



# The Flood Protection Authority-East

News of Your Flood Defense System

October 1, 2022

## *Message from Commissioner and Board Secretary Clay Cosse*

Living adjacent to the levee and one of our floodgates allows me to see our work crews in action. Their hard work and dedication should make us all very proud to be a part of this organization.



Since the Flood Protection Authority turned over the Lake Borgne Basin Levee District's operation and maintenance of the Parish's pumping and drainage system to St. Bernard Parish Government, much progress has been made. At the time of the transfer Saint Bernard had 60 miles of canals to maintain. They now have 120 miles to maintain. I am happy to report that they are doing a phenomenal job. Vegetation removal has been at a level that we have never seen before. Round one of vegetation removal was completed sometime ago and now we are beginning round two of all 120 miles. The bottom of the 20 Arpent Canal is being skimmed from Jacob Drive to Golden Drive, another first since I don't know when. At the time of the transfer, pumping operations were at 65%. They are now at 95%.

The FPA's floodgate notification system that notifies commercial and recreational fisherman of gate closures for storms, maintenance, and other reasons is working well. I received these notifications myself and can testify to its efficiency and importance. I honestly can't remember the last time I got a call or complaint. I would further add that there were times when the system did not work so well and believe me, I got the phone calls.

The night of the recent tornado I was sitting at the table doing some paperwork. I looked out into the darkness and a brightly lighted cruise ship heading downriver was at a complete stop. Thinking that was strange, suddenly all hell broke loose. Transformers exploded and alarms went off on TVs and cell phones. My wife and I immediately ran downstairs and before we knew it, it was over. The tornado had passed one block downriver of us and proceeded forward at 55 mph. By the grace of God we were spared any damage, but unfortunately the tornado traveled up Friscoville.

On its path of destruction, 91 homes in all were damaged, 45 completely destroyed. Electricity in the area completely out, armed with flashlights we set out to help others. First stop was a 94 year old friend confined to bed. Success—we were able to secure a generator and got a window unit up and running. Then on to a close friend's business which was heavily damaged, securing what we could, and the night went on and on.

So once again, friends and neighbors pull together and we're almost back to normal with a new logo "ARABI STRONG!".

Clay Cosse

*Commissioner Clay Cosse has been the St. Bernard representative on the Flood Protection Authority-East Board since April 15, 2016.*

**The Flood Protection Authority**  
6920 Franklin Avenue  
New Orleans, LA 70122

**Telephone:**  
**504-286-3100**

**[www.floodauthority.org](http://www.floodauthority.org)**

### **BOARD OF COMMISSIONERS**

**K. Randall Noel - President**  
**Roy M. Arrigo - Vice President**  
**Clay A. Cosse' - Secretary**  
**Jason P. Latlials - Treasurer**  
**Richard G. Duplantier, Jr.**  
**Thomas G. Fierke**  
**Herbert I. Miller, PE, DEE, F. ASCE**

### **IN THIS ISSUE      PAGE**

**Recognition of former  
Commissioner  
Herbert T. Weysham      2**

**Appointment of  
Commissioner  
Thomas G. Fierke      2**

**Introduction of New FPA  
Superintendent of Police      3**

**Comprehensive Flood  
Defense System      3**

**The Historic New  
Orleans Lakefront  
Development Project      4-5**

**Monitoring the Tides      6-7**

**FPA Public Information  
Alerts      8**

## *Recognition of the Service of Herbert T. Weysham, III*

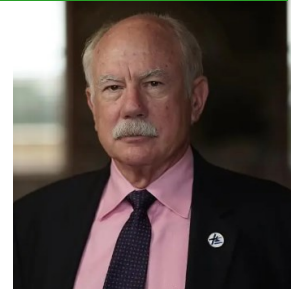


The Southeast Louisiana Flood Protection Authority-East Board of Commissioners (FPA) recognized the service of Herbert T. Weysham, III, at its August 18, 2022, meeting and adopted a resolution expressing its gratitude and appreciation for his dedication and contributions to the FPA and to the citizens of Southeast Louisiana while serving as a FPA Commissioner.

Mr. Weysham was appointed to the Board by Governor John Bel Edwards due to his qualifications, expertise and experience, and served on the FPA Board from July 2, 2018, to July 1, 2022. He also served as a member of the Operations Committee from July 2, 2018 to June 30, 2022, and as a member of the Coastal Committee from August 17, 2020, to June 30, 2021. His experience as a Project Manager and Director, managing multiple projects and crews with up to 250 field technicians, and having over 25 years of instrumentation and electrical experience in the onshore and offshore oil and gas markets, contributed greatly to the FPA and the management and operation of the \$14 billion Hurricane and Storm Damage Risk Reduction System (HSDRRS), which protects the lives and property of the citizens of Greater New Orleans.

## *Thomas G. Fierke Appointed to Serve on FPA Board*

Governor John Bel Edward appointed Thomas G. Fierke to fill the unexpired term of former Commissioner Eugene J. Joanen, IV, who resigned effective July 1, 2022. Mr. Fierke took his Oath of Office at the FPA's August 18, 2022, Board Meeting.



Mr. Fierke brings a wide-range professional knowledge, expertise and experience to the FPA Board. Mr. Fierke received his B.S. in Metallurgical Engineering from Iowa State University in 1971, J.D. from the University of Minnesota Law School in 1974, and LL.M. (Taxation) in 1978 from Boston University. He is also a Graduate of the U.S. Army Command and Staff College and the U.S. Army War College, both with honors.

Mr. Fierke served in the U.S. Army (active) from May 1971 to November 1980 and the Army Reserves from December 1980 to January 2002, retiring with the rank of Colonel. He retired from his position of General Counsel and Legal Department Director after a 28-year career (March 1982 to July 2010) with Lockheed Martin Space Systems at Michoud Aerospace.

Mr. Fierke served as a Commissioner on the Lakefront Management Authority Board from 2014 to August of 2022. He held the elected Office of Secretary and served as a member of the Executive Committee from 2016 to 2022, and during his tenure he had served on all of the LMA's committees, chaired the Insurance Committee and Vice Chaired the Airport Committee.

Mr. Fierke's extensive civic and charitable service includes GNO, Inc. (2016-present) and its predecessor organization (1996-2016); Employer Support of the Guard and Reserve, Louisiana State Committee (1988-present); City Park Board of Commissioners (2006-2014); French American Chamber of Commerce (Board of Directors 2002-present); Louisiana Governor's Military Advisory Commission, Charter Member (1991-2001); Team 8973 (founder, Director and President 2019-present); Louisiana Organization for Judicial Excellence (Board of Directors 1989-2006); Mayor's Military Advisory Committee (1995-present); U.S. Army Reserve Ambassador (2003-2010); and Got Our Troops (GOT) Foundation (Board of Directors 2017-present). After Hurricane Katrina, Mr. Fierke served as Chair of GNO, Inc.'s Public Policy Committee, which worked diligently to reform the National Flood Insurance Program (NFIP) and Louisiana's insurance laws.

Mr. Fierke's numerous military awards include the Legion of Merit (2), Meritorious Service Medals (5), Army Commendation Medals (7), Humanitarian Service Medals (2), Military Outstanding Volunteer Service Medals (5), Order of St. Andrew, Order of St. Barbara, Senior Parachutist Badge and Special Forces Tab. His civic honors and awards include DoD Outstanding Public Service Medals (2002 and 2007), Mayor of New Orleans' Lifetime Achievement Award, NASA's Public Service Medal, U.S. Navy Superior Public Service Medal, State of Louisiana Legion of Merit, GNO, Inc. Outstanding Service Award, and Employer Support of the Guard and Reserve—Lifetime Award (Roche Volunteerism Award).

## *New FPA Superintendent of Police*



On August 29, 2022, Thomas Harrington joined the Flood Protection Authority-East as the agency's new Superintendent of Police. Superintendent Harrington brings more than 40 years of law enforcement experience to the FPA-East. He joined the New Orleans Police Department in 1981 where he worked as a patrol officer and a detective in both the Vice and Child Abuse Units. He was promoted to Lieutenant and his final assignment with the NOPD was Assistant Commander of the NOPD Police Academy. He most recently served as the Chief of Police for the University of New Orleans. He was hired there in 2006 and was tasked with rebuilding the department after Hurricane Katrina. He retired from UNO in 2022. Superintendent Harrington has a Master's degree in Criminal Justice from Southern University at New Orleans, as well as a Ph.D. in Urban Studies from the University of New Orleans.

## *Comprehensive Flood Defense System*



Above: Caernarvon Flood Gate  
Below: IHNC– Lake Borgne Surge Barrier



The Southeast Louisiana Flood Protection Authority-East operates, monitors and maintains a complex flood defense system that circles the Greater New Orleans Metro Area and requires a dedicated team of personnel with the professional and technical expertise and skills needed to ensure the system's integrity and operability. The perimeter of the system is made up of the Hurricane and Storm Damage Risk Reduction System (HSDRRS) and the Mississippi River Levee System.

**Levees, Floodwalls and Floodgates:** The Circle of Defense includes 191 miles of federal and non-federal levees and floodwalls (3,500+ acres of levee), and 246 land based floodgates .

**IHNC-Lake Borgne Surge Barrier:** The 1.8 mile long Surge Barrier located at the confluence of the GIWW and MRGO is the largest continuous surge barrier in the world, providing defense against storm surge from the Gulf of Mexico and Lake Borgne. The Surge Barrier connects the perimeter system in New Orleans East to the perimeter system in St. Bernard.

**Complex Structures (Navigation Gates):** The HSDRRS includes eight Complex Structures (Navigation Gates): IHNC Surge Barrier Sector Gate and Barge Gate, Bayou Bienvenue Vertical Lift Gate, Bayou Bienvenue Sector Gate, Bayou Dupre Sector Gate, Caernarvon Sector Gate, Seabrook Sector Gate and Bayou St. John Sector Gate.

**Permanent Canal Closures and Pumps (PCCP):** The 17th Street, London Avenue and Orleans Avenue Outfall Canals serve as drainage conduits for much of the City of New Orleans, with the 17th Street Canal also serving as a drainage conduit for portions of Jefferson Parish. Floodwall topped levees align the three outfall canals. The PCCP, located at the mouth of each outfall canal, is composed of permanent gated storm surge barriers that are closed in advance of a tropical storm event, with pump stations to move rainwater out of the canals, past the gates and into Lake Pontchartrain while the barriers are closed.



Left: Seabrook Complex



Right: PCCP  
17th Street  
Canal



## *The Historic New Orleans Lakefront Development Project*



**Pictured this page - Milenberg prior to construction of the Lakefront Development Project**



balanced plan with sufficient saleable residential and commercial lots to defer the cost of the project, as well as public recreational areas and facilities. The project ultimately resulted in the development of four residential subdivisions (Lake Vista West 1939 and East 1946, Lakeshore West 1951 and East 1955, Lake Terrace 1953 and Lake Oaks 1960) with a total of approximately 1,800 residential sites and 30 percent of the reclaimed land dedicated for public use.

Urgent military needs during World War II interrupted residential development when nearly the entirety of the reclaimed land was turned over to the military and used to locate facilities for the training and care of America's fighting forces, including LaGarde Hospital for the U.S. Army, U.S. Naval Hospital, U.S. Naval Air Station, U.S. Coast Guard barracks, Maritime Commission School, U.S. Army Camp Leroy Johnson, and U.S. Army Bomber Base. The lakefront was also used industrially for the manufacture of aircraft (flying boats) and Higgins boats, and as the testing area for a variety of assault and landing craft. After peace returned, these facilities began to disappear allowing the Orleans Levee Board to continue its plan for residential and recreational development.

The Lake Pontchartrain shoreline is exposed to wave action, high tides, tropical storms and hurricanes that historically resulted in flooding and shoreline erosion. Between 1836 and 1926 some of the shoreline in Orleans Parish receded as much as 500 feet due to erosion. The former Town of Milneberg, with most of its structures built on piers in the shallow lake waters in the area now occupied by Lake Oaks and Lake Terrace Subdivisions, experienced its worst flooding in 1901 which washed away many of its structures. In the early 1900's the Orleans Levee Board constructed a levee about 300 to 400 feet along the water's edge to keep out the tidewater. However, unrelenting flooding continued reducing historic Milneberg to a series of camps/homes on piers.

In 1873 City Surveyor W. H. Bell advanced the concept of combining flood protection and land development. In 1916 the first step was taken towards the development of a plan when the Louisiana Legislature passed legislation that authorized the Orleans Levee Board to undertake work in the nature of seawalls and embankments. Additional legislation was passed in 1922 that empowered the Orleans Levee Board to perform certain works of reclamation, construction and improvement and to sell, lease, or dispose of reclaimed land not dedicated to public use.

After careful study and consideration, a project was developed that integrated flood and shoreline protection with land development. The land development component had to include a well-





## The Historic New Orleans Lakefront Development Project



Pictured above Temporary Wooden Bulkhead

Pictured below view of hydraulic fill looking west from London Avenue Canal



In 1926, the Orleans Levee Board issued \$4 million of bonds that made possible the pumping of 36 million cubic yards of hydraulic fill, creating new land from marshes and swamps. A temporary wooden bulkhead was built along the lake edge of the proposed embankment to confine the dredged material and prevent erosion until the permanent protective structure was constructed. The bulkhead was first built to a height of 2 feet above mean lake level and the first fill was placed to an elevation level with the bulkhead. An additional 4 feet was added to the bulkhead's height before the second fill was placed. Constant repair to large sections of the wooden bulkhead was required during the fill operations due to storm damage.

The filling operations took over three years and were completed in 1930 creating 2,000 acres of reclaimed land from lake bottom that extended from Allen Toussaint Boulevard (formerly Robert E. Lee Blvd.) and the lake and from the New Basin Canal to the Industrial Canal.

Permanent flood protection took the form of a stepped seawall constructed approximately 54 feet lakeward of the temporary wooden bulkhead. A coffer dam of steel sheet piling was installed and the area between it and the wooden bulkhead filled with dirt to provide a dry bed for the construction of the seawall. After the seawall was completed the area between it and the wooden bulkhead was hydraulically filled from borrow pits in the lake.

After 2-1/2 years of construction the 5-1/2 miles of seawall was completed in 1932 at a cost of \$2,640,000 and became the City's frontline of hurricane flood protection. With the exception of severe storms, the design allowed the frequent 8 to 10-foot waves that rolled in from the shallow Lake Pontchartrain waters to climb the sloped steps and spend themselves at the top of the seawall, rather than pound against a vertical wall.



Construction of New Orleans Lakefront Seawall (1930-1932) stretching from the New Basin Canal to the Industrial Canal

## Monitoring the Tides

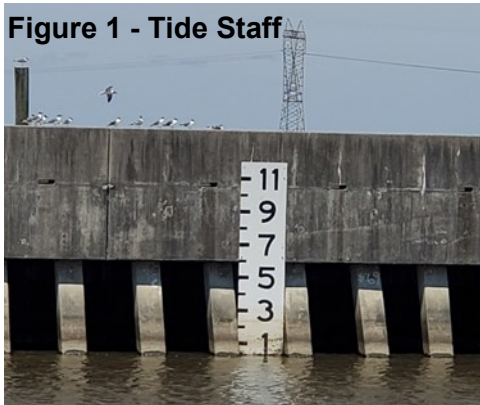
The mission of the Southeast Louisiana Flood Protection Authority-East (FPA) is to ensure the physical, operational and financial integrity of the regional flood risk management system that protects Orleans (East Bank), Jefferson (East Bank) and St. Bernard Parishes. The FPA's tri-parish jurisdiction is surrounded by and transected by water — Lake Pontchartrain, Lake Borgne, Mississippi River, Gulf Intracoastal Waterway (GIWW), and the Inner Harbor Navigation Canal (IHNC)/Industrial Canal. In the case of the Orleans, London and 17th Street Outfall Canals, the FPA must work closely with the Sewerage and Water Board of New Orleans (SWBNO) to pump rainfall out of the City of New Orleans and parts of Jefferson Parish during a hurricane or strong tropical storm.



The FPA's job is complicated by the responsibility for operating complex structures (navigation gates) that allow commerce and the maritime community to travel through the flood defense system located on these waterways (i.e., IHNC Surge Barrier Sector Gate and Barge Gate, Bayou Bienvenue Vertical Lift Gate, Bayou Bienvenue Sector Gate, Bayou Dupre Sector Gate, Caernarvon Sector Gate and Seabrook Sector Gate). Long before a Hurricane or tropical storm approaches, FPA staff is planning and coordinating the potential closure of these structures with various flood defense partners and governmental entities including the Louisiana Coastal Protection and Restoration Authority, U.S. Army Corps of Engineers, U.S. Coast Guard, Port of New Orleans, and parish officials, as well as the businesses and communities affected by the closures.

The FPA and its partners need precise, real time data, such as accurate water levels, for analyzing and evaluation in order to reach sound, calculated decisions in the operation of this immense flood defense system. An important tool in this decision making process is the use of tide gages.

**Figure 1 - Tide Staff**

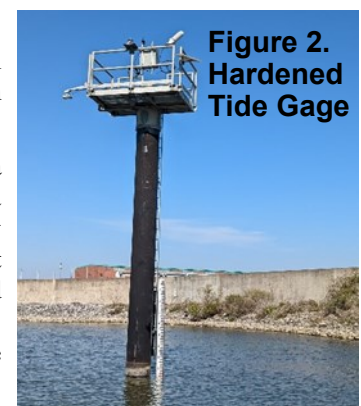


What are tide gages? Tide gages are devices that report the rise and fall of the water elevation under the influence of rain, wind, and storm surges. There are a number of ways to obtain and track water elevations and methods can range from the simple to the sophisticated (e.g., a tide staff, mechanical floats and recorders, acoustic sounding tubes to pressure sensors).

The FPA uses three ways to obtain and track tide elevations: First is the tide staff, (Figure 1) which requires someone to be on-site to read and report the data. Second is an electronic tide gage, (Figure 2) also referred to as a river gage. Updates from the electronic tide gages vary from real-time to every hour. These gages are located nationwide in rivers, lakes and across our coastlines.

Hardened gages are reinforced to withstand hurricanes and harsh environmental conditions so that they can continue to function and provide critical information when needed.

The third method (Figure 3) is SCADA (Supervisory Control and Data Acquisition). These devices utilize electronic tide gages, but interact with a larger system to offer even more capabilities and can operate equipment remotely and automatically as designed. SCADA is used by the FPA at the Permanent Canal Closures and Pumps (PCCP) and by the SWBNO at pump stations located along the Orleans, London and 17th Street Outfall Canals. The FPA and SWBNO can access the real time data needed to coordinate pumping operations when the PCCP gated barriers are closed to prevent storm surge from entering the canals.

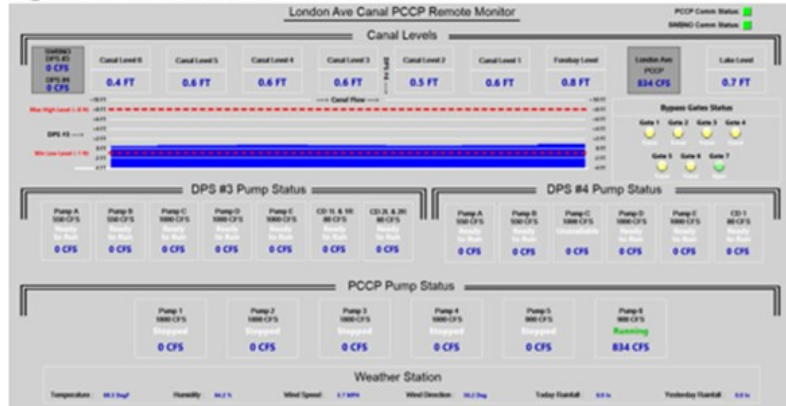


**Figure 2.  
Hardened  
Tide Gage**



## Monitoring the Tides

Figure 3. Information from SCADA

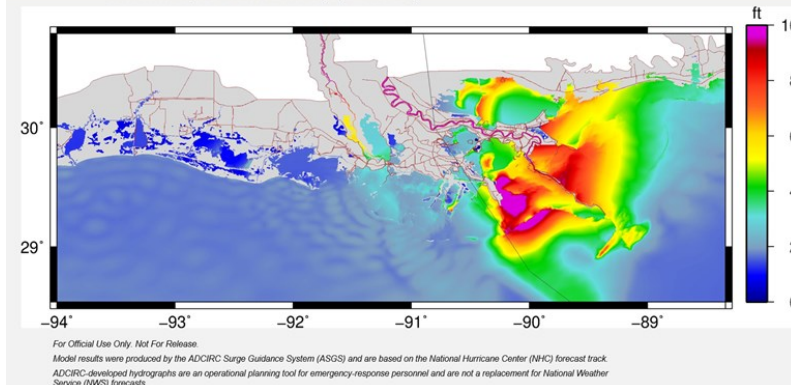


Even before the gages reflect the impacts of a storm, FPA staff is monitoring surge forecasts from the National Oceanic and Atmospheric Administration's National Weather Service, and models provided by the LSU Center for Computations and Technology and Louisiana Sea Grant.

Water elevations are not only accessed and used when there is a storm in the Gulf of Mexico, but are monitored year round because other environmental influences besides hurricanes and tropical storms can effect coastal tides and bring flooding to low lying areas.

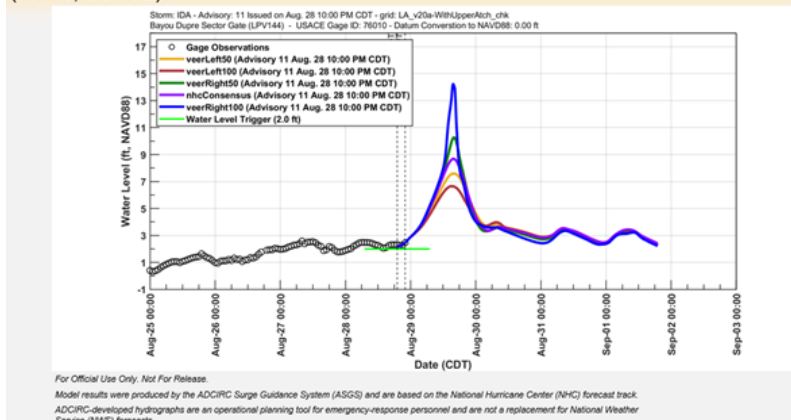
The FPA's High Tide Crew is on duty during these periods monitoring the data closely and taking any actions that are necessary. The structures increasingly effected by these high tides are the Bayou Bienvenue Sector Gate and the Bayou Dupre Sector Gate, which must be closed when the water level is high and reopened once the water reaches a safe level.

NHC Advisory 14 NHC Official Track Scenario  
Simulated peak water levels (ft. NAVD88)



Two model examples from Hurricane Ida in 2021.  
Above: August 29, 2021 - Hurricane Ida  
Below: August 28, 2021 - Hurricane Ida

Bayou Dupre Sector Gate - East/Flood Side, LA (LPV-144, CPRA)  
(76010, USACE)



Above: Bayou Dupre Sector Gate  
Below: Bayou Bienvenue Sector Gate



Tide gages are essential and provide crucial data; however, they are just one tool in the FPA's toolbox of resources used in the decision making process. The FPA is continually seeking the best resources available in order to make well informed decisions that are in the best interest of the public and protect the citizens that we serve.

The FPA is grateful to have a wealth of dedicated trained professional employees who are knowledgeable in the use of these resources and contribute significantly to the success of the FPA's flood protection mission.

## *FPA Public Information Alerts*

sign-up



If we can't **REACH** you  
we can't **ALERT** you

The Flood Protection Authority-East (FPA) strives to provide timely information to the public regarding public safety issues, closures and events that impact people, businesses and communities in order to minimize disruptions and keep the public safe and informed. The FPA implemented the Everbridge Management Platform for providing alerts to the public.

Everbridge is the industry standard using the most up-to-date communication technology and is widely used throughout federal, state and local government agencies, organizations, commerce and industry.

The FPA offers subscriptions to the following Keywords:

**Floodgate** (Information on floodgate opening, closing or maintenance)

**FPAEast** (General news about the Flood Protection Authority-East)

**River** (Information about the High River or the Mississippi River)

**HighTide** (Information regarding gate openings and closures as they relate to high tide situations)

It's a simple process to register for these Emergency Alerts. Text the appropriate Keyword listed above to "333111" for the alerts you would like to receive. In order to receive alerts offered under more than one Keyword, each Keyword must be texted to "333111".

## *FPA-East Website*

The Flood Protection Authority-East website contains a wealth of information about our flood defense system (Hurricane and Storm Damage Risk Reduction System and Mississippi River Levee), the FPA's mission and the team of professionals that govern, manage, maintain and operate the critical flood defense system, as well as services offered by the FPA.

The website also includes Teacher Resources and the middle School Lesson Plans developed by the FPA for Science and Social Studies: "Keeping Your Head Above Water—Know Your Flood Protection System" and "Flood Fight Along the Mississippi River—Mississippi River Lesson Plan."

**Visit our website today - [www.floodauthority.org](http://www.floodauthority.org)**

**Southeast Louisiana Flood Protection Authority-East Board and Committee Meetings can be viewed via livestream by visiting the FPA website [www.floodauthority.org](http://www.floodauthority.org) and selecting Business - Board Meeting Videos. Click on live stream.**

The Flood Protection Authority-East (FPA) is currently offering both in-person and virtual tours of the \$4 Billion Hurricane Storm Damage Risk Reduction System (HSDRRS), which spans East Jefferson, Orleans and St. Bernard Parishes. In-person tour groups have the option of visiting the 17th St Canal Pump Station or the Lake Borgne-IHNC Surge Barrier. Groups may sign up for both tours but may not be able to see both on the same day.

For additional information go to the FPA's website [www.floodauthority.org](http://www.floodauthority.org) and select "Facility Tours". Both in-person and virtual tours can be scheduled by clicking on "Schedule a Tour".

**Editor: Glenda Boudreaux  
Associate Editor: Wilma Heaton**

**Comments can be submitted to:  
[gboudreaux@floodauthority.org](mailto:gboudreaux@floodauthority.org)**