

JOINT WATER ADVISORY BOARD AND TECHNICAL ADVISORY  
COMMITTEE MEETING  
SEPTEMBER 11, 2020

WAB MEMBERS PRESENT Vice Mayor Steve Geller, Broward County Board of County Commissioners, Chair  
Commissioner Doug Bell, CBWCD Board of Commissioners  
Pete Kwiatkowski for Ron Bergeron, South Florida Water Management District  
Commissioner Kevin Biederman, City of Hollywood  
Commissioner Richard Blattner, Alternate, City of Hollywood  
Albert Carbon, TAC Chair  
Commissioner Tom Good, Pembroke Pines  
Gene Goldman, Lay Person  
Jack McCluskey, Alternate, SBDD Board of Commissioners  
Mark Peterson, Great Fort Lauderdale Alliance  
Mayor Greg Ross, South Florida Regional Planning Council  
Commissioner Tim Ryan, Broward County Board of County Commissioners  
Vice Mayor Susan Starkey, Town of Davie  
Mayor Sandy Welch, City of Coconut Creek

WAB MEMBERS ABSENT Mayor Michelle Gomez, Alternate, City of Tamarac  
Assistant Deputy Mayor Neil Kerch, Alternate, City of Sunrise  
Commissioner Andrea McGee, Alternate, City of Pompano Beach  
Mayor Frank Ortis, Alternate, City of Pembroke Pines  
Mayor Ken Thurston, City of Lauderhill  
Mayor Dean Trantalis, Alternate, City of Fort Lauderdale

TAC MEMBERS PRESENT Albert Carbon, Chair  
Kevin Hart, Co-Chair  
Talal Abi-Karam  
Harold Aiken  
Doug Bell  
Randy Brown  
Mark Collins  
Patrick Davis  
Sara Forelle  
Rafael Frias  
Leny Huaman  
Dr. Jennifer Jurado  
Pete Kwiatkowski  
Jose Lopez  
Lisa Milenkovic  
Pat O'Quinn

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Stephanie Pearson

Steve Urich  
Tim Welch

TAC MEMBERS  
ABSENT Mike Bailey  
Mike Crowley  
Alan Garcia  
Steve Holmes  
Renuka Mohammed

Also Present Sam Baker, Broward County EPCRD  
Rose Bechard-Butman, Broward EPCRD  
Susan Bodmann, Broward County WWS  
James Bowers, Bermello Ajamil & Partners  
Lynn Cardoch, Moffatt & Nichol  
Nancy Cavender, Laws Group  
Jason Chockley, Cooper City  
Ernie Cox, Palm Beach Aggregates  
Monique Davis, Broward County PDMD  
Chuck Drake, Tetra Tech  
Steven Eagle, Nova Consulting  
Amy Eason, AECOM  
Adolfo Gonzalez, Craven & Thompson  
Tim Gysan, Army Corps of Engineers  
David Hoot, CES Consultants  
Claire Jeuken, Deltares-USA  
Mike Jorgensen, Broward County  
Jason Kruszka, City of Sunrise  
Katie Lelis, Broward County EPCRD  
Dr. Carolina Maran, SFWMD  
Lorraine Mayers, SFWMD  
Kimberly Mayo, Broward County EPCRD  
Michael Owens, Broward County Attorney's Office  
Guillermo Regalado, Hazen & Sawyer  
Juan Pietro, Nova Consulting  
Rudy Rudolph, Broward County EPCRD  
Matthew Schrader, Army Corps of Engineers  
Beau Simon  
Karin Smith, SFWMD  
Kimberly Taplin, Army Corps of Engineers  
R. B. Taylor, Hazen & Sawyer  
Dawn Teetsel, Broward County Planning Council  
Eva Velez Torres, Army Corps of Engineers  
Laura Vogel, Hazen & Sawyer

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Janeen Weitgreffe, Hazen & Sawyer  
B. Zhao, GAI Consulting  
Mike Zygnerski, Broward County WWS

A joint meeting of the Broward County Water Advisory Board and the Technical Advisory Committee was held virtually via Webex on September 11, 2020 at 10:00 am.

(The WAB/TAC meeting minutes were summarized by Norma Ellison. Copies of the presentations are filed with the supplemental papers of the meeting.)

Roll Call – Water Advisory Board (WAB)

Roll call was taken by the Real Time Reporter. A quorum was present.

Public Comments

None

WAB Approval of minutes from January 24, 2020

On Motion of Mayor Ross, seconded by Vice Mayor Starkey, and unanimously carried, the Board approved the Joint WAB/TAC Meeting Minutes from January 24, 2020.

Due to time constraints, the Chair changed the order of the agenda preferring the South Atlantic Coastal Study presentation be first, apologizing to Mr. Cox recognizing his patience.

**South Atlantic Coastal Study (SACS)**

*Matthew Schrader, P.E., U.S. Army Corps of Engineers-Jacksonville District*

Matthew Schrader introduced himself as the Lead Planner for the South Atlantic Coastal Study (SACS) located at the Army Corps of Engineers' District Office in Jacksonville, FL. He provided some background information on this comprehensive coastal storm risk management study. It was authorized by WRDA bill in 2016 with the intent to identify coastal risks and vulnerabilities to increased hurricane and storm damage due to sea level rise in the Southeastern US. The South Atlantic Division (SAD) study area includes North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida, Puerto Rico and U.S. Virgin Islands (65,000 miles of shoreline).

The South Atlantic Study (SACS) is a comprehensive regional assessment of coastal flood risk for the Tier 1 study area, with detailed action strategies to be developed for focus areas. A long-term strategy will be developed for populated areas, areas of concentrated economic development and areas with vulnerable environmental resources. A report will be submitted to Congress recommending specific and detailed actions. He explained it is a watershed concept study modeled after the North Atlantic Coast Comprehensive Study (NACCS).

Mr. Schrader referred to the study's schedule. It is a 4-year study that is about halfway through, is budgeted for \$16 million, and is 100% federally funded.

He explained that the SACS includes a Regional Tier 1 Assessment that broadly identifies where storm surge inundation has the potential to impact populations, infrastructure, and environmental and cultural resources.

The Tier 2 analyses are taking state and territory-specific data and then refining the potential risk that was identified under Tier 1.

Referring to his hand-out, Mr. Schrader discussed some details and statistics of the Tier 2 economic risk estimation which uses a FEMA Hazus model to estimate storm surge damage to structures. He emphasized the FL08, or Florida Reach 8, bar depicting the highest damages that includes Palm Beach, Broward, and Miami-Dade counties and the majority of dollar damage risk across the entire study that lies within this reach. He remarked that even though this is draft information, it is the obvious trend. He then shared the draft web app that the SACS is developing for the Corps and other stakeholders to be able to view the Hazus data in an interactive way. He accessed a specific area and pointed out the various expected annual monetary damages in an existing condition vs. monetary damages in a future condition.

In response to Chair Geller, Mr. Schrader informed that this data will be available for all cities across the entire SAC study area to access, down to the block level.

Mr. Schrader continued with the Central & South Florida Level of Service Analysis (C&SF). The SFWMD is analyzing 27 structures and the SACS is evaluating 9 more to determine the water level at which the structures won't perform as designed. The SACs then relates that water level to multiple sea level rise curves to determine projected years of non-performance, given the different curves. This type of analysis will be used to reinforce the need for the C&SF Re-Study to be conducted the Corps and the SFWMD. He outlined the various considerations and resulting suggestions.

In conclusion, Mr. Schrader summarized the findings-to-date:

- There will be significant need for follow-up actions and studies by the Corps as well as other stakeholders
- Tier 1 and Tier 2 analyses resulted in 700+ high risk locations across the entire study area
- Risk is significantly increased by sea level rise and other factors
- The need to better understand compound flooding issues; coastal storms creating significant surge and rainfall in an area, and compound flooding effects
- The ability for existing authorities to cover complex risks; follow-on Corps feasibility studies
- The concept of joint responsibility becomes increasingly important; technical assistance and shared tools support

He shared the links to various tools and resources and contact address information pertaining to his presentation.

Chair Geller emphasized that it is important to get the message out that coastal flooding is not limited to areas just on or near the intercoastal, but all intertidal waterways in Broward County will result in severe coastal flooding.

In response to Mayor Welch's concern regarding extremely far west communities, Mr. Schrader explained that sea level rise is being considered, freshwater is not within the scope, there is no freshwater input except for inputs that may be included in a 1% probability event.

Dr. Jurado commented that one of the shared tools referring to the coastal hazard system (the placemat) was distributed electronically to the members.

In response to Chair Geller's inquiry, Mr. Schrader answered he would follow up with the lead coastal engineer to ask specifically as to whether the coastal study captures the inland impacts associated with that water movement.

The Chair thanked Mr. Schrader for his presentation.

### **C51 Reservoir Update**

*Ernie Cox, Palm Beach Aggregates*

Ernie Cox informed that Miami-Dade at their July commission meeting approved the capacity allocation agreement for the balance of 15 mgd per day. They are working now on their consumptive use permit allocation with SFWMD.

Phase 1 is now fully subscribed with 35 mgd of Phase 1 signed up. He remarked that Palm Beach Aggregates is supporting the utilities' efforts with each of their consumptive use permits. He has been in contact with each of their consultants and staff members, as well as continuing weekly pre-construction meeting with the engineers and the contractor. He acknowledged SFWMD permit staff's efforts.

In response to Chair Geller, Mr. Cox informed that the target date for groundbreaking is late November 2020, and that the 2-year completion deadline for full operation is anticipated by the end of November 2022. He acknowledged the efforts of Commission Ryan, Dr. Jurado, and Albert Carbon.

In response to Commissioner Ryan, Mr. Cox explained that a 2-month operational testing phase is anticipated with the SFWMD integrating with the L-8 Reservoir operations in September/October 2022 timeframe. It will be adding 35 mgd to a system currently providing recharge of 850 mgd. He assured that the system operations will not change, it will only be providing additional storage and water. The water will be moved on a monthly basis, similar to how utility operations are currently reporting, with the intent to be as efficient as possible. He remarked that at this point, it is not certain that Phase 2 will be water supply purposes.

Mr. Cox encouraged any utility interested in potential allocation from Phase 2 to contact him.

In response to Chair Geller, Mr. Cox answered that Phase 2 is not only available to provide additional water supply, but also to be utilized for environmental purposes and to help combat saltwater intrusion in the lower East Coast without additional consumptive uses.

Randy Brown thanked Mr. Cox for his guidance and partnership efforts.

Vice Mayor Starkey expressed her appreciation for everyone's contributions. She complimented Dr. Jurado for her initial educational and ongoing efforts dating back from the Water Resources Task Force.

Chair Geller thanked Mr. Cox for his update.

### **Lake Okeechobee System Operating Manual**

*Tim Gysan, Project Manager, US Army Corps of Engineers*

Chair Geller introduced Tim Gysan, Project Manager with the U.S. Army Corps of Engineers on the Lake Okeechobee System Operating Manual, the LOSOM. Mr. Gysan provided a brief overview of the LOSOM effort. He explained that the intent is to review the operations of Lake Okeechobee to develop a new operational plan for the lake. As part of that, no new infrastructure will be constructed, only utilizing what's currently on the ground. He explained that the lake's operations are governed by a manual developed through a public process which is currently LORS 2008. When this schedule was developed, it was determined that Lake Okeechobee regulations should be revisited, particularly when Herbert Hoover Dike rehabilitation was complete, which is coming up at the end of 2020. He also remarked that CERP Projects C-43 and C-44 will be completed within the next few years.

Referring to his handout, Mr. Gysan described the Lake Okeechobee structures that directly surround the lake and are used for Lake Okeechobee management. What will be reviewed is the quantity, timing, and distribution of releases out of Lake Okeechobee and in what direction, to the east or the west. The goal is to incorporate flexibility within the lake's operations while balancing congressionally authorized project purposes.

Mr. Gysan discussed the LOSOM's four main objectives:

- Manage risk to public health and safety, life and property
- Improve water supply performance for all users
- Continue to meet authorized purposes for navigation, recreation and flood control
- Enhance ecology in Lake Okeechobee, northern estuaries, and across the South Florida system

Mr. Gysan referred to his hand-out outlining the comprehensive plan that involves all of the stakeholders through the NEPA (National Environmental Policy Act) process ensuring that all their needs are addressed across the system. Ten public meetings were held in February-March 2019 with 8,000 comments received. The current stop now is the development of operational alternatives phase. Ultimately, the goal is to have a NEPA document developed along with new criteria for the lake, and all stakeholders will have an opportunity to comment on those documents in the 2022 timeframe.

He explained that the stakeholders are made up of agencies from the local to the national level, as well as members of the public. The needs of the stakeholders are diverse and vary depending on where they are in the system; i.e., water quality, lake health, agriculture, water supply, human health, etc. He emphasized it is imperative to have a plan that is beneficial for everyone.

Referring to his hand-out, Mr. Gysan discussed the LOSOM implementation timeline:

- LORS 8 – LOSOM NEPA Analysis 2019 – December 2022 (Herbert Hoover Dike completion, C-44, Kissimmee River restoration)
- LOSOM Implementation – January 2023 – 2025 (C-43 Reservoir, restoration strategies, CEPP South)
- Implementing Future Lake Schedules (completion of EAA Reservoir etc., ongoing)

He explained that the intent is to have multiple increments of a new lake schedule that will allow us to address changing infrastructure through the next few years, so as not to engage in constantly updating lake schedules.

Next Mr. Gysan discussed the LOSOM evaluation process involving identifying water management tools to form conceptual lake regulations schedules by studying various iterations of conceptual plan evaluations.

In conclusion, Mr. Gysan referred to his hand-out outlining the LOSOM overall schedule. He remarked that now we are in the alternative evaluation stage. He mentioned that a record of decision is scheduled to be signed and ready for an approved plan by October 2022. A draft report is to be released in early 2022 with a final report for review in Summer 2022.

In response to Chair Geller, Mr. Gysan answered that this effort will facilitate the ability to alter how water is being moved, the timing of that water, plus the ability to make additional water available to the system by not releasing it to tide. He cautioned though it is limited by the infrastructure that is available which is very important. Discussion ensued regarding the disagreement between a lot of the stakeholders where certain stakeholders want different things. Chair Geller commented that his slide referencing the LOSOM stakeholder views is an excellent encapsulation of 4 different communities and 4 different and sometimes conflicting views. Mr. Gysan explained that the LOSOM is expected to only be in place for approximately 10 years, based on when the current completion of the EAA Reservoir is expected to be complete. The next step after LOSOM and SACS is an overall review of the performance of the C&SF system and how climate change is affecting the entire system.

Dr. Jurado shared that the advocacy for the C&SF flood control project and the resilience study is very strong right now. The business community, the County Commissions of the 4 counties of Southeast Florida, many of the Chambers of Commerce, Resiliency Florida, have all advanced letters to the Army Corps of Engineers and the full Florida delegation requesting prioritization and the funding for the resilience study. All of the letters were confirmed to have been transmitted as of last week. She encouraged any of the members who have influence with the delegation, to reiterate the support for the project, the new start designation, and its funding. She added it is anticipated to be undertaken as part of a phased study with an initial broad study and additional recommendations following that.

In response to Chair Geller inquiring about the current status of the construction on the Herbert Hoover Dike, Mr. Gysan answered that construction is still ongoing for several phases. The last construction contracts are being awarded either this year or early next year, with completion by the end of 2022 to complete the full rehab.

In response to Mayor Welch's inquiry on when and where the next public meetings will be held, Mr. Gysan answered that the next public meeting with the PDT will be in the November timeframe, when results from the conceptual plan evaluation are in. In response to her question on the water quality coming from the Kissimmee River and the lake itself; Mr. Gysan answered that LOSOM is not addressing water coming into the lake. He explained that other projects are studying water flows coming into the lake, LOSOM deals with water quality in the lake and coming out of the lake.

Chair Geller thanked Mr. Gysan for his presentation. He acknowledged Tim Lonergan, City Commissioner of Oakland Park, informing he will be leaving the board in November. Commissioner Lonergan expressed his appreciation for the opportunity to be a board member. He also welcomed the newest at-large board member Gene Goldman.

### **Resilience Planning and the Priority Planning Areas Map Amendment**

*Dr. Jennifer Jurado, Chief Resilience Officer and Deputy Director, Broward County Environmental Protection & Growth Management Department*

Dr. Jurado provided some background information. The County Commission first adopted the Regional Unified Sea Level Rise Projection of the Southeast Regional Climate Change Compact in 2012, at the same time the Climate Change Action Plan was being updated.

Referring to her hand-out, she outlined the significant resilience policies that followed up to establishment of tidal flood barrier resilience standard and updated unified sea level rise projection in 2020. She referred to her graph depicting the rising sea levels and increase in tidal flooding. She mentioned how the Key West Tide Gauge has been documenting the increase of sea level rise for over 100 years, 11 inches since 1913. Nuisance flooding has become more frequent, and eventually we are going to see permanent inundation in the areas that are low lying. The timeframe for reference has shifted from 2060 to 2070, as well as the curve of reference from ACOE high curve to NOAA intermediate high curve. The target today references 40 inches by 2070 as a basis for planning

Dr. Jurado explained that within the County's Comprehensive Plan, Priority Planning Areas have been established based upon the sea level map. She referred to the Proposed Priority Planning Areas for Sea Level Rise Map Amendment, and the legend. This map includes the revisions of an adjusted sea level rise of 3.3 ft instead of 24 inches previously and depicts the areas lower than 3.86 ft NAVD being at risk of inundation. She compared the 2012 existing map at 2 ft. to the proposed map accounting for 3.3 ft that is now going through the planning process. She illustrated how it is interactive and provided the web address link.

She outlined the anticipated timeline:

- Submittal to Planning Council in May 2020
- Stakeholder presentations in June/July
- Planning Council hearing in August 2020
- Planning Council advances to the State in September 2020
- County Commission Public Hearing in December 2020

Dr. Jurado informed that the map update was shared at public hearings held in June and July. She offered the link for anyone interested.

Referring to her hand-out, she discussed the historic use of the Priority Planning Area map. The County is mandated by a coastal management policy in the Florida Statutes to work with municipalities to designate adaptation action areas using the map to develop policies and find funding potential for infrastructure projections. Land Use Plan site review considers infrastructure lifespans, projections, city commitment requirements for access and functionality, and permit issuances.

Examples of design considerations are:

- Seawall height
- Onsite stormwater drainage
- Finished floor elevations
- Highway drainage
- Flood risk of adjacent properties
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She offered examples of the Joint Governmental Center and the Convention Center Hotel representing County capital planning addressing sea level rise, storm surge, and groundwater changes. She mentioned the 100-year flood elevations as part of a future conditions map and design storm criteria.

Dr. Jurado discussed maps in her hand-out of 4 different cities depicting their respective priority areas; Deerfield Beach to Pompano Beach, Pompano Beach to Fort Lauderdale, Fort Lauderdale to Dania Beach, and Dania Beach to Hallandale Beach. She shared the map slider link to the members.

She announced that the County has also partnered with the 4 counties and the business community to undertake an economic resilience evaluation, a business case for resilience. She announced that a presentation on this study will be shared at the SEFL Regional Climate Change Compact Virtual Annual Climate Leadership Summit on October 13, 2020. She encouraged the members to look for upcoming registration information.

In conclusion, she announced several upcoming events. A Climate Compact Municipal Virtual Workshop is scheduled for October 1<sup>st</sup>. In addition, the County will be holding its annual Broward Leadership Annual Resilience Roundtable on October 2<sup>nd</sup>. She informed that because the future conditions flood map is in its final processing in late October, it will be an agenda item for the TAC committee meeting of October 16<sup>th</sup> as well as for an industry workshop. The map will then be finalized and brought forward for application. She encouraged any comments are welcome and provided the slider link.

In response to Vice Mayor Starkey's concern regarding possible flooding in the western communities caused by highway drainage projects, Dr. Jurado answered she is working with DOT on updating its project tools for drainage needs to meet this challenge, as it remains an area of priority.

In response to Chair Geller, Dr. Jurado answered that a checklist for tracking planning, construction, certification, etc. resilience requirements to support resilience coordination as part of surtax projects has been developed.

In response to Vice Mayor Starkey, Dr. Jurado informed that the Climate Change Task Force did meet with the MPO where an excellent presentation on resilience as it relates to MPO's prioritization of projects was shared. She offered to have more meetings to include more participants.

Commissioner Ryan expressed his concern with surtax funding only being used for transportation. Chair Geller agreed that stormwater drainage with respect to roadways is one of the elements for consideration in approval of surtax projects.

Chair Geller thanked Dr. Jurado for her presentation.

#### **New Business and Open Discussion**

There was no new business to conduct.

**Lake Okeechobee Water Levels: 8/31/20: 14.34; Month Ago: 13.25; 1 Yr Ago: 13.26 ft-NGVD**

Next Scheduled Joint WAB/TAC Meeting – November 13, 2020

Next Scheduled TAC Meeting – October 16, 2020

#### **Adjourn**

There being no further business to discuss, by voice vote and consensus, the meeting adjourned at 12:10 pm.