focus of the FWRMC will be to provide a forum for information gathering and sharing, and coordination among participating organizations. GS noted that the focus is not only water quality, but all water resources including biology and upstream and downstream components. GS acknowledged the efforts of the first FWRMC by highlighting the emphasis on coordination and communication among agencies in the Action Plan. GS proceeded to emphasize the value of sharing information by citing an example of the variety of organizations involved with collecting data used for developing numeric nutrient criteria.

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GS introduced Drew Bartlett (Drew B.), Director of the Florida Department of Environmental Protection (FDEP) Division of Environmental Assessment and Restoration (DEAR), and acknowledged his extensive experience in environmental management.

Drew B. conveyed that reinitiating the FWRMC was a priority within the Division, and that he has spoken of the importance of the FWRMC with Secretary Vinyard. Drew B. emphasized that the Department is committed to supporting the FWRMC, and values the FWRMC as a forum for communication, preventing duplication of effort, and maximizing our opportunity to collect the information needed to make good decisions. Drew B. thanked the FWRMC members for traveling to Tallahassee or taking the time to participate through the webinar. Drew B. mentioned that the Department is proud of its petition to the US Environmental Protection Agency (EPA) to allow Florida to take back leadership over setting numeric nutrient criteria, and noted that FDEP was able to provide evidence of following the recommended eight elements to a good nutrient management program, especially monitoring. Drew B. noted that Florida is among the top five states for investing in controlling nutrient pollution, with approximately 30% of the national nutrient data set coming from FL. Drew B. concluded by stating that there will always be a strong investment in monitoring in the state of Florida.

GS reviewed the meeting agenda, and asked that questions be held until the end of presentations indicating that FWRMC members' questions should be given priority. GS gave a brief summary of her role to facilitate the meeting and discussion, and indicated that as the acting Chair she will not be a voting member. GS also summarized SS's role as FWRMC Liaison, and indicated that SS will be responsible for Council logistics, posting meeting notes, and providing technical assistance to accomplish action items.

Introductions

FWRMC members introduced themselves, indicated which agency they are representing, and shared a "sound bite" of an interesting personal story.

Logistics (part 1)

Presented by Gail Sloane (GS), FDEP

(see exhibit G for detailed information from PowerPoint slides)

GS clarified that the FWRMC is not a Sunshine Council, as it is about information exchange, not setting policy or influencing agency decisions. GS noted that all meetings will still be noticed publicly in Florida Administrative Weekly and on the FDEP online public notices board (<http://sharepoint.dep.state.fl.us/PublicNotices/default.aspx>), and if FWRMC activities move toward creating work products or other tasks that could influence policy then workgroups that do fall under the Sunshine Law will be created.

GS reviewed the FWRMC participant guidelines, meeting guidelines, and consensus guidelines (see exhibits G-I).

Council Overview

Presented by Kate Muldoon (Kate M.), FDEP

(see exhibit J for detailed information from PowerPoint slides)

Kate M. gave a brief history of the formation of the original FWRMC

- Originally started as a series of retreats held from 2004-2006
- Discussed local and regional challenges & how to address them
- Consulted other Councils through National Water Quality Monitoring Council (NWQMC) regarding how to start and maintain a monitoring council
- First FWRMC started in 2006, and was created by DEP as an advisory council
- Reviewed authority for forming Council and keeping data repository (STORET) (see exhibit F)
- Original Council also created to help coordinate FW and coastal monitoring efforts

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- Original Council had 10 representatives: 4 state agencies, 5 Water Management Districts (WMDs), 1 representative from FLERA (FL Local Environmental Resource Agencies)
- Original council built foundation for new council

Kate M. reviewed 4 objectives of original Council

- Develop water resource metadata standards
- Support development of a STORET replacement
- Coordination of FW and coastal monitoring efforts
- Coordinate state, federal, and local monitoring programs

Kate M. summarized products of original council

- Monitoring-Coordination Action Plan (see exhibit D) – addresses needs for increasing information sharing, increasing data consistency, improving coordination, and providing support (stewardship and funding)
- Recommendations for Council Oversight Structure (see exhibit E)
- Integrated Data Management Project (IDM) metadata elements (FWRMC assisted Florida Oceans and Coastal Council, FOCC) (<http://www.floridaoceanscouncil.org/reports/idm.htm>)

Kate M. gave a brief summary of changes for the new FWRMC

- Membership has expanded (now includes 3 federal agencies, 5 FLERA representatives, 1 Ocean Observing Community representative, and 1 representative from a volunteer monitoring program)
- Regional Council tiers will be added to facilitate information exchange with regional and local organizations
- FWRMC responsibility has moved from CAMA (Coastal and Aquatic Managed Areas) to DEAR
- FWRMC website has moved to <http://www.dep.state.fl.us/water/monitoring/council/index.htm>

Questions / Discussion

Rodney DeHan (Rodney D.) asked if FW includes GW, and Kate M. indicated that it does.

Rodney D. asked if transition zones (between FW and coastal) are considered for GW, and if FWRMC will recommend monitoring transition zones for GW. Kate M. responded that those areas are included in the transitional zones mentioned, and indicated that the FWRMC will not be recommending additional monitoring programs, but instead trying to increase communication and coordination between existing programs.

Kate M. and GS further indicated that a goal of the FWRMC will be to increase coordination between GW and surface water (SW) monitoring programs.

Rodney D. noted that the last map that looked at base flow and came up with percentages was created in the 1960s, and has not been updated since. Rodney D. indicated that he has tried to work with the NWQMC to get this issue incorporated into their agenda, but has been unsuccessful thus far.

Logistics (part 2)

Presented by Gail Sloane (GS), FDEP

(see exhibit G for detailed information from PowerPoint slides)

GS gave examples of the importance of information sharing, not only among the statewide Council, but also among the five regional Councils that will be formed. ***GS then presented some items to be considered regarding the logistics for the regional Councils.***

- ***How will regional Councils be developed?***
- ***Where will leadership come from?***
- ***Who will members be?***
- RAMPs (Regional Ambient Monitoring Programs) will likely have much information to contribute

GS also indicated that the ability to form workgroups to accomplish the detailed tasks associated with individual action items will increase Council productivity. GS indicated that the workgroup leadership and

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participation would be voluntary, and that SS would be available to assist with technical and logistical issues associated with workgroups and accomplishing action items.

GS presented the FWRMC vision that was adopted by the original Council (see exhibit K), and ***suggested that members start thinking of any changes that they might like to propose to the Council vision. GS suggested that a workgroup could be formed to work on revising the Council vision statement.***

GS asked that Council members start thinking of potential locations for future FWRMC meetings, and emphasized that by having the statewide Council meetings in other locations, local and regional agencies in those areas are more likely to participate actively and share information about their monitoring programs and needs. GS also reminded everyone that the FWRMC meetings will always be accessible via webinar, so those who are unable to travel can still participate fully.

GS also asked Council members to consider how often the statewide FWRMC should meet (monthly, quarterly, bimonthly, etc), and how often workgroups will meet.

GS indicated that the Council Chair position does not need to remain with DEP, although DEP will continue to provide support for the FWRMC through the Council Liaison. GS proposed that the position could rotate through agencies, have a designated term length, or have a Co-Chair to serve as an alternate.

Questions / Discussion

Cathy Tortorici (Cathy T.) asked if FWRMC will be addressing data application and data management (packaging data for management and decision making), as well as data sharing. Cathy T. acknowledged that we need to have a firm understanding of what the data is, where the data is, and how it's managed, but then indicated that we need to package data in a way that it's usable for decision making or else it simply won't be used. GS indicated that it would be an appropriate topic for discussion, and if the discussions lead to a point where a policy recommendation could be made then a workgroup could be formed, which would be covered under the Sunshine Law.

Action Plan Review

Presented by Gail Sloane (GS), FDEP

(see exhibit L for detailed information from PowerPoint slides)

GS reviewed the main action steps outlined in the Action Plan

- Improve knowledge of monitoring activities
- Increase consistency among monitoring strategies and data comparability
- Improve coordination among monitoring entities
- Increase support through coordinating stewardship among local, state, and federal monitoring programs
- Increase support through increasing funding for monitoring efforts

GS reviewed Action Item 1 - Improve knowledge of monitoring activities

- Original Council proposed to develop and populate a monitoring catalog. Many organizations have individual online data portals and we can all benefit from coordinating these efforts. GS listed some examples of state, regional, and national online data portals, and suggested that FWRMC catalog or website could link to other data portals.
- In order to successfully develop a monitoring catalog we'd need to have a way to upload data easily and have places to host the data.
- ***GS requested that Council members find information about their organizations' online monitoring catalogs and data portals and share it at the next meeting and/or send it to SS to compile. GS also suggested forming a workgroup, which SS can help coordinate, to summarize that information.***

GS reviewed Action Item 2 – Improve Coordination among Monitoring Entities

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- FWRMC with tiered structure is the first step to accomplishing this.
- Would like to become more involved with NWQMC. They are very interested in helping state monitoring councils get started.
- FWRMC can coordinate w/ other monitoring communities. Gulf of Mexico Alliance (GOMA) is moving to DEP/DEAR and will bring the coastal element to a program that has been mostly FW. South Atlantic Alliance (SAA) also has representatives from DEP.
- Coordination among monitoring entities can assist with event specific monitoring (e.g. oil spill).
- FWRMC may also be able to assist with guiding the design of other monitoring programs, and integrating FW and coastal monitoring in estuary / transitional areas.

GS reviewed Action Item 3 – Increase Data Comparability and Increase Consistency of Monitoring Strategies

- The original FWRMC assisted the FOCC in creating the metadata elements for the IDM. The challenge now to complete that effort and make it a useable system that programs are willing to adopt. The IDM can also be used as a reference tool for designing new programs.
- The FWRMC can serve as a forum to review and share information on new technologies and methodologies. ***GS suggested that a workgroup could be formed to lead the review of new technologies and methodologies and bring key information to the attention of the entire Council.***
- Data Quality Objectives (DQO) of individual programs provide essential information to coordinate monitoring efforts and guide monitoring program activities. ***GS suggested that a workgroup could be formed to develop documents and guidance that would aid organizations in developing DQOs and using standardized monitoring designs.***

GS reviewed Support Issue 1 – Promote and Coordinate Stewardship among Local, State, and Federal Monitoring Programs

- FWRMC can help to coordinate outreach and education programs and materials.

GS reviewed Support Issue 2 – Provide Funding for Action Plan Implementation

- Funding was a limitation in the past, so now we can challenge ourselves to set priorities, develop cost strategies, and look for external and internal funding.

Questions / Discussion

Nick Wooten (Nick W.) stated that STORET and other DEP resources are great assets and recommend using them and other resources that already exist instead of building new databases. GS responded that the catalog workgroup will need to look through existing databases, and acknowledged that combining database will require a lot of management time through QA and detailed review. GS indicated that MapDirect (DEPs online mapping application) has a lot of information from STORET and other efforts (not just water quality, WQ) throughout the state. GS also indicated that the FWRMC will need to discuss how the catalog can best work to meet the needs of everyone, suggesting that it can be a database or link to database(s), but metadata (who / what / where / when / how) is the most important information to include.

Questions / Comments / Open Member Dialog

Coordination / Metadata Standards

Nick W. noted that trying to get everyone to use the same methodologies (IDM metadata standards, QA procedures, etc.) is always difficult, but agreed that trying to get everyone coordinated as close as possible, and having guidance documents is desirable.

Mark Hoyer (Mark H.) noted that in 2004 and 2006 the planning group for the original council discussed that it shouldn't be mandatory for everyone to use the same methods for various reasons (volunteers can't assume the same risks as professional scientists), and mentioned a tiered system as an alternative. Mark H. noted that tiers of increasing compliance with standard QA protocols and metadata requirements also require greater cost, but are then able to produce data that are used for additional purposes (trend analysis vs. regulatory purposes). Mark H. further stated that it isn't desirable to mandate that everyone use exactly the same protocols because some programs have differing goals. GS agreed that acknowledging differing DQOs among organizations is key. Mark H. stated that discussions and

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documents were drafted by the 2004-2006 groups, but no follow-up had occurred. Mark H. recalled that a suggestion was that FL STORET should have an option to enter volunteer monitoring data that can be used for informational purposes but not regulation. *Kate M. believes that the documents are still on file at DEP, and she will try to locate them.*

Clell Ford (CF) agreed w/ Mark H. and indicated that tiers are how we're going to be able to use the data available to make those decisions.

Steve Richter (Steve R.) stated that metadata standards are important to make common database and data portals useful, but acknowledged that their use is not always practical (for example, the current situation with distributed databases permits not using standards in favor of less costly options).

Keith Wilkins (Keith W.) asked if the tier 1 data (lower QA requirements) would be used for informational purposes by the general public and if it would be publicly accessible. GS responded that making the information publicly available is the goal, and is beneficial to all. Steve R. added that allowing the public to not only access information, but also challenge data was important.

Cathy T. highlighted the importance of Action Item 3.5, encourage use of standardized and contemporary monitoring designs, and conducting workshops to aid in developing standardized monitoring designs in Florida monitoring entities. Cathy T. cited the Deepwater Horizon oil spill, where baseline data collection was spotty, as an example of the need to develop standardized protocols for assessing statewide status and trends. Cathy T. identified three items that could benefit from FWRMC efforts to increase consistency and communication: 1.) Forming consistent and effective status & trends monitoring is critical for communication w/ the public & decision makers. 2.) Action effectiveness monitoring is also needed for projects on the ground, as well as a consistent way to report how effective actions are in terms of long term restoration and recovery. 3.) Communication with the research community about monitoring can increase support for monitoring in both the state and the region (South Atlantic, Gulf of Mexico, etc). Cathy T. also stated that we need to clearly communicate why collecting monitoring data is important because people need to understand its importance before they're going to fund it.

GS stressed the need for clearly documenting DQOs and monitoring frameworks and making that information publicly available.

Aiša Cerić (Aiša C.) added that most of the questions from the public are not just about data, but about interpretation of the data, indicating that standardized reporting can be beneficial, and suggesting that the FWRMC can perhaps promote recommendations for standardized reporting for water quality criteria exceedances.

Cathy T. summarized that there are two distinct types of information that can benefit from increased consistency: 1) metadata and data management, 2) data interpretation and reporting. Cathy T. acknowledged that these require different skill sets and some organizations (National Estuary Programs, regional groups, etc) have successfully connected the two skill sets and can provide good examples of how to ensure that all resources aren't spent on the technical side without proper interpretation. Cathy T. *suggested that these organizations could be speakers at future FWRMC meetings.*

GS stated that the FWRMC is an ideal group to communicate and get information about future efforts. GS cited an example where a governor's review board asked about the presence of any duplication of efforts and it became apparent that it wasn't an easy question to answer, but GS sighted the FWRMC as the ideal forum to accomplish review exercises like that. Kate M. added that the review board thought that the cost estimate of \$200,000.00 for the FWRMC startup was a great deal. Steve R. asked if the catalog development was included in that funding estimate. Kate M. responded that it was startup funds for the Council and preliminary catalog development efforts. GS added that DEAR is very supportive of the FWRMC.

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Rob Brown (Rob B.) stated that in south FL most data comes from local governments, which is why we need to use a regional/local approach to funnel FRWMC information and actions down to the regional and local groups. Rob B. added that RAMPs and other regional programs exist successfully, but have encountered difficulty expanding because of conflicting objectives of individual contributors. Rob B. cited an example that right now local government is driven by TMDLs and numeric nutrient criteria, and they will have to use standards for metadata for compliance with TMDL and criteria rules. Vince Seibold agreed with Rob B. that the local monitoring efforts are often tied to regulatory requirements and basin management plans, and asked how the FWRMC will address and incorporate those needs into their plan. GS noted that it will be important to understand DQOs and what analytes local governments are monitoring for.

Rob B. summarized that finding the commonality among all participants was a challenge for the previous FWRMC, but now the statewide Council can perhaps provide templates to take information to regional Councils to aid in developing programs. GS agreed that now the strategy for the Council will be to use the tiered structure to convey information to the local groups and bring input from the local groups back to the statewide Council. GS suggested that sharing the EPA Ten Elements of Monitoring document would be a great starting point.

Bob Vincent (Bob V.) stated that the 2008 FWRMC charges and action plan did not include data interpretation and reporting, but we can possibly incorporate them now.

Cathy T. noted that we should strive to include a balance between old and new charges for the FWRMC, and make sure that we move forward and implement the existing action plan, instead of just rewording it.

Steve Wolfe (Steve W.) stated that the existing action plan was created without the consideration of GOMA, and that perhaps the action plan can be reviewed and changed to accommodate recent events and changing priorities. GS added that we need to revisit the Action Plan and make sure that it addresses FL issues, not just DEP issues.

Bob V. noted that the IDM is a critical element for data management, and that it is great that we have most of that document written. GS added that the difficult part now is getting people to adopt it. Steve W. noted that the IDM had only received 2 of the 3 years of funding that were requested, and consequently is still incomplete. Steve W. elaborated that GOMA tried to use the IDM but couldn't adopt it without values defined for many of the elements.

Cathy T. asked if the FOCC still exists. Steve W. responded that it is in hibernation. Cathy T. noted that, for coordinating FW and coastal monitoring, the FWRMC should involve them. ***Steve W. offered to distribute FWRMC information to FOCC.***

Tom Mirti (Tom M.) noted that it is important to consider monitoring implications across regional boundaries, and cited an example of how the WMDs have coordinated to produce statewide dataset for gauge adjusted rainfall, which has been used in BMAPs. Tom M. further noted that the dataset is already been used to build super regional models. Aiša C. noted that this highlights the importance of collecting data using the same standards. GS agreed and noted that the rainfall dataset is also an excellent example of statewide reporting coordination. Kate M. cited another example of statewide reporting, the DEP Watershed Monitoring Section basin management reports, which are used for outreach purposes by samplers while conducting monitoring.

Barbara Albrecht (Barbara A.) suggested that involving land planners in the FWRMC could be beneficial, and cited a plan that UWF is hoping to implement involving watershed based analysis and reporting that incorporated LIDAR data land use changes. Keith W. added that north FL is particularly impacted by other states (AL and GA) through shared surface water basins and coastal resources (e.g. Perdido Bay). Nick W. suggested that integration may be possible with projects that the NFWFMD is involved with,

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such as the FEMA flood planning project, but noted that county and local governments have the final authority for many permitting and planning decisions, although the NFWFMD environmental resource permitting is in development to comply with new state guidelines.

Rodney D. stated that he's spent 10 years working with NWQMC & Advisory Committee on Water Information (ACWI), and one of the main things that he learned was that monitoring is not occurring using the right scale. Rodney D. emphasized the need to define the unit that you're monitoring (watershed, HUC, etc), consider the three dimensional watershed (including GW and sediments), and understand the complex interactions that are defining and changing Florida's karstic hydrogeology. Rodney D. also suggested constantly evaluating the need for more monitoring and focusing on objectives to restore, maintain, and/or correct. Rodney D. cited the Wakulla dye-tracing study as an example of very specific monitoring needs that weren't addressed by other existing programs. Nick W. agreed that Rodney D.'s comments regarding considering GW are on target, but acknowledged that trying to monitor on the scale of watersheds is more difficult when trying to incorporate GW because GW-watersheds are typically much larger than SW-watersheds and it can be very difficult to completely integrate GW and SW monitoring units. Tom M. added that designing a monitoring network based on an understanding of GW-sheds is an iterative process because we are constantly learning a little more about the system through our monitoring data. Cathy T. agreed that Rodney D. brought up good points and emphasized the need to collect and report data at various scales.

Steve Blair (Steve B.) commented that the discussion is centered on two elements: 1) integration of existing data and 2) the ability to assist in developing networks. Steve B. added that figuring out how to use information available in existing programs to change and develop new programs is the most difficult step, and very dependant on scale and the agencies involved.

Monitoring Catalog

Tom M. voiced concern for an item in the authority for FWRMC, stating that DEP will be central data repository. Tom M. suggested that we target a more manageable group of data (e.g. trend data) and attempt to gather all information in that area, and then scale up over time. GS suggested that we also look at what other atlases are doing and see if a product already exists that we can build upon, stressing that right now we just need to get started doing research.

Rob B. stated that original Council efforts discussing tiers were just a small piece, and the catalog scope sounds much larger. Rob B. further stated that the Water Atlas has helped with data management in Manatee Co. because it connects to EPA STORET so that data only needs to be uploaded into one database. Rob B. suggested that we try to link or download from existing sources, as it is important to not ask providers to enter data multiple times. ***GS responded by suggestion that a workgroup form to investigate what works for existing catalogs and form suggestions for a plan for accomplishing the action item.***

Linda Crean (Linda C.) stated that SFWMD has had a difficult time cataloging when/where/why for ongoing and future projects, and stated that having DQOs and coordinating with other agencies is key.

Nick W. noted that there are different database access needs for technical users vs. the general public, and asked if the Water Atlas was capable of meeting these needs. Rob B. confirmed that Water Atlas can be used as basically or technically as is needed (raw data is available). Mark H. added that FL STORET is very difficult to search for data, while Water Atlas is very easy and can even be accessed on mobile phones. Mark H. and Rob B. noted that the Water Atlas databases have been combined and can be searched regionally or statewide. ***Nick W. suggested that a workgroup could be formed to explore the possibility of using the Water Atlas and other applications to share data.*** Mark H. added that STORET staff should be involved, to encourage data sharing between STORET and Water Atlas. ***GS suggested that this discussion be continued by the Monitoring Catalog Workgroup, and instructed interested participants to contact SS.***

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NWQMC / EPA SOTRET

Bob V. asked what the NWQMC has been doing since the last meeting of the FWRMC in 2008, and if they are still supporting the replacement of STORET to comply with EPA's WQX? GS responded by indicating that tomorrow's presentations will cover both DEP's STORET replacement and the NWQMC.

Denise Miller (Denise M.) noted that she will be presenting about STORET tomorrow, which will present additional opportunities for discussing issues related to data standards.

Wednesday - August 31, 2011 (8:30am-12:00pm)

Attendees (X indicates present):

Agency	Primary Members	In Person	Webinar
DACS	Chris Brooks		
DOH	Bob Vincent	X	
FWCC	Amber Whittle		
DEP	Kate Muldoon	X	
NWFWMD	Nick Wooten	X	
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SFWMD	Julianne LaRock		X
SJRWMD	Steven Richter	X	
SRWMD	Louis Mantini		X
SWFWMD	Mark Rials		

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USGS	David Sumner		
FLERA-SJ	Michelle Leigh		X
FLERA-SW	Kelli Levy		X
FLERA-S	Rob Robbins		X
	Council Chair		
DEP	Gail Sloane	X	
	Council Liaison		
DEP	Stephanie Sunderman	X	X
	Guests		
DEP	Diana Bandlow		X
DEP	Steve Wolfe	X	
Alachua Co.	Jim Myles		X
DEP	Denise Miller	X	
DOH	Charlie Donahue	X	
SJRWMD	Tom Mirti	X	
DEP	Kalina Warren		X
UWF	Barbara Albrecht	X	
Miami-Dade DERM	Steve Blair		X
UWF	Jan Caffery		X
DEP	Rebecca James	X	
DEP	Julie Zimmerman	X	
Palm Beach Co. Env. Resource. Mgmt.	Edmund Gibson		X
UWF	Alex Maestre		X
DEP	Shel McGuire		X
DEP	Lemonteh Horne		X
Escambia Co.	Taylor Kirschenfeld		X
DOH	David Polk		X
Escambia Co.	Brent Wipf		X

Update - STORET

Presented by Denise Miller (Denise M.), FDEP

(see exhibit N for detailed information from PowerPoint slides)

Denise M. introduced Rebecca James (Rebecca J.) and Julie Zimmerman (Julie Z.) who work in the STORET section of DEP

Denise M. introduced Florida STORET

- Brief overview of statistics regarding FL STORET data providers and records

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- Overview of some of the uses for STORET data: assessment of waters for Impaired Waters Rule, developing TMDLs, Basin Management Action Plans (BMAPs), and water quality criteria, providing data to EPA, and fulfilling public data requests

Denise M. summarized the need for replacing FL STORET

- It has limitations that prevent use of data for DEPs needs
- Lacks the desired level of QA
- Doesn't meet all current reporting needs
- Doesn't support all types of data (currently no GW or biological data)

Denise M. indicated that the STORET section is currently working with data providers to fulfill EPA's reporting requirements and get data uploaded into EPA's WQX (Water Quality Exchange).

Denise M. introduced WIN (Watershed Information Network), the platform that will replace FL STORET, and some of the goals for the project:

- Additional QA and reporting features
- Build using knowledge gained from past STORET replacement analyses & discussions
- Web-based platform for increased stability & efficiency
- Provide a scalable framework and be central repository for DEP/DEAR non-regulatory data
- Provide an audit trail
- Have GIS-based public access

Denise M. introduced WIN development phases

- Phase 1 is ongoing, and will focus on core data for DEP/DEAR programs (e.g. data types already in STORET; mostly chemistry for SW, sediments, and fish tissue; expansion to GW, continuous monitoring, flow data). DEP data users and providers are being consulted first, then external data providers will be consulted.
- Subsequent phases will address biology and program specific modules

Questions / Discussion

Steve R. asked what the timeline for getting input from external data providers for is. Denise M. responded that they don't want to keep asking people for information and comments until the plan and progress with WIN is more developed. Steve R. clarified that he wanted to know when the minimum standards would be ready for comment and review. Julie Z. responded that much of the minimum standards have been drafted and are currently being reviewed by the DEP labs and other DEP programs, to make sure that data provider and user needs are understood. Denise M. added that they anticipate having something within the next 6 months ready for review.

Steve R. also asked why the difference in record numbers was so great between FL STORET (e.g. ~28 million records) and what was reported as having been uploaded to EPA STORET/WQX (~2 million records). Denise M. responded that EPA WQX statistics quoted were for new data loaded to WQX since 2009, and noted that EPA Modernized STORET contains the remainder of the FL STORET data.

Steve R. asked if Quality Control (QC) sample information will be available in WIN. Denise M. responded that they intend to incorporate QC information, but that there will be standards for how it is done. Julie Z. added that the current proposal is that WIN allow, but not require additional information about lab and field QC data to be stored.

Mark H. asked for clarification regarding the necessity for QC on data received from labs. Denise M. responded that the challenge is making sure that all of the appropriate metadata information is provided, and that minimum data element standards are met. Julie Z. added that data providers will be able to review and comment on minimum standards.

Cathy T. asked what the timeline was for retiring STORET. Denise M. indicated the desire that it be within approximately 3 years.

Nick W. asked if WIN will be able to be used by the WMDs and others outside of DEP. Denise M. responded affirmatively, indicating that WIM will provide for data extraction by anyone through a web-

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

based interface. Julie Z. noted that the web-based interface for WIN will eliminate the need for external data providers to maintain their own mini-STORET databases, and all data entered into WIN will be stored at DEP.

Cathy T. asked how data will be able to be sorted in terms of level of QA. Denise M. responded that the minimum standards (required and recommended elements) will help to make data sortable, but data provider will need to look for the metadata that is essential to their use, and choose to not use those records that don't contain the desired information or level of QA. Cathy T. suggested coding the data to indicate that data is meeting minimum standards. Denise M. responded that if minimum standards aren't met, then those data won't come into WIN, but other levels of QA may be needed by data users and they will need to make sure that they are using the records that have those fields populated, according to their objectives.

Barbara A. asked how WIN will be able to document changes in methods/procedures of biological data (e.g. SCI thresholds). Denise M. and Julie Z. indicated that those needs will be addressed in WIN phase 2, and that they should be able to do so thorough use of tags to track changes in SOPs and or method.

Tom M. asked what phase the SW and GW from SJRWMD will be incorporated in. Denise M. and Julie Z. responded that those would be included in phase 1, and that they will need to engage with those data providers to make sure WIN will be able to incorporate the appropriate elements for those types of data.

Steve B. asked if WIN is a subset of FL STORET. Denise M. responded that WIN is a complete replacement for STORET, and will have more data elements and types than STORET had. Steve B. asked where data that don't meet minimum standards that are excluded from WIN but were included in STORET (and may have some usability) will reside. Denise M. responded that STORET will no longer exist and those data that don't meet minimum standards won't be included in WIN. Denise M. added post-meeting clarifications that FL STORET will no longer be populated with new data once WIN is in place, and indicated that DEP will need to make decisions regarding archiving of data currently in FL STORET that aren't migrating to WIN. Julie Z. added that similar minimum requirements screening already exists in STORET, (e.g. STORET has minimum data requirements now that must be met for data to be included), and that the degree of difference between this process for STORET vs. WIN will be determined through the establishment of WIN minimum standards, which will include stakeholder input. Steve B. also asked if some information from STORET will not come into WIN due to different requirements. Denise M. responded that the requirements needed in WIN are being pushed down from EPA WQX, and WIN must therefore meet EPA requirements as well as additional DEP reporting needs.

Mark H. added concern for not bringing in all STORET data into WIN, so that historic information is not lost. Denise M. responded that different types of data may need to have different standards defined, and they will be working with data providers and users to understand what those standards should be. Mark H. stressed the desire to have all data available, with data that doesn't meet certain standards classified as "tier 1", where it could be sorted out if needed

Nick W. suggested that metadata tables have a utility to attach files (pdfs, jpgs, etc) to records, and asked what will happen to the historic data in STORET. Denise M. indicated that they are still deciding which data will be migrated and which will be archived.

Cathy T. noted that minimum data standards are needed, but we also need to make sure that all data providers communicate (possibly through the FWRMC) and reach consensus for what the standards will be in order to ensure that as much data as possible is entered into WIN.

Update – Coastal Monitoring (DEP)

Presented by Steve Wolfe (Steve W.), FDEP

(see exhibit O for detailed information from PowerPoint slides)

Steve W. gave an overview of GOMA

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

- 6 priority issue teams – DEP hosts the WQ team (Steve W. is coordinator)
- In 2005 the FDEP Secretary made it a priority to establish coastal monitoring and develop a coastal monitoring framework. Legislative budget request was created to establish monitoring of CAMA and FWC as a backbone network and start filling in many gaps. CAMA aquatic preserves and FWC field offices are evenly placed around state so field sampling infrastructure was in place. Participants realized that this new coastal network should be integrated with existing FW monitoring networks, which led to the formation of the original FWRMC.
- While FWRMC paused GOMA noted that FL framework was useful effort & they wanted to build gulf-wide monitoring effort (included in GOMA action plan).
- In 2010 the oil spill changed the priorities for participants in GOMA. The monitoring discussion changed from “How can we get people to cooperate?” to “What is this monitoring plan going to look like?” The monitoring network is now expected to be included in GOM Restoration Taskforce plan & monitoring is mentioned in drafts of congressional bills, with recommendations for part of funding to be used to establish long term monitoring in the GOM.
- GOMA exists to help to coordinate between federal and state agencies's efforts to accomplish states' priorities

Steve W. invited FWRMC members to attend the GOMA Monitoring Forum on Nov 1-3 in Pensacola, FL, where GOMA Monitoring Workgroup will be working on developing their monitoring plan.

Steve W. gave a brief summary of CAMA's other monitoring programs

- 3 National Estuarine Research Reserves in FL have extensive monitoring of their systems
- CAMA has 80 aquatic preserves around the state, and each preserve has site specific monitoring programs

Questions / Discussion

SS indicated that she will work with Steve W. to distribute GOMA information to FWRMC.

Kate M. asked if funding for restoration network is coming from GOMA or to individual states. Steve W. responded that it is still uncertain, as the amount isn't set and congress still needs to decide how it is distributed.

Cathy T. offered to send GS a copy of the Restore Act, a bill going through congress asking to put 80% of the penalty funds into restoration and monitoring in the GOM, and outlining the percentages to be given to states, federal agencies, fisheries, and other types of monitoring. Cathy T. also noted that she just received results of a session of GOM Restoration Taskforce, indicating that the deadline for the final strategy has been extended, and that there will be a 3 week comment period in October, with the final document to be produced in December. Cathy T. suggested that the FWRMC review the document and provide input on language in the document that identifies WQ monitoring (top to bottom) and adaptive management science. Steve W. noted that the decisions of Congress and the GOM Restoration Taskforce are independent and may not be tied together. Cathy T. indicated that the bill includes language about the states getting funding and the GOM Restoration Taskforce overseeing it.

Cathy T. asked what types of monitoring would be discussed at the GOM Monitoring Forum. Steve W. responded that the forum is all WQ monitoring (chemical, physical, biological, ocean observing, etc).

Update – Coastal Monitoring (FWCC)

Presented by Paul Carlson (Paul C.), FL FWCC

(see exhibit P for detailed information from PowerPoint slides)

Paul C. began by stating that FWC's interest in water resource monitoring is biological (fisheries, habitat, etc.) and noted that partnerships with other agencies are vital for successful resource monitoring.

Paul C. then described the many water resource monitoring programs that FWC is currently involved in.

- NCCA (National Coastal Condition Assessment), the resource sampled for the 2010 EPA national aquatic resource survey. State organizations had the opportunity to conduct field work and FWC cooperated with DEAR/CAMA to sample 93 sites for water chemistry, light attenuation, fecal

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indicators, sediment chemistry and toxins, and fish tissue toxins, with additional supplemental seagrass data collection.

- NASA Optical Water Quality project uses MODIS to extract optical WQ info over 10 year series of satellite images, and tries to relate remotely sensed data to field data collected during seagrass monitoring activities
- Seagrass Integrated Mapping and Monitoring (SIMM) program involves 30 agency partners to share seagrass mapping & monitoring data statewide. Paul C. discussed the differences in data available through both mapping and monitoring, and indicated that large areas of 10,000 islands region were not well monitored, but USGS is manatee presence data can be use as an indicator for seagrass presence. Project is a good example for finding commonality among datasets with differing methodologies and DQOs. Cooperative products include developing an optical water quality model and passing that information on to the DEP Standards and Assessment section for use in transparency criteria studies.
- MRAID (Marine Resources Aerial Imagery Database) serves seagrass imagery database using Google Earth.
- South FL FHAP monitors seagrass response via nondestructive methods with a focus on FL Bay
- *Halophila johnsonii* (threatened species) monitoring
- New NASA funded project to extend remote sensing capabilities using Unmanned Aerial Vehicles (UAVs) to examine seagrass & coral fluorescence in Cedar Key, FL and Tobago.
- Coral monitoring via annual video and diver transects on permanent sites to assess trends in long-term data, collected since 1999
- GIS analysis of remotely sensed WQ data (optical WQ, temperature monitoring, etc.)
- Harmful Algal Blooms (HAB) involve many partner organizations to conducts sampling routinely and during bloom events
- Remote monitoring platform (MARVIN) collects data on meteorological conditions, light, nutrients, and HABs.
- Manatee monitoring includes necropsies, population monitoring via aerial survey, on-ground behavioral monitoring with photo identification system, and satellite tracking
- Right Whale population monitoring via boat and plane surveys
- Fisheries monitoring includes directed monitoring of queen conch and spiny lobster, Fisheries Independent Monitoring (FIM) for juvenile and adult fin fish abundance, and Fisheries Dependant Monitoring (FDM) from commercial fishers, ports and recreational surveys. FIM monitoring provides essential information for regulatory purposes, and samplers also collect data on habitat, WQ, and weather.

Questions / Discussion

Steve R. asked if remote sensing was hyperspectral. Paul C. responded that multispectral Worldview 2 imagery with 8 bands is used in the Big Bend, and the sensors on the UAVs will have 128 channels.

Mark H. asked how ground-truthing is being conducted in Big Bend, and if corals were included in field monitoring. Paul C. responded that seagrass monitoring has been conducted since 2002, but corals were not included in those efforts. Mark H. suggested that a volunteer group called SCUBAnauts might be useful for obtaining historic coral monitoring data.

Update – Water Resource Monitoring (DOH)

Presented by Bob Vincent (Bob V.) and Charlie Donahue (Charlie D.), FDOH
(see exhibit Q for detailed information from PowerPoint slides)

Bob V. presented a summary of the DOH Healthy Beaches Program

- Beach monitoring water quality information collected for public information (real-time database displays information online)
- Data is uploaded into STORET and is used for the impaired waters list
- Uses EPA methods and criteria for bacteria fecal indicators (*E. coli* and *Enterococcus*)

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- Starting in September 2011, sample size will be reduced and will only test for *Enterococcus*. *Enterococcus* is the recommended method for seawater, and results give greater percentage of “poor” WQ results.
- Online data portal can be accessed at <http://floridashealth.com>, in the beaches section. Data is available within 24-48hrs of sampling
- Reviewed upcoming program changes – reducing stations w/ good water quality or very low usage

Charlie D. presented a summary of the DOH Well Surveillance program

- Program goal is to identify contaminated drinking water by sampling 10 wells in the quarter mile area surrounding a spill or area of known contamination (if those wells are contaminated, sampling begins again until extent of contamination is quantified)
- Program started in 1988, but data is available going back to 1982
- ~2800 wells identified with nitrate/nitrite exceedances (> 10mg/L); ~1300 wells identified with arsenic exceedances (> 10ug/L); ~400 wells identified with pesticide exceedances with dieldrin being the most common
- Delineated zones and contamination sites data available through online mapping application <http://GIS.doh.state.fl.us/ehwater/default.aspx>

Questions / Discussion

Nick W. asked if studies have been done to see if high levels of *Enterococcus* from non-human sources cause illnesses at a similar rate as *Enterococcus* from human sources. Bob V. responded that these studies do not differentiate, but samples collected from areas far from any known human contamination were still suspected of causing illness.

Steve B. asked how discontinuing *E. coli* will effect regulations, since the rule does not include *Enterococcus*. Bob V. responded that the Healthy Beaches program uses EPA criteria for *Enterococcus*, but it is not a regulatory program. Steve B. added that regulatory programs still need to use state and county rules which may need to be changed to be compatible with the federal rule's use of *Enterococcus*.

Cathy T. asked if the well surveillance program is tracking migration. Charlie D. responded that the program does not identify polluters. Cathy T. asked how the sampling points are selected and how the flow direction was identified. Charlie D. responded that the program relies on existing wells to sample, as the goal is to document if the contamination plume reaches the receptors. Cathy T. suggested that GW monitoring should be expanded to address broader questions like flow direction.

Cathy T. asked if the cuts to the Healthy Beaches program will impact the ability to properly issue advisories. Bob V. responded that the error levels are w/ 1-2%, and indicated that they will continue to track those statistics.

Update – National Water Quality Monitoring Council

Presented by Steve Wolfe (Steve W.), FDEP

(see exhibit R for detailed information from PowerPoint slides)

Steve W. gave a summary of the NWQMC structure and history

- Subgroup under ACWI
- Chaired by federal agencies
- Currently 5 workgroups: Water Information Strategies, Methods and Data Comparability, National Monitoring Network, Aquatic Sensors, Collaboration and Outreach
- NWQMC started as primarily FW, but has recently began to incorporate coastal monitoring (through NOAA, International Ocean Observing System, and regional groups like GOMA)

Steve W. listed some of the main products of the NWQMC

- Monitoring Framework
- Annual Monitoring Conferences
- National Environmental Methods Index (database of SOPs, templates, etc)

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- Various publications

Steve W. listed the current projects that the NWQMC is working on

- Assisting state / regional monitoring councils
- Supporting data sharing through EPA's WQX
- Planning the annual Monitoring Conference in May 2012
- Forming a national network of reference watersheds and stream sites
- Publishing an online newsletter
- Presenting educational webinar series
- Pilot study of National Coastal Monitoring Network in Delaware Bay, Lake Michigan, and San Francisco Bay
- Supporting establishing GOM monitoring system (after oil spill)

Questions / Discussion

Cathy T. asked if NWQMC had a website. Steve W. responded that it is <http://acwi.gov/monitoring/>.

Update – National Ground Water Monitoring Network (NGWMN)

Presented by Rick Copeland (Rick C.), FDEP

(see exhibit S for detailed information from PowerPoint slides)

Rick C. gave brief summary and history of NGWMN

- Supported by ACWI subcommittee on GW (SOGW)
- SOGW prepared framework documentation for NGWMN
- Goal is to form a network for monitoring status & trends in GW using existing programs to make federal network
- Showed examples of variable resource coverage in existing GW monitoring programs that span nation, region, and states

Rick C. summarized the current NGWMN pilot project to build a framework document (in revision now with 50-60 people meeting bimonthly to discuss it).

Rick C. presented a proposal to the FWRMC to form a workgroup to coordinate a salinity monitoring network for GW in FL, using existing networks' sites

- Described the reasoning for focusing on salinity, including long-term statewide declining GW levels and increasing Na & Cl concentrations, and stated that this could be caused by decreased rainfall & recharge and/or increased abstraction
- Illustrated inverse relationship between flow and sodium concentration

Rick C. reviewed the proposed goals for the GW salinity network:

- Use FWRMC to manage and coordinate among existing GW programs and encourage participation / communication
- Provides GW data and information on a statewide to local scale
- Define status and trends for salinity and GW Levels
- Integrate GW results with other water resource reports

Rick C. reviewed the proposed analytes and indicators: water level, spring flow, pH, specific conductance, temperature, Na, Cl, total dissolved solids, sulfate, and Ca & Mg (as early indicators of increasing Na & Cl), rainfall, temperature, evapotranspiration, GW withdrawal data

Rick C. reviewed the justification for making the salinity network a FWRMC workgroup

- FS 373.026(5): Study those areas of the FL where saltwater intrusion is a threat to freshwater and report ...to the WMDs, counties, and the public.
- FWRMC Action Item 2: Improve coordination among monitoring entities
- FWRMC Action Item 2-4: Increase integration between FW and coastal monitoring
- FWRMC Action Item 2-5: Create / Sustain collaboration among monitoring entities

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Questions / Discussion

Roberta Starks (Roberta S.) asked how GW network will deal with reformatting data. Rick C. responded that data reformatting has taken a long time in previous efforts, but the FWRMC would need to discuss the desired format and analytes during the planning phase for the network

Kate M. asked how far along formation of the network is. Rick C. responded that only 46 wells and 57 springs from around state were used for a previous report, and welcomed everyone to participate so that the network could increase in size.

Tom M. noted that evapotranspiration data from USGS should be available, and suggested that Rick C. contact David Sumner for more information.

Tom M. asked why only those 6 parameters were chosen, and not carbonate, bicarbonate, etc. Rick C. responded that more sophisticated data and analytes could be used, but it is up to the workgroup to decide what data they are willing to collect, share, and analyze

Cathy T. asked what Rick C.'s vision is for linking GW network and SW network. Rick C. responded that it is open for discussion, and that the GW network could be used alone for this project, but some organizations may want to incorporate SW

Cathy T. asked how the preliminary study that Rick C. cites is packaged in terms of understanding GW flows and applicability to resource decisions. Rick C. responded that the preliminary report probably won't address resource decisions. Cathy T. noted that using the FWRMC for this project could help by focusing on creating a plan for reporting the information for scientific and application / public use purposes.

Tom M. asked why WIN was not being used to coordinate the GW data. Rick C. responded that WIN will be great for this project once the GW information is available. Denise M. added that she will contact the workgroup to discuss GW data in WIN.

Roberta S. asked if it is still appropriate to begin putting GW data into STORET, or would it be better to wait for WIN protocols. Denise M. agreed that continuing to work on entering GW data into STORET is beneficial since WIN is a few years away from completion of phase 1.

Discussion of Logistics for Next FWRMC Meeting / Questions / Comments / Open Member Dialog

Bob V. asked if there was a budget for contracts for action items. GS responded that there is no funding currently available, but noted that finding funding is included in the Action Plan. Cathy T. asked if the FWRMC was coordinating with Lee Edmonson regarding FL portion of NRDA funding. ***Paul C. volunteered Amber Whittle to coordinate with Gil McRae, the other FL representative for NRDA funding. Cathy T. volunteered to investigate available information from TWGs.***

GS asked for input on logistics for the FWRMC Chair position, and indicated that it doesn't need to stay within FDEP, and that FDEP would continue to provide support through the Liaison.

- Rick C. and Kate M. suggested that it should rotate among the agencies.
- Nick W. and Tom M. suggested that it should stay with FDEP because others may not have the time available.
- Roberta S. suggested that GS remain the acting chair for at least a year, and then revisit the issue

GS asked for thoughts regarding adding a FWRMC Co-Chair (or "Chair in training")

- Rob B. agreed that it would be a good idea
- GS suggested that the Co-Chair could rotate, as well
- ***GS instructed those interested in serving as Co-Chair to contact SS***

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GS asked for input on meeting frequency

- Rob B. suggested that we develop short and long term goals and let that guide meeting frequency
- ***GS suggested that the next face-to-face meeting (with webinar option) for the statewide FWRMC be held in January***
- Steve W. suggested meeting at least every two months
- ***GS suggested a webinar meeting of the statewide FWRMC in late October or early November***
- ***GS suggested that workgroups meet more frequently***

GS asked for ideas for ***forming workgroups*** and volunteers to serve on the workgroups

- ***SS will coordinate logistics for all workgroups***
- GS indicated that others from agencies (not just Council members) are welcome in workgroups
- ***Action Plan Review*** - This workgroup will review the FWRMC Action Plan drafted in 2008. They will develop suggestions (to be reviewed/discussed by the entire Council) for action item prioritization and implementation, as well as any necessary Action Plan revisions.
 - o Rob B. indicated that this would facilitate identifying the broad path that the Council will follow without spending too much time word-smithing the Action Plan
 - o Tom M. asked if the FWRMC was given direction, like the original Council. GS responded that the direction is to be determined by the Council members.
 - o Current participants (including those who volunteered via email after the meeting had concluded): Steve B., Susan Markley, Rob B., Cathy T., Nick W., Aiša C., Mark H., Steve R., Amber Whittle.
- ***Monitoring Catalog (Action Item 1)***- The entire Council has been asked to gather information about their own agencies' existing online monitoring catalogs and data portals. This workgroup will summarize that information. In the future, this workgroup will also develop suggestions for a strategy to accomplish Action Item 1.
 - o Kate M. will temporarily lead group
 - o Current participants (including those who volunteered via email after the meeting had concluded): Tom M., Roberta S., Aiša C., Bob V.
- ***National Ground Water Monitoring Network***- This workgroup will develop suggestions to coordinate existing groundwater monitoring efforts in FL, and facilitate information exchange between national groundwater monitoring committees and those conducting groundwater monitoring in FL.
 - o Rick C. volunteered to lead the group
 - o Current participants (including those who volunteered via email after the meeting had concluded): Nick W., Tom M., Dave Dewitt (SWFWMD).

GS asked for input on forming Regional Groups

- GS noted that discussions yesterday indicated that NW FL has ideas for forming the beginnings of the group -NFWMD, UWF, Escambia Co. are willing to participate
- RAMPs could assist and provide suggestions for forming regional groups at the next statewide FWRMC meeting
- Rob B. suggested that statewide FWRMC can develop templates with information for regional councils and make contacts through FLERA.
- Rob B. suggested that developers be included in regional councils.

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Meeting Evaluations

Most useful topics:

- Presentations by CAMA, FWC, DOH (who is doing what, where it is being done)
- WIN
- FWRMC Action Plan
- NGWMN
- Council overview

Suggested topics for future FWRMC meetings:

- Workgroup updates
- Updates on monitoring activities from other agencies
- Volunteer monitoring
- FLERA
- RAMP
- Estuary program management plans
- Water Atlas
- GW projects at FGS
- Monitoring in GA and AL
- Status of National IDM
- Deepwater Horizon oil spill summary / update
- BMAP coordination and linkage to regional Councils
- Compiling data for minimum flow determination
- More information on WIN progress and goals
- Discussion of WIN Minimum Standards for Data
- Gaps in monitoring
- GW site investigation
- Connection between GW and SW
- Options for distributing data to technical partners and public
- Cost comparison of data storage options
- QA/QC oversight and audits
- How data is being used in decision making
- Budget for monitoring activities and projects that have been impacted by reduced budgets
- Emerging contaminants (pharmaceuticals, endocrine disrupters, etc)

Other Suggestions:

- Get county planners involved in FWRMC meetings.
- Need more time on several topics for questions and getting into specific details.
- Have meeting more centrally located (Tampa, Gainesville, Coco Beach, etc).
- Have one meeting per year of only FWRMC members with major focus on topics that need to be addressed through the action plan.