

*Draft Minutes*  
*Joint Working Group (WG)/Science Coordination Group (SCG) Meeting*  
*South Florida Water Management District*  
*West Palm beach, FL*  
*March 21, 2016*

**1. Welcome and Introductions**

Ernie Marks called meeting to order at 10:01 am. He welcomed Marjorie Kirby from Florida DOT, Bill Cox, Acting Superintendent at Biscayne National and Marsha Ward, representing Michael Anderson from FWC. The agenda (Encl. 1a) and draft meeting minutes (Encl. 1b) were provided to the members. Shannon Estenez announced information on the next Task Force meeting would be provided at a later date. She also noted the presentations from the RECOVER Workshop were posted at [www.evergladesrestoration.gov](http://www.evergladesrestoration.gov). Nick Aumen reminded everyone of the National Conference on Ecosystem Restoration (NCER) on April 18 – 22<sup>nd</sup> at the Coral Springs Marriott. The next GEER conference will also be at the same location on April 17 – 21, 2017. Members were asked to introduce themselves and provide brief introductory remarks.

**In Attendance:**

**Working Group (WG) Members**

	Mar 21	Alternates
Ernie Marks – Chair – South Florida Water Management District	√	
Barry Rosen – Vice Chair - United States Geological Survey	√	
Billy Causey – NOAA, FL Keys Nat’l Marine Sanctuary	-	
Bill Cox - Biscayne National Park	√	
Deb Drum – Martin County	√	
Veronica Harrell-James – U.S. Attorney’s Office	√	
Lee Hefty – Miami Dade County	-	Pamela Sweeney
Eric Hughes – U.S. Environmental Protection Agency	√	
Marjorie Kirby - FL Dept. of Transportation	√	
COL Jason A. Kirk - U.S. Army Corps of Engineers	-	LT COL Jennifer Reynolds
Cherise Maples – Seminole Tribe of Florida	-	
Russell Morgan - U.S. Dept. of Agriculture, NRCS	-	
Roland Ottolini – Lee County Division of Natural Resources	√	
Bonnie Ponwith – NOAA, National Marine Fisheries Service	-	
Pedro Ramos – NPS, ENP & Dry Tortugas National Parks	-	
Leonard Rawlings - Bureau of Indian Affairs	-	
Robert Robbins – Palm Beach County	-	
W. Ray Scott - FL Dept. of Agriculture and Consumer Services	√	
Edward Smith – Florida Department of Environmental Protection	-	
Larry Williams – U.S. Fish and Wildlife Service	-	Bob Progulske
Gintas Zavadzkas - Miccosukee Tribe of Indians of FL	-	
Vacant – Florida Fish and Wildlife Conservation Commission	-	Marsha Ward
Vacant – Local Government	-	
Vacant – U.S. Department of Transportation	-	
Shannon Estenez – U.S. Department of the Interior	√	

**Science Coordination Group (SCG) Members**

Nick Aumen – Chair – United States Geological Survey	√	
Susan Gray – Vice Chair - South Florida Water Management District	√	
John Baldwin – Florida Atlantic University	-	Brian Benscoter
Lisa Beever – Charlotte Harbor National Estuary Program	√	
Joan Browder - NOAA, National Marine Fisheries Service	√	
Amy Castaneda - Miccosukee Tribe of Indians of FL	-	
James Evans – City of Sanibel Natural Resources Department	√	
Chris Kelble - NOAA, AOML	-	
Chad Kennedy - FL Dept. of Environmental Protection	-	
Cherise Maples - Seminole Tribe of Florida	-	
Gil McRae – Florida Fish and Wildlife Conservation Comm.	-	
Bob Progulske – U.S. Fish and Wildlife Service	√	
Gina Ralph - U.S. Army Corps of Engineers	-	Kim Taplin
William Reck - U.S. Department of Agriculture – NRCS	-	
Dave Rudnick – Everglades National Park, NPS	√	
Dan Scheidt – U.S. Environmental Protection Agency	-	
Bob Johnson – U.S. Department of the Interior, Special Advisor	-	
Vacant – Florida Department of Agriculture and Consumer Services	-	
Vacant – U.S. Department of Agriculture - ARS	-	

**2. SFWMD Program and Project Update**

Jennifer Leeds provided a presentation (Encl. 2) reviewing the Restoration Strategies Program which is the SFWMD’s effort to expand some existing STAs, build new FEBs and improve conveyance capacity. This is a 13-year program designed to improve water quality going into the Everglades Protection Area and meet the state’s water quality based effluent limit (WQBEL) that takes effect in 2025. She provided status updates on the C-139 Annex/Sam Jones/Abiaki Prairie project, C-44 Reservoir/STA, C-43 Reservoir (Cell 1), Picayune Strand Restoration Project, Lakeside Ranch STA Phase 2 (South), Biscayne Bay Coastal Wetlands: L-31E Flowway Pilot Pump Test and the Central Everglades Planning Project: Old Tamiami Trail Removal. She also reviewed the three CERP planning efforts the SFWMD is undertaking with the Corps that include the Loxahatchee River Watershed Restoration Project, Lake Okeechobee Watershed Project and the Western Everglades Restoration Program. The Western Everglades Restoration Project is a much larger planning effort the SFWMD and the Corps will undertake and encompasses a much broader area that will include things such as the feeder canal basin, C-139 annex, Big Cypress, L-28, WCA-3 as well as concerns with water quality and hydrology.

Question and answer session followed, to view the recording in its entirety, please visit: [http://evergladesrestoration.gov/content/wq/archives/wq\\_handouts\\_past\\_032116.html](http://evergladesrestoration.gov/content/wq/archives/wq_handouts_past_032116.html)

**3. Corps Program and Project Update**

Michael Collis provided a presentation (Encl. 3) reviewing the status of the foundation projects (Kissimmee River Restoration, Ten Mile Creek, West Palm Beach Canal – C-51/STA 1E, MWDs to ENP, C-111 South Dade, Seminole Big Cypress); the four CERP 1<sup>st</sup> Generation projects (IRL- South, Site 1 Impoundment, Picayune Strand Restoration, Melaleuca Eradication) and

four 2<sup>nd</sup> generation CERP projects (Broward County Water Preserve Areas, Biscayne Bay Coastal Wetlands Phase 1, C-111 Spreader Canal Western Project and Caloosahatchee River (C-43) West Basin Storage Reservoir). The planning efforts the Corps and the SFWMD have underway include the Central Everglades Project, Loxahatchee River Watershed, Lake Okeechobee Watershed, Western Everglades and the Southwest Florida Comprehensive Watershed Plan. He reviewed the FY 16 budget, FY17 President's budget as well as the communication forums the Corps and the SFWMD are engaged in.

Dennis Duke noted BBCW has \$0 in FY17 which would have an impact on the Integrated Delivery Schedule (IDS). Michael Collis said they were surprised that no funds were identified in the President's Budget and will have to look at making the appropriate changes to the IDS. Shannon Estenoz suggestion having an IDS conversation at the next Task Force meeting. LTC Reynolds noted that Kim Taplin and others are working now to determine the impacts of the budget on the IDS. Ernie Marks added they will also know what they will have on the state side as well for FY17.

#### **4. 2016 Task Force Reporting Requirements**

Allyn Childress provided a presentation (Encl. 4) reminding everyone of the report purpose. The Strategy responds to Congressional direction (House Conference Report 106-479) to outline how the restoration effort will occur and identify resources needed. Biennial Report fulfills requirements of the Water Resources Development Act (WRDA) of 1996 to report biennially on Task Force activities and progress made toward restoration. Integrated Financial Plan (IFP) fulfills requirements of the WRDA 96 to report annually on the progress, status, and costs of individual restoration projects and contains detailed project sheets. System-wide Ecological Indicators assesses current ecosystem health and provide a means to track ecosystem response to restoration.

The 2014 update included a significant update on invasive exotic species. The Committee on the Independent Scientific Review of Everglades Restoration Progress (CISRERP) provided some direction to incorporate climate change and sea level rise in restoration planning. They will develop text for the 2016 update for each of the three goals which will set the stage for developing some measurable objectives in the 2018 update. Laying the framework is the minimum that needs to be accomplished this year. She reviewed the timeline and noted that it will be scheduled for Task Force approval in the fall. She will be looking for volunteers to help work on the climate change text. Shannon Estenoz reminded the members this is a statutory requirement and staff needs to be assigned to work on it.

#### **5. System-wide Ecological Indicators**

Laura Brandt provided a presentation (Encl. 5) noting the first Indicator report was completed in 2006, they are now ten years in and it is time for them to think about whether this is where they want to be and where they want to go in the future. There are two pieces to this effort, one piece goes into the Biennial Report to Congress and the other is the full report. Over the last two reporting cycles they have streamlined the report and made it simpler and shorter. The report provides the status of the 11 system-wide ecological indicators, ties to restoration actions as well as what they have learned. Included are as well are two case studies that show where local restoration actions have resulted in the type of positive ecological responses they expect to one day see system-wide. She also reviewed what would be included in the full detailed

report. They want to make sure they capture the significant events that occurred in this reporting period, these could be climate, hydrological or water management.

Question and answer session followed, to view the recording in its entirety, please visit: [http://evergladesrestoration.gov/content/wg/archives/wg\\_handouts\\_past\\_032116.html](http://evergladesrestoration.gov/content/wg/archives/wg_handouts_past_032116.html)

### **Public Comment**

Celeste DePalma (Audubon Florida) said it was exciting to see so much work ahead. The weather patterns they have seen this year clearly illustrate the need to look at storage in a holistic fashion. They believe that looking at storage options north and south of Lake Okeechobee would be good for the ecosystem because they need multiple options across the entire watershed.

Drew Martin (Loxahatchee Group Sierra/Palm Beach County Soil and Water Conservation District) said he was concerned they are not achieving any of the goals they all want to achieve. Continuing to see the same problems over and over again. Part of it is that climate change is really changing things and the other part is that they haven't been able to get the enthusiasm from the elected officials that they need to fund programs and move them forward. They don't have enough storage south of the lake and the elected officials continue to ignore the fact that the EAA was where the water went. They continue to sacrifice the estuaries and Florida Bay to protect this agricultural area that is being kept artificially dry when it should be a floodplain. They have not adjusted the southern end of the system so that they can put water into Florida Bay when it's wet. They have too many impediments and they still have not completed MWDs. He volunteered to help with the climate change text in the Strategy and Biennial Report.

### **Administrative Items**

Barry Rosen reconvened the meeting after the lunch break. Shannon noted that a sign-up sheet was being circulated for those that wanted to volunteer to work on the climate change text in the Strategy and Biennial Report. Shannon also noted that Ernie Marks who has been serving as the Chair of the Working Group would be rotating out of the leadership role and new leadership would be appointed over the summer. Anyone interested in serving was asked to let her know. The draft minutes were presented for approval. A motion was made and seconded and the minutes were approved as presented.

## **6. Update on Current Management Measures in the Central and Southern Everglades**

Dave Rudnick acknowledged all the individuals who contribute their expertise and resources to Florida Bay. He provided a presentation (Encl. 6a) reviewing the seagrass die-off in north central Florida Bay in the summer of 2015. Seagrass is the keystone biotic component of Florida Bay. A complex chain of events likely transpired in the bay that triggered this die off. There was almost no rainfall from April through July 2015 and salinity rose very rapidly. Salinity at Garfield Bight rose to 72 practical salinity units (psu) which was an all-time record ever in any site on open waters in Florida, based on individual reports that go back to the 1940s. A consequence of this die-off was the release of dead organic matter in the die-off area. Some of the basins of Florida Bay were covered with ½ to 1 foot layer of seagrass leaves. Dead seagrass decays and the decaying process consumes oxygen and produces toxic sulfide. That combination was toxic and they believe one of the factors that spread the die-off causing it to be so widespread. In the late 1980s a similar event occurred and it drew attention to the state of the whole watershed. It was one of the underpinnings of the public call for action that resulted in CERP. He compared the distribution of the two die-off events from 1987 and 2015. Salinity

levels have now dropped due to the rainfall this past winter and are currently below average levels. That doesn't mean they are out of the woods with regards to further die-off. In the short term they are observing and trying to learn from this situation. He reviewed the plans to assess the changing conditions in Florida Bay which include the use of aerial photography, water quality monitoring, fish monitoring and research and modeling.

Cal Neidrauer provided an update (Encl. 6b) on the current management measures in the central and southern Everglades. Dry season rainfall so far has been above average. The big rain event at the end of January put them at seven inches above average. March so far has been relatively low and could end up being a below average month. All of the lakes in the upper chain are currently at or below regulation schedule. Lake Okeechobee is at 15.2' and receding. He highlighted the water conservation areas (WCAs) that are above the regulation schedules. He also reviewed the criteria for moving water out of Lake Okeechobee into the WCAs which looks at several factors. He stressed that it doesn't matter what is going on with conveyance and storage capacity, there would be no intent to move water into the WCAs when the water in the WCAs is high. The SFWMD has anticipated that as stages fall there may be a desire to move water into the WCAs so water is being moved into some of the STAs now. They are currently putting water in the A-1 FEB from the lake and the S-12 A and B are closed (due to the Sparrow downstream and the E RTP) and the S-12 C and D are open. Cal reviewed the temporary emergency deviation to lower stages in WCA-3A. He noted that all these emergency operations will affect flood control in the south Dade conveyance system and actions such as canals being maintained at lower stages than normal are being undertaken.

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## **7. Restoration Coordination and Verification (RECOVER) Interagency Team scope and development of a five year plan**

Susan Gray introduced the topic saying that this is the time when they look at what has been accomplished and what they will go forward with over the next five years. It is her hope that through different efforts such as the SCG and WG they will leverage all of their information to the best of their ability to reduce redundancies and streamline reporting.

April Patterson noted Patti Gorman was unable to attend. She provided a presentation (Encl. 7) reminding everyone that RECOVER is the science behind the CERP. It provides a system-wide science perspective for planning and implementation of CERP projects. It conducts system-wide monitoring and assessment. It is responsible for Adaptive Management Plans, Interim Goals and Targets, System Status Reports and the 5-year Report to Congress. It is governed by the RECOVER Leadership group consisting of 10 agencies and 2 tribes. The RECOVER 5-year plan is a comprehensive, forward thinking effort to look at restoration plans for the next 5 – 10 years and determine the science needs. It will respond to the 2014 CISRERP recommendation to develop a long term sustainable monitoring strategy effort. It will also provide the status of interim goal indicators and expectations for the next five years. The effort was approved by the Corps and the SFWMD in June 2015 and a Steering Committee was established in July 2015. In November 2015 they established the six components (integrate and synthesize RECOVER's science, interim goals, interim targets, adaptive management, RECOVER's role in project implementation and communication) of the five year plan. Scopes have been developed scopes for each of the six components and sub teams have been set up

to build out the plan over the next several months. They look forward to working with the SCG on the five year plan as well as identifying opportunities for collaboration with other science efforts to improve long-term sustainability of restoration science.

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## **8. Progress and Findings of the Decompartmentalization Physical Model (DPM) sheet flow restoration experiments**

Barry Rosen noted this is the largest adaptive management project the Corps has ever conducted to understand sheet flow and what will happen with the canal restoration. It is a physical model to see how the system might respond. There are well over 40 – 50 scientists from federal and state governments as well as universities are working on this effort.

### *Introduction and Overview*

Fred Sklar provided a presentation (Encl. 8a) noting they are still doing the experiment and data is still being synthesized. He reviewed those critical questions associated with CERP and CEPP are driving this physical model. The concept to use large scale field experiments to reduce uncertainties with Decompartmentalization was developed 12 years ago. The DPM is a pilot study to test engineering solutions for ecological restoration. It is an on-site, relatively large-scale, controlled manipulation of the environment to evaluate ecosystem response to sheetflow. It is designed to provide critical information on the hydrologic targets for restoration. He reviewed the operational design and what is being measured.

### *Ridge and Slough Results*

Judson Harvey noted no one has ever observed what happens when flow is restored into a degraded area of the Everglades and that is what the DPM is about. He provided a presentation (Encl. 8b) noting the study area is about 2½ km and is an area that has been separated from flowing water for almost 70 years. The sloughs have filled in and it is now 87% sawgrass where it should only be 40% sawgrass. The flow velocity is practically nothing and there is micro-topography out there allowing one to see a pattern of the remaining sloughs. He provided an in depth review of the ridge and slough results noting that questions remain as to the long term effects.

### *Canal Results*

Colin Saunders reminded everyone the second objective of the DPM is to determine the degree to which canals block the natural transport of sediment or worse do they mobilize sediments with high amounts of nutrients loading the areas downstream. They are also trying to determine to what degree backfilling canals alter those processes. Because canals serve as habitat for recreation fish they are looking at the effect of backfilling on large fish populations. He also provided a presentation (Encl. 8c) noting that since 2010, Joel Trexler and his colleagues at FIU have been monitoring fish populations in the canals at various places within and outside the footprint. Their initial sampling focused on the edges of canals. After construction in 2013, they started measuring fish populations in the center of the canal and they found that the partial and complete areas attained very similar population densities. Backfill treatments have substantially increased large fish populations, transforming open canal areas (with no fish) into improved habitat similar to canal edges. There is no evidence (yet) of higher flows and natural sediment transport across the backfill sites. Big story is that under high flow, a “hotspot” of High P sediment accumulation develops in the No-Fill site. Backfill treatments appear to reduce

sediment TP, but they are still recovering from construction disturbance and re-vegetation. Flow affected all canal sites due to radial, preferential flow east, mobilizing sediments from canal edges or the canal itself. Re-routing of flow and sediments down the canal that creates a “hotspot” of high P sediment accumulation in the No-Fill area. It also generates a preferential flowpath over the north end of the levee gap. Getting the flow direction right may require two fixes, in the marsh (opening up, reconnecting sloughs) and in the canal (slowing canal flow). This underscores the importance of doing adaptive management experiments in the restoration footprint itself.

#### *Summary and Future Directions*

Fred Sklar provided a final presentation (Encl. 8d) reviewing the lessons learned. For operations, the interagency team proved flexible to adapt to anomalous years like this last flow event. Rapid communication within and among agencies was critical for managing for a strong El Niño and changing operations. Having a rich data set (15 years) as well as weekly data in the last 3 years proved essential to operational decisions. This year’s data should be helpful for determining operations for future DPM studies and ultimately CEPP. Key lesson learned on the hydrology is that water did not follow the historic flow-path. Flow velocities increased with flow duration despite a steady discharge. By stopping flow they appeared to raise the total phosphorus concentrations. Flow changed algal taxa in slough sediments. Backfilling created more high quality fish habitat. Phosphorus content is highest in the canal sediments. This suggests canals accumulating a local source of sediment. Canal is a potential source of Phosphorus. Floc was more erodible after sustained high flow and the amount of slough floc decreased under sustained flow. Future direction includes keeping the DPM structure in place to help answer critical ecological uncertainties that are likely to pose challenges for the success of CEPP as well as exploring the need for active marsh improvement (AMI). Members were reminded that they are still in the early stages of data synthesis and analysis.

Barry Rosen added the status report is due at the end of April and the final report is due in September. He noted that at this point there is no funding set aside to do the next flow event which starts in November 2016, asked if there is an interest to let them know so they can keep the team assembled to work on it. Kim Taplin explained this was done under a design test and added that the Central Everglades project has a similar structure included in it so as soon as Central Everglades gets authorized they can replace that temporary structure with a permanent one.

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Shannon Estenoz noted the SCG could help convene and work on these types of things that are designed to inform management decisions. She urged Susan Gray and Nick Aumen to follow-up on this as well as on the ecological indicators. SCG has equal authority to convene stakeholder groups and meetings similar to the Working Group with the FACA exemption.

#### **Public Comment**

Celeste De Palma (Audubon Florida) said they support the emergency plan to move water from WCA-3A into the eastern part of Shark River Slough, it is a good multi species management approach.

## Next Steps and Closing Comments

Follow-up Items:

- Strategy and Biennial Report – high level eyes on the revision language, keeping the intended audience in mind. Allyn Childress will need volunteers to help to build the climate change and sea level rise language into the 2016 report.
- Science Coordination Group - Nick Aumen and Susan Gray will tee up a conversation about indicators in the northern estuaries and perhaps fish in the canals and the DPM. Nick Aumen said the SCG could possibly be the vehicle for the system-wide ecological indicators and the RECOVER performance measures. SCG could also help with real time synthesis of DECOMP and with what is being learned about the emergency operations with all of the scientists together in a public forum.

Meeting adjourned at 3:05pm.

Handouts for this meeting are available at:

[http://evergladesrestoration.gov/content/wg/archives/wg\\_handouts\\_past\\_032116.html](http://evergladesrestoration.gov/content/wg/archives/wg_handouts_past_032116.html)

1. Administrative Items
  - a. Agenda
  - b. Draft meeting minutes, 23 September 2015
2. SFWMD Update
3. Corps Update
4. 2016 Task Force Reporting Requirements
5. System-wide Ecological Indicators
6. Update on Current Management Measures
7. RECOVER
8. Progress and Findings of the Decompartmentalization Physical Model (DPM) sheet flow restoration experiments
  - a. Part One - Introduction and Overview
  - b. Part Two - Ridge and Slough Results
  - c. Part Three - Canal Results
  - d. Part Four - Summary and Future Directions