

**MINUTES OF
SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY-EAST
COASTAL ADVISORY COMMITTEE MEETING
HELD ON APRIL 21, 2016**

PRESENT: G. Paul Kemp, Chair
Albert Gaude, Committee Member
John Lopez, Committee Member

The Coastal Advisory Committee of the Southeast Louisiana Flood Protection Authority-East (SLFPA-E or Authority) met on April 21, 2016, in 2nd Floor Council Chambers, Joseph Yenni Bldg., 1221 Elmwood Park Blvd., Harahan, La. Mr. Kemp called the meeting to order at 2:10 p.m.

Mr. Kemp commented that today's meeting would surround the discussion of the Central Wetlands and the potential for grant writing opportunities. He advised that he had requested Bob Jacobsen to look into the engineering issues and opportunities for the potential use of the Central Wetlands for additional water storage, if needed, for the IHNC Basin.

SLFPA-E proposal to use Central Wetlands storage capacity to augment IHNC channel storage in event of a storm causing overtopping of the surge barrier.

Bob Jacobsen advised that his report on the Residual Risk Study is available on the SLFPA-E website. The report identified the next step investment to further reduce risk with structural measures to the New Orleans area beyond the National Flood Insurance Program (NFIP) accredited system. The vulnerability based on the analysis remains with the IHNC Basin. The analysis included a scenario with a 30,000 acre-ft. breach volume at four potential locations. He pointed out that the U.S. Army Corps of Engineers (USACE) constructed the IHNC Surge Barrier in lieu of reconstructing the I-walls along the IHNC corridor. The IHNC Surge Barrier is designed to be overtopped; therefore, water will be coming into the IHNC Basin. The residual risk analysis used a more conservative approach than was used for the FEMA study. The IHNC exposes vulnerability in three polders (New Orleans East, St. Bernard/Lower Ninth Ward and the Metro Polders). One of the recommendations of the study is to move forward with a review of the remaining I-wall segments and the factors of safety. The factors of safety are adequate for accreditation purposes, but should be reviewed for residual risk purposes. The risk of barges, vessels or other floating objects breaking loose and striking an I-wall is considered managed from a NFIP accreditation viewpoint, but not 100 percent managed from a residual risk management viewpoint.

Mr. Jacobsen discussed the concept of using the Central Wetlands for temporary water storage for the IHNC Basin during a very extreme storm event by reopening the Bayou Bienvenue Structure gate at some point after the surge structures are closed, so that the Central Wetlands can take in about 1/10th of a foot of water, in theory, for every foot

of drawdown needed in the IHNC Basin. The USACE looked into equalization issues and advised that there was no Federal interest in pursuing this concept as part of the Hurricane and Storm Damage Risk Reduction System's (HSDRRS) overall management program. Mr. Jacobsen discussed the modeling of the concept and commented that it is worth further discussion. A scope of work has been developed that includes meeting with the USACE and the appropriate governmental and private entities to determine the feasibility of modifying the appropriate operations plans and the requirements that would have to be met.

Mr. Kemp pointed out that there are other ways to address the residual risks in the IHNC Basin, such as replacing the I-walls with T-walls, which would be very costly, and by using buffers to keep vessels and floating objects from striking the I-walls. However, the concept of using the Central Wetlands to reduce the residual risk is attractive because it is the least expensive alternative on the front end of any of the plans. Serious coordination and operations capabilities would be needed during a storm to implement the Central Wetlands operational concept.

Robert Turner, SLFPA-E Regional Director, explained that the SLFPA-E developed a task order for Mr. Jacobsen to map out a path forward, determine the issues and requirements that must be met and provide a report on the feasibility of proceeding with the effort. Dr. Lopez commented that it seemed that the concept could augment protection at a low cost. He inquired about the perception issue related to moving water from one area to another area. Mr. Turner responded that the potential for transferring risk must be a part of the analysis before a decision can be reached. A significant reduction of risk in the overall risk profile must be demonstrated if there is a negative impact to another area. Mr. Jacobsen added that he is helping to identify the scope of the investigations and engineering work that would be needed. He stressed that the concept would be implemented during a very infrequent event and that the potential impact in the Central Wetlands would be relatively small in comparison to the potential risk in the IHNC Basin. He requested assistance and comments from everyone in attendance relative to the identification of obstacles and requirements.

Mr. Turner pointed out that the back levee system along the Forty Arpent Canal is not a Federal project; however, if the concept is implemented, the Central Wetlands as well as the levee would become part of the HSDRRS.

Mr. Kemp reiterated that the threat from IHNC was identified as most the significant residual threat in the system and that the SLFPA-E is attempting to address the largest residual threat. The residual risk can be addressed in a number of ways. The use of the Central Wetlands is a method that is operationally complex, but from a structural standpoint fairly inexpensive. There are other ways that are more structurally complex and more expensive. One of the goals of the SLFPA-E is to address residual risks beyond the 100-year level of protection used by the NFIP. Addressing this risk is something that can be done and should be done for a major city. He stated that 100-year protection and the current climate change environment is not reassuring to the SLFPA-E.

Mr. Jacobsen pointed out that there are other risks associated with the IHNC Basin for which opening the Bayou Bienvenue Structure gate would not be a suitable response (e.g., operational problems with the IHNC Barge Gate). Other options may need to be pursued in order to handle those contingencies. The Bayou Bienvenue Structure gate would not be opened in the event of a Barge Gate failure because the surge exposure for the Central Wetlands would be too high. Mr. Turner advised that he discussed the issue of whether or not the Seabrook Complex gate should be closed in the event of an IHNC Sector Gate or Barge Gate failure with the USACE at the time that the Water Control Manual was being developed.

Mr. Kemp stressed that the SLFPA-E will need very good, reliable instrumentation in place that will provide data on water levels to facilitate the decision making process relative to opening and closing the major complex structure gates. He commented that in some ways the Central Wetlands has potentially become a more important aspect for the protection of the City of New Orleans than perceived in the past at the same time that the Lake Pontchartrain Basin Foundation (LPBF) and other groups are expressing an increased interest in the Central Wetlands. He commented on the opportunity to manage the Central Wetlands as a fresh intermediate wetland and ensure the health of the system while it serves as an important reservoir during times of need.

Effects from the Closure of the MRGO - LPBF

Dr. Lopez discussed some of the changes related to the closure of the MRGO. The Lake Pontchartrain Basin Foundation (LPBF) is monitoring the basin, particularly for changes due to the MRGO closure. Two closures have taken place since 2009—the impermeable IHNC Surge Barrier that crosses the MRGO and the slightly impermeable rock dam at Bayou LaLoutre. Salinity patterns were discussed. Salinity levels within the barriers have been reduced, but have not reached pre-MRGO levels. Some hypoxia has been detected that may be related to leakage in the rock dam.

Dr. Lopez showed a depiction of how the Central Wetlands is believed to have looked (bottomland hardwood forests, cypress swamp, intermediate marsh, drainage towards the lakes and a hydrologic connection to the river) prior to impacts from human interferences. The LPBF conducted a two year study of the Central Wetlands. Surface water salinity levels were collected in channels across the Central Wetlands over a two year period. The surface water salinity levels differed from the soil salinity levels. There was a uniform decline in soil salinity levels collected over the first three years of a four year period; however, the soil salinity level increased during the fourth year. He pointed out areas in need of hydrologic restoration. The total estimated area suitable for cypress reforestation at this time based on soil salinity levels is about 60 acres (less than one percent of the area).

Dr. Lopez reviewed some of the positive effects of the closure of the MRGO:

- Reduction of salinity levels in the Central Wetlands and Lake Borgne

- Reestablishment of hydrologic basins
- A shifting of salt marsh to brackish marsh in the Biloxi Marsh
- Increased oyster productivity in the Mississippi Sound and Biloxi Marsh
- Since the MRGO hydrologically has been neutralized, the Pearl River is now the dominate influence on the hydrology of the basin, especially north of the MRGO.
- The annual hypoxia and dead zone that occurred in Lake Pontchartrain is eliminated; however, some occasional hypoxia is being experienced due to hurricanes.
- The LPBF began planting cypress trees on the land bridge in the Lake Maurepas area and is monitoring soil salinity levels. The cypress tree plantings have been successful and conditions seem to be improving; therefore, there is an opportunity for reforestation on the land bridge. Some natural regeneration of cypress has occurred in one area of the land bridge.

Dr. Lopez advised that a negative impact of the MRGO closure is the potential reduction of estuarine recruitment into Lake Pontchartrain. Estuarine recruitment is now dependent on the natural passes (Chef Menteur and Rigolets).

Dr. Lopez briefly discussed the CWPPRA/NRCS sponsored Bayou LaLoutre Ridge Restoration Project in St. Bernard Parish. The project includes a 10,000 foot stretch of area that grades from upland habitat into marsh. CWPPRA will not make a decision on the project until next year.

Proposed forested wetland buffer along the Forty Arpent Levee – John Day

Dr. John Day reviewed some of the current conditions in the Central Wetlands. He explained that the creation of a 100 meter wide buffer along the Forty Arpent Levee would result in still water against the levee with no wave action. Fresh water could potentially be pumped in from the pump stations, the river or treatment plants to freshen the area along the levee so that cypress trees could survive during periods of drought. An estimated two million tree trunks are shallowly buried in the Central Wetlands, which lend stability to the marsh. Some cypress swamp has been maintained in the area of the Gore Pumping Station and the Riverbend Oxidation Pond. He discussed the cypress trees that are being planted as part of a project with the SLFPA-E. Another project that may go to construction later this year or early next year is a 40 acre site of constructed wetlands that will be planted almost completely with cypress and Tupelo trees that will be fed by a very low volume of water. The project will create a 100 yard wide buffer. He discussed the potential for pulsing fresh water into the central part of the Central Wetlands and stressed that a source of fresh water is needed to maintain a cypress swamp through a drought.

Mr. Kemp discussed the potential integration of the Central Wetlands into the SLFPA-E's program to go beyond the 100-year level of protection that would include a restoration program for the area, which will require an investment.

Dr. Lopez inquired about the management of the hydrology to provide fresh water along the proposed 100 meter wide wave buffer along the Forty Arpent Levee. Dr. Day responded that in his opinion a system of pipes could be installed that could carry river or pump station water or effluent for disbursement along the levee every 50 meters. The wetland itself will eventually diffuse the water as it is being developed. Potential sources of fresh water during a period of extreme drought were briefly discussed. Mr. Jacobsen pointed out that a mitigation plan could be pursued that would include providing fresh water during an extreme drought.

Mr. Kemp noted that the discussions today are the beginnings of a holistic approach that is being built on past efforts, and commented on the importance of a collective effort to implement potential mitigation. He explained that the SLFPA-E currently has a Grants Administrator on staff who can assist with potential grant opportunities. He requested that the representatives at today's meeting go back to their organizations and discuss a possible collaboration with the SLFPA-E relative to the Central Wetlands efforts.

Dr. Lopez asked, if the Bayou Bienvenue Structure operational procedure is implemented and the Forty Arpent Levee is incorporated into the Federal system, would the Federal government embrace a restoration project in the Central Wetlands. Mr. Turner responded that the discussion at today's meeting demonstrates that a collaboration will be needed. He pointed out the need for the development of a system management plan that includes a group of appropriate stakeholders (including USACE, FEMA, levee authorities, environmental groups and local governments) that would meet regularly to tackle these types of issues and plot a course for the future. A system management plan would bring visibility to problems and potential solutions, costs and funding. He noted that the Strategic Partnership Meetings may evolve into such a plan.

Mr. Turner advised that the proposed IHNC basin risk reduction operational concept would be subject to the Federal 408 permit process if local monies are used for its implementation or a change to the USACE's authorization for the HSDRRS could be pursued through Congressional action for possible Federal participation.

Mr. Kemp requested that the representatives at the meeting give thought to the development of a major grant proposal organized around flood protection and restoration with the effort probably being led by the SLFPA-E.

There was no further business; therefore, the meeting was adjourned at 4:00 p.m.