St. Tammany Parish, Louisiana Draft Integrated Feasibility Study

ENVIRONMENTAL IMPACT STATEMENT
FINAL SCOPING REPORT

August 17, 2020

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1.0 Introduction

The National Environmental Policy Act (NEPA) of 1969 established a nationwide policy to include a detailed statement of the environmental impact in every recommendation or report on proposals for major Federal actions significantly affecting the environment. This detailed statement is the environmental impact statement (EIS).

On June 19, 2020, the Federal Register (Vol. 85, No. 119) published a notice of intent (NOI) for the U.S. Army Corps of Engineers, New Orleans District (USACE) to prepare a Draft Integrated Feasibility Report and Environmental Impact Statement (DIFR–EIS) for the St. Tammany Parish, Louisiana feasibility study. The purpose of the NOI was to announce the U.S. Army Corps of Engineers' (USACE) intention to prepare a draft EIS for this flood risk management and coastal storm surge reduction study. Public information meetings were held on February 11, 2020 and February 12, 2020 in Mandeville and Slidell, respectively. Scoping meetings were held virtually due to the coronavirus pandemic on July 14, 2020 and July 15, 2020, broadcast from the New Orleans District over social media. Scoping meeting announcements were advertised in the local newspapers, social media, and U.S. Army Corps of Engineers, New Orleans District websites leading up to the scoping meetings.

The purpose of the study is to determine the feasibility of flood risk management and coastal storm surge risk reduction in St. Tammany Parish, Louisiana. The DIFR-EIS will document the existing conditions of environmental resources in and around areas considered for construction, and potential impacts on those resources as a result of implementing the alternatives.

NEPA provides for an early and open public process for determining the scope of issues, resources, impacts, and alternatives to be addressed in an EIS (referred to as scoping). This scoping report outlines the project background and scoping process to date, and summarizes the key issues identified by members of the public during the initial scoping period.

2.0 Study Authority

Section 1201 of the Water Infrastructure Improvements Act of 2016 authorized 16 feasibility studies, including St. Tammany Parish, Louisiana, for water resource development and conservation and other purposes identified in the annual reports submitted to the Congress in 2015 and 2016 pursuant to section 7001 of the Water Resources Reform and Development Act of 2014 (33 U.S.C. 2282d). Section 1207 directed the Secretary to conduct studies to determine the feasibility of implementing projects for flood risk management, ecosystem restoration, navigation, water supply, recreation, and other water resource related purposes authorized, feasibility studies for water resources development, conservation, and other purposes as identified in the reports titled "Report to Congress on Future Water Resources Development" submitted to Congress on January 29, 2015, and January 29, 2016, respectively, pursuant to Section 7001 of the Water Resources Reform and Development Act of 2014 (33 U.S.C. 2282d) or otherwise reviewed by Congress.

The Bipartisan Budget Act of 2018 (Public Law 115-123), Division B, Subdivision 1, Title IV, ("BBA 2018") appropriated supplemental funds in the Supplemental Investigations Funds for Long Term Disaster Recovery Investment Plans (LDRIPs) related to the completion, or initiation and completion, of authorized flood and storm damage reduction studies, including shore protection. Feasibility studies that are predominately for flood and storm damage reduction, as well as comprehensive and watershed studies that are predominately for flood and storm damage reduction (even if there are ancillary purposes) are eligible for supplemental funding consideration. The St. Tammany Parish Louisiana Feasibility Study was authorized for inclusion as a Bipartisan Budget Act of 2018 Study in September 2019. The 5 September 2019 Memorandum for the Deputy Commanding General for Civil and Emergency Operations; Subject: Supplemental Appropriations Bipartisan Budget Act (BBA) of 2018 - Long Term Disaster Recovery Investment Plan (LDRIP) - Investigations Account provided that after evaluation of the BBA 2018 Investigations Account Long-term Disaster Recovery Investment Plans (LDRIP) study portfolio, the Office of the Deputy Commanding General for Civil and Emergency Operations has determined that the feasibility study for St. Tammany Parish, Louisiana should be included as a BBA 2018 funded study in the Investigations Account LDRIP.

Notwithstanding Section 105(a) of the Water Resources Development Act of 1986 (33 U.S.C. 22 I 5(a)), which specifies the cost-sharing requirements generally applicable to feasibility studies, BBA 2018 authorizes the Government to conduct the Study at full Federal expense to the extent that appropriations provided under the Investigations heading of the BBA 2018 are available and used for such purpose. The Policy Guidance Memorandum on Implementation of Supplemental Appropriations of the Bipartisan Budget Act of 2018 dated August 9, 2018, states that a new feasibility cost sharing agreement (FCSA) or an amendment to the existing FCSA is required to address use of Supplemental Investigations funds at 100 percent federal expense. Further, HQUSACE is authorized to develop and approve FCSAs, and amendments to existing FCSAs, for studies in the LDRIP and to delegate to the Division Commander authority to approve use of such FCSAs and amendments. In addition, authority to execute a FCSA or amendment, once approved, may be delegated to the District Commander.

HQUSACE developed and approved a model Feasibility Cost Sharing Agreement (FSCA) as set forth in the MEMORANDUM FOR DISTRIBUTION, SUBJECT: Bipartisan Budget Act of 2018 (BBA 2018) - Model Agreement for New Feasibility Studies dated August 10, 2018, which also provided that the responsibility for review and approval of an (FSCA) agreement that does not deviate from the model is delegated to the MSC Commander and may not be further delegated. Furthermore, Division Counsel's concurrence that the (FSCA) agreement does not deviate from the subject model, and is appropriate for use for the particular study, is required prior to approval. The authority to execute an (FSCA) agreement may be delegated to the District Commander after it is approved by the MSC Commander.

On November 26, 2019, the New Orleans District submitted the (model) FSCA package (with no deviations) for review and approval to the Mississippi Valley Division (MVD), together with a request that the signature authority for the FSCA be delegated to the New Orleans District Commander. Pursuant to the MEMORANDUM FOR Commander, New Orleans District, SUBJECT: Request for Review and Approval to Execute the Model Feasibility Cost Share Agreement (FCSA) between the Department of the Army and the State of Louisiana, acting by and through, the Coastal Protection and Restoration Authority Board of Louisiana for the St. Tammany Parish, Louisiana Feasibility Study, dated January 6, 2020, the MVD Commander approved the draft FCSA and directed the New Orleans

District to proceed as scheduled with processing the FCSA. The FCSA was fully executed by all parties on January 14, 2020. In accordance with Federal laws, regulations, and policies, the Government shall conduct the Study using BBA 2018 funds. In the event that there are insufficient BBA 2018 funds to complete the Study, such completion shall be subject to cost-sharing otherwise applicable to the Study and amendment of the FCSA. The Government will conduct the Study consistent with the approved Project Management Plan, which specifies the scope, cost, and schedule for Study activities.

BBA 2018 provides that feasibility studies that are predominantly for flood and storm damage reduction and comprehensive and watershed studies that are predominantly for flood and storm damage reduction, even if there are other ancillary purposes, are eligible for funding. In any such feasibility study, both structural and non-structural measures must be considered. Studies may address long-range measures to reduce exposure to risks from floods and coastal storms. The Division Chief of Planning & Policy has been authorized to approve the use of up to $100,000 to establish the project delivery team, hold a scoping meeting, develop a draft Project Management Plan, and negotiate the FCSA or amendment. All Supplemental funding used on a study is included in the calculation of the total study cost. Except as otherwise noted, studies funded by Public Law 115-123 will be undertaken in accordance with existing Civil Works policies and guidance and incorporate SMART Planning principles. Consistent with current procedures, divisions will coordinate with HQUSACE to identify, document, and pursue opportunities to expedite completion of these studies and associated review and approval procedures in compliance with, but not limited to, Section 1001 of WRRDA 2014 and, for feasibility studies, the "3x3x3" rule and Section 1002 of WRRDA 2014. Generally, feasibility studies funded by Public Law 115-123 will be conducted for not more than $3 million and will be completed within 36 months, consistent with Section 1001 of WRRDA 2014. If a cost exemption is approved for a study, those additional costs may be funded from remaining Supplemental Investigations funds. However, if available remaining Supplemental Investigations funds are exhausted, then the additional costs will be cost shared and the Federal portion of those remaining costs will compete for funding from annual Investigations funding. If additional cost sharing is required, the FCSA will need to be amended.

This Study has been undertaken in accordance with Sections 1001 and 1002 of the Water Resources Reform Development Act of 2014, applicable existing USACE Civil Work regulations, policies and guidance, and has incorporated SMART Planning principles. See MEMORANDUM FOR COMMANDING GENERAL, U.S. ARMY CORPS OF ENGINEERS, SUBJECT: Revised Implementation Guidance for Section 1001 of the Water Resources Reform and Development Act of 2014, Vertical Integration and Acceleration of Studies as amended by Section 1330(b) of the Water Resources Development Act of 2018, dated March 25, 2019.

3.0 Proposed Action

The USACE serves as the lead Federal agency in the preparation of the EIS. Other federal and/or state agencies participated as cooperating and/or commenting agencies throughout the EIS process. In accordance with Executive order, 1307, referred to as One Federal Decision (OFD), the USACE and other agencies with environmental review, authorization, or consultation responsibilities for major infrastructure projects should develop a single EIS for such projects, sign a single Record of Decision (ROD) and issue all necessary authorizations within 90 days thereafter, subject to limited exceptions. Participating cooperating agencies include the US Fish and Wildlife Service (USFWS),

National Marine Fisheries Service (NMFS), the city of Slidell, the city of Mandeville, and the Louisiana State Historic Preservation Office (SHPO). The Choctaw Nation of Oklahoma has asked to be included as a consulting agency. All entities' input has been sought throughout the planning process in developing alternatives and at Project Delivery Team meetings with USACE staff.

The USACE focused analysis on the following resources as applicable: Aesthetics and visual resources, water quality, aquatic resources/wetlands, fish and wildlife resources, threatened and endangered species and other protected species of concern, cultural and historic resources and tribal trust resources, floodplains, hazardous, toxic and radioactive waste, land use, navigation and public infrastructure, socio-economics, environmental justice and soils.

The USACE evaluated a range of alternatives for the proposed action including structural and nonstructural measures. For the reasonable and practicable alternatives, the USACE will fully evaluate them, including the no action alternative. Alternatives may result in avoidance and minimization, and mitigation measures of impacts to reduce or offset any impacts.

The U.S. Fish and Wildlife Service assisted in documenting existing conditions and assessing effects of project alternatives through the Fish and Wildlife Start Coordination Act consultation procedures. Other environmental review and consultation requirements for the proposed project include the need for Louisiana Department of Environmental Quality Clean Water Act Section 401 water quality. In addition, because the proposed project may affect federally listed species, the USACE consults with USFWS and the National Marine Fisheries Service (NMFS) in accordance with Endangered Species Act, Section 7. The NMFS was consulted regarding the effects of this proposed project on Essential Fish Habitat per the Magnuson– Stevens Act. The USACE consulted with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act concerning properties listed, or potentially eligible for listing. The USACE coordinates with the Louisiana Department of Natural Resources for Coastal Zone Management Consistency per the Coastal Zone Management Act.

4.0 Scoping Process

NEPA affords all persons, organizations, and government agencies the right to review and comment on proposed major Federal actions that are evaluated by a NEPA document. Known as the scoping process, this is the initial step in the preparation of the EIS and helps identify: (1) the range of actions (project and procedural changes), (2) alternatives (both those to be explored rigorously and evaluated, and those that may be eliminated), and (3) the range of environmental resources considered in the evaluation of environmental impacts.

A. Public Notification

The public was notified of both public meetings using social media, local newspaper ads, and the project website:
https:// www.mvn.usace.army.mil/About/Projects/BBA-2018/studies/

B. Scoping Meetings

Two public information meetings were held:

Tuesday, February 11, 2020	Wednesday, February 12, 2020
Mandeville Community Center	Slidell Civic Auditorium
3090 E Causeway Approach	2056 2nd St
Mandeville, LA 70448	Slidell, LA 70458
6 to 8 p.m.	6 to 8 p.m.

The public information meetings provided attendees with an opportunity to listen to a presentation from USACE staff on the Project Delivery Team about the authority, goals, and information needed for the feasibility study. After the presentation, the public could inspect poster stations staffed by project team members and subject matter experts to ask questions and provide input. For both public information meetings, the general public also had the opportunity to view a live-stream video on the USACE Facebook page. Both meetings were advertised to the public through social media and direct communication with state and local officials.

Two scoping meetings were broadcast over Facebook from the New Orleans District:

Tuesday, July 14, 2020	Wednesday, July 15, 2020
USACE New Orleans	USACE New Orleans
1 to 2 p.m.	6 to 7 p.m.

The live broadcasts were recorded to provide those who were unable to watch and available to be watched on social media and the study website. Project Delivery Team members answered questions live from the public after providing a presentation on the project and the array of alternatives were developed. The public was notified of the meetings through social media, local newspaper advertisements, and direct communication with stakeholders. Recordings of the public scoping meetings were also played over the St. Tammany Parish public television channel 70 times in coordination with our partners.

This Scoping Report presents and summarizes the public comments expressed at the meetings beginning February 11, 2020 through the closing of the official comment period on August 3, 2020. This Scoping Report indicates where in the draft EIS individual comments will be addressed. The report will be provided to all scoping participants who provided their address, and will be published on project website: https://www.mvn.usace.army.mil/About/Projects/BBA-2018/studies/.

5.0 Scoping Participants

Roughly 200 stakeholders attended the two public information meetings in February, including members of the public, and state and local officials. The Facebook live broadcast of the meeting had approximately 50 stakeholders viewing in real-time, while the videos of the meetings have been viewed over 1,500 times and reached over 5,000 people according to Facebook analytics. At the end of all the public information and scoping meetings.

6.0 Scoping Meeting Comments

Scoping comments document the public's concerns about the scope of the proposed course of action, as well as identify significant resources and suggested alternatives. Scoping comments will be considered during the study process and preparation of the draft EIS.

A. Scoping Comment Categorization by Theme

A total of 85 comments were collected through email, Facebook comments, and information sent to the Project Delivery Team. These comments were categorized by concern or issue identified by the commenters. A total of three recurring themes were identified, and all submitted comments will be listed in an appendix in the Final Environmental Impact Statement.

The first theme is "Flooding concerns," and this involves issues surrounding floodwater impacts, including localized and regional impacts, especially those affecting property owners. Many individuals submitted information about the flooding in their local area for the Project Delivery Team to consider. When assessing local flooding concerns, the team used the agency guideline of 800 cfs when determining whether or not the amount of flooding was local drainage that was not meant to be addressed by the USACE feasibility study. Those above the threshold of 800 cfs were examined by the Project Delivery Team and used to help develop alternatives, including levee alignments and the placement of pump stations.

The second theme "Levee concerns" pertains to levee alignments. Included in this theme are the multiple comments received from the public about potential inducement of flooding in Eden Isles from levees elsewhere around the greater Lake Pontchartrain ecosystem, including the Westshore Lake Pontchartrain Project in Laplace, Louisiana. These comments were assessed by leadership and Project Delivery Team members as falling outside the area of this feasibility study. Other stakeholders like USFWS, NMFS, and LDWF had refinements to proposed levee alignments and pump station placements that were used to determine the final designs of each alternative. Project Delivery Team members for Cultural Resources and Environmental Justice also provided input for final designs of each alternative based on their impacts.

The third theme "Ecosystem-wide flood and storm risk reduction" involves requests for investigating habitat restoration throughout the study area and considering impacts to wildlife and species of conservation need. Multiple stakeholders discussed the building of large coastal wetlands for wave attenuation to reduce the energy of waves during tropical storm events. Working with partners at USFWS, NMFS, and LDWF, it was determined that the cost-benefit ratio of building marshes did not allow nature-based alternatives to move forward within the feasibility study. There is still the potential for extensive mitigation projects associated with this feasibility study that will accomplish the same goal however to offset the impacts of the final chosen alternative. Finally, included in this theme are potential impacts for wildlife from this feasibility study, particularly protected species, and those concerns are analyzed throughout the DEIS in their own dedicated section in coordination with the pertinent resource agencies.

7.0 Opportunities for Public Input

The official deadline for receipt of comments for scoping was August 3, 2020. USACE New Orleans District has received comments on this project as the alternatives. Additionally, the draft EIS document will be available for a 45-day public review and comment beginning March 13, 2021.

8.0 Resource Agency Input

An initial interagency stakeholder meeting was January 15, 2020, including both state and Federal agencies, at the USACE New Orleans District. Further concerns emerged for addressing the study with nature-based solutions, community concerns about local flooding, and the size of the study area. Representatives from the interested and affected resource agencies have participated in biweekly Project Delivery Team meetings and provided constant feedback throughout the development of alternatives from the initial interagency stakeholder meeting. A Planning Aid Letter was received from USFWS on February 3, 2020 that specified species of concern to the agency that were directly incorporated into the DEIS.

9.0 Website

The following project website (https://www.mvn.usace.army.mil/About/Projects/BBA-2018/studies/) will be updated with new information as needed, including a copy of this final scoping report.

Prescoping Public Meeting Notes

02/11/2020 Mandeville

Amy:

Parish Council Members highly concerned over how the Water Shed Initiative will affect the study. Parish council members aware of the lack of parish wide flood plain management plan. Planning on developing a plan, but concerned the state will end up sending out regulations that will trump whatever plan they create… "St. Tammany parish has some of the strictest building codes/requirements, but we can't do anything about what Washington Parish does to their part of the watershed." I would like to see the requirements; I will attempt to make friends with the council member, Maureen Obrien, however she wants us to come to her planning meetings.

Silver Jackets is a thing for the lakefront. Is there a full report? What parts do we have?

Michelle:

- Mayor and others supportive of plans in the silver jackets report which included elevations would of Monroe Street
- Northern parts of the parish have drainage concerns
- Levee district project to shore up Galvez to reduce erosion. Included a 71/2 wall instead of 5 feet. Has pictures to show waves overtopping the parts of the wall that were not raised.
- 1ft increase seawall was not supported by residents even thought it was going to reducetheir flood insurance rates.
- Levee board president is lead engineer for the city of Mandeville
- Levee board president- there needs to be an analysis done of the impact of the local leveesand the impacts of those levees on surrounding areas
    - Are they inducing flooding in other areas
- Support for analysis of the flood gate at the rigolets

2/12/2020-Slidell

Michelle:

- Residents wanted to talk to FEMA about insurance rates
    - looking to reduce flood insurance premiums
- induced flooding from local ring levees
- Doubloon Bayou flooding/ River Oaks Subdivision
    - 2 channels; the one that goes to west pearl river silted in and have had resistance getting it dredged due to scenic river restrictions?
- MRA-Military Road Alliance of home owners encompasses 14 subdivisions
    - Jerry Whitman 985-774-5021
        - Has data that they have sent to USACE and Levee District but can provide data to us if needed
- Barrier islands and marsh restoration needed
- Need floodplain management plans
- Need better permitting

Elizabeth 02/12/2020- Slidell Public Meeting

-Cathy Domangue

[redacted] (504) 641-3611

-Bayou Liberty UNO Studies

Oak Harbor

-major hurricane, coastal, N.O./Slidell

Inlets outside levee

-2 feet water in their house

East Side of the Pearl

-stopped dredging, backed everything up Glass Beach

-No dredging affecting neighborhoods

French Branch, I-10/ I-12, Pearl River

I-10 levee system

-Torres Levee

-Oak Harbor Levee

-Elevate I-10 to connect levees

Rigolets Old Spanish Trail

-Floodgates I-10 Interstate Exit 236 elevate this portion

Railroad through lake

-eye wall, lake existing, levee run towards Gause Blvd.

Enter off Lake Pontchartrain Marina

-Cement walls knocked down during Hurricane Katrina

-Could we repair these walls? Who owns these walls?

-Contact [redacted]

Lakeview Drive

-levee Eden Isles, Natural levee

-hit wall and comeback into the subdivisions

I-12 Bayou Liberty

-water comes rapidly

-Uninsured individuals

-Small house South Bayou Liberty Wildlife Refuge

-Who will maintain maintanence?

Area	Comment	
Bayou Liberty	Bayou Liberty Vs US Army Corps of Engineers; converged ACE permit to fill wetlands two build Walmart and sams club; camp salmon and other land on bayou liberty were set aside after 2000 for flood control; jeanne.strangle@gmail.com 9852591188 Camp Salmon Nature Park	flooding
s of 112; n of 190, east of 434	developed 6000 acres of wetlands in Lacombe	environme
south of paquet rd.	"protect these wetlands"	idea
cc rd.	20" of water in home	opposition
110 LeFleur Dr n of bayou paquet rd. w of hwy 433	2.5 Ft of water in Katrina	
s of bayou paquet rd. w of 433	new invasive species of plant	
s of bayou paquet rd. W of 433	seeing flooding I area now even without rain events, entire neighborhood ingress and egress issues	
s of bayou paquet rd. e of 433 gain rd. by bayou liberty	Louis Monte property floods for each TS and hurricane	
s of bayou paquet rd. e of 433	noted increase in the # of flood events in last 24-36 months	
s of bayou paquet rd. e of 433	perhaps dredge bayou bonfouca to deepen and fill marsh	
s of bayou paquet rd. e of 433	water over road w south wind and high tide	
s of bayou paquet rd. e of 433 105 marina Ln. coin du lestin	flooding east wind	
s of bayou paquet rd. e of 433	flooding with wind and rain	
s of bayou paquet rd. e of 433	in 67 years I have never seen water as high as it has been in 2019	
s of bayou paquet rd. e of 433	put breakwaters off of lake dr	
34222 Laurent Rd	flooding (vic trenchard)	
Reilly rd.	please tour Reilly rd. cannot get in or out of home (Francois Cousin)	
south of 190 at Northshore Blvd.	friends of camp salmon: flooding in Katrina and 1995	
south of 190 at Northshore Blvd.	historical sites camp salmon François cousin's home	
BELOW HERE IS EDEN ISLES		
between hwy 11 and i10	build breakwaters with wind turbines	
hwy 11 at the lake	install flood wall along rail road track	
between hwy 11 and i10	need structural flood wall here	
homer street and hwy 11	? Flooding? No comment	
Lakeview dr	very much opposed to barrier	

between hwy 11 and i10	put breakwaters here	
I 10 at the lake	put flood gate here	
i10 at lake west side	opposed to any barrier on roads, build breakwaters	
200 Lakeview dr	cj molaison (no comment just name)	
340 Moonraker	flooding john cervini	
115 Moonraker	3.5 feet of flooding with Katrina (12 foot elevation)	
139 Moonraker	Katrina flooded home street flooding in heavy rain	
201 MOONRAKER	flooded	
Eden isles	the Slidell levee is making Eden isles more at risk for surge	
2005 Clipper Estates	Katrina Flooded	
marina dr entrance to Eden isles	floods badly in heavy rains	
Eden isles	Eden isles is the most vulnerable community in st. tammany	
2005 clipper estates Slidell	Katrina flooding	
marina dr entrance to Eden isles	very slow drainage with rain	
1102 Clipper	4 feet in house with Katrina since levees built in Slidell and NO East water comes up significantly higher than ever	
104 Moonraker	(flooding) southeast wind and heavy rain	
1102 Clipper	Eden isles Blvd. floods with all storms and traps us in subdivision. It is significantly more frequent and greater amount since Slidell and NO East levees built	
120 Moonraker	flooding mostly with southeast winds	
clipper estates	flooding with Katrina 6-8" and I am at 13.87'	
Eden isles	we need a flood barrier as we are out of any protection a surge barrier	
114 Moonraker	southeast wind flood	
232 Blackfin Cove	George renciker; flood and high water protection is much needed in our area	
211 valiant lane	4 feet of water in house 15 feet surge flooding in street (tropical storms)	
123 Chamaera Ln.	Katrina flooded	
108 ordine lane	4 feet in house Katrina house 12 ft above water over docks 3-4 times a year Hwy 11 floods	
constellation	southeast winds	
1216 clipper	4 feet of water in house	
Eden isles (northern)	inlets 22" water in house	
123 chimaera	pam young flood Katrina	
north Eden isles	raising levees behind oak harbor will result in higher flood water to homes not behind levee	

I 10 at northern Eden idles	elevate 1-10 to connect tarnes levee and oak harbor levee	
below here is above Eden isles between hwy 11 and I 10		
hwy 11 at the lake	homes docks and outbuildings (flooded?)	
northern Eden isles	no wall on Lakeview dr close with gates @cack (?) and Rigolets pass	
northern Eden isles	lost 1st floor	
123 magnolia bend	9" Katrina	
2001 First Street	ilowny Dunham insurance 4.5' in Katrina	
i10 and 433	flood gate by old Spanish trail and i10 exit to stop water coming from Rigolets	
carey st. and hwy 11	flooding	
190 E @ hwy 11	flooded	
190 E @ hwy 11	chamale bayou Vincent floods every storm since 2002	
1064 Michigan ave	please help I lost my house Jason shafleae #justiceforshaflette	
E of i10, s & W of hwy 433		
on hwy 433	Suzanne's house	
145 medley Ln.	flooding at high tide; storm surge; wind from south; flooding due to flood plain turned into lakeshore estates; property at 4.5-5.5' above sea level; > 3000' from canal; see high tide all ditches in neighborhood flow into my property must stop over to drain; lakeshore estates pump station pump to canal less than 1//4 mil from my home; house was elevated to 9.5' 10(?) years ago; hwy 433 drains into my neighborhood no relevant impact study when lakeshore estates levee erected was all wetlands; canal overtopped and flowed into marsh ; wetlands significantly reduced storm surge (Vincent knaver 9852156560	
East of i59/i10/i12 interchange		
in the lake east of i10	need to stop the water from coming into lake pontchartrain	
190/90	apple pie ridge civil war sites?	
Fritichie marsh	SELA dredging zydeco fill 14/15 happening?	
west of 190 above Fritichie marsh	"target zone"	
Fritichie marsh	"retention pond"	
w of 1090 n of 190E Frenchman's estates	flooding Katrina now street flooding with heavy rains	
pearl river	dredge bayou Vincent and pearl done historically not maintained now flooding	
pearl south of 90	dredge west pearl at glass beach	

pearl north of 190/90 interchange	dredge ;bayou doubloon into west pearl	
Eden Isles	5 feet of water inside home. Lived in since 1991. Lost house and all contents.	
Chubasco Lane	Flooded one time with Katrina. Water Higher now after Katrina. Property Value poor.	
Chamale Drive 70460	Street flooding. Lateral drainage issues. Flooding of Bayou Vincent and Bayou Bonfouca every time wind blows from South and storms	
106 Belle Helene	Flooding at Katrina. Low Elevation. Flood insurance cost.	
Eden Isles	Strong south winds pushes extensive water in backyards.	
Clipper Estates	Living in a bowl. Katrina. High Taxes. High Property Values.	
Camp Salmen Nature Park	Set aside by St. Tammany Parish for Flood Control- really helps	
428 Eden Isles Drive	Lost Home and 2 businesses.	
Eden Isle	Surge flooding. High Cost Insurance. Lost of value of home.	
117 Shirmac Drive	Christine Owen. Flooding from Katrina	
39266 Mayfair Drive	Flooded for the first time in Katrina. 9 feet of water in house. Second time Isaac 24 inches	
2104 1st Street Slidell	Rick F. House raised and flooded 2 1/2 inches.	
Marina Drive- Eden Isles	If flood second time will not be able to get flood insurance.	
226 Lakeview Drive	Jim Burns. Close all pass into Lake	
Eden Isles	Flooded once. Lived in house since 1980. 6 feet of water.	
1158 Clipper Drive	Flooding Katrina	
I-10 Interstate	Floods from Lake to reach?	
Lake Harbor Middle School	Slow drainage	
Grande Maison Blvd.	Entrance Road floods	
Mandeville Lakefront	Flooding	
Monroe Street	Silver Jackets	
Tintella Road Off Hwy 1077	just gave location (no comment)	
Boston Street	Gauge broke all time record by 3.0 feet in 2016.	
Downtown Covington	Flooded for 3 blocks along the Bogue Falaya River in 2016 flood.	
1077 West of Parish	In 2016 house flooded for the first time. Built in 1978	
No Location	Study of inducements because of ring levees	
CC Road	Flooded in Katrina	
Lacombe	Too much development happening too quickly in wetland areas.	
Rigolets	just gave location (no comment)	
No Location	Rock Jetties	
207 W. Camellia Drive	No comment Glenn T.	

I-10/ Lakeview Drive	Dump concrete along I-10 bridge. Cheapest way. Good for fishing. No levee on Lakeview Drive	
Frenchmen's Estates	3 FEMA Lots. 1 other residence still floods	
Hwy 11/ Eden Isles	Hwy 11 closing only 1 way out of Eden Isles	
Lakeview dr	lost 2 homes parents and own. nothing remained permits to rebuild.	
pontchartrain dr	floods	
clipper estates	2005 Katrina flooded	
river oaks	house flooded in Katrina; yard stays flooded	
i10 s 190	update comprehensive study of SE STP	
hwy 90	flood barrier here	
coin de lestin	Katrina 19 ft? (very shaky writing, pink note)	
114 Moonraker dr	flooded 4 ft of water (Edwin peynocx)	
?	dpeyrouxa@bellsouth.net; $10,800	
French branch	house flood Katrina	
Shirmac	house flooded from Katrina (sid tibier)	
Moonraker dr	Katrina (4' water in house)	
Jacqueline dr	flooded 3' under the house	
lowey lane	water levels rising	
Bayou liberty (bayou oaks)	we flood when it rains hard or wind blows hard. They are digging our ditches for nothing because it doesn't drain	
?	wind drives high tide for days	
Reilly road floods	blocking access in or out water has been rising obviously since Katrina no wetlands	
Oakridge	flooded 5 times since 1995	
248 clara	12' Katrina	
bayou liberty oak ridge sub	flood continuously which did not originally occur	
?	stop any high water coming into the lake at the Rigolets	
Meadowlawn Street	Flooding from Bayou Vincent and Bayou Bonfouca	
401 Carr Drive	(504) 450-0978 Landrieu	
Moonraker Drive	Water rising	
Chamale Neighborhood	Flooding	
Eden Isles	Need flood protection	
Old River Road Neighborhood	When we get heavy rain it floods. There is only one entrance in/out of the entire neighborhood. The entrance is the first to flood and traps everyone in.	

3 Harbor Cove in the Inlets Subdivision	Contact- Tim Gaudet. Recently they have raised Oak Harbor Blvd. at Hwy. 11 and at the Interstate 10 South that we are now more vulnerable and basically in a bowl to flood. South of Oak Harbor Blvd.	
Pontchartrain Drive Eden Isles	Katrina 20 feet flood surge? Lost house	

From:	NPS_Environ_Rev@nps.gov
To:	Sttammanyfs
Cc:	Steven_M_Wright@nps.gov; lani_pettebone@nps.gov; susan_king@ios.doi.gov
Subject:	[Non-DoD Source] No NPS Comments, ER-20/0270: NOI by USACE for the Coastal Storm Risk Management and Flood Risk Management - St.Tammany Parish, Louisiana
Date:	Tuesday, July 14, 2020 5:37:21 PM

Dear Sir/Madam,

The NPS has no comments on ER-20/0270, the NOI by USACE for the Coastal Storm Risk Management and Flood Risk Management - St.Tammany Parish, Louisiana.

If you have questions, please contact Steven Wright [redacted]

From: Roe, R Matthew (Matt) CIV USARMY CEMVN (US)
To: BAKER, EVERARD CIV USARMY CEMVN (USA); Dixon, Amy A CIV (USA); MEYERS, MICHELLE L
Cc: Davis, Sarah E CIV (USA); Mobley, Jamie L CIV USARMY CEMVD (USA)
Subject: Comment to the google voice
Date: Tuesday, July 28, 2020 9:28:59 AM

All,

We received the below comment to our google voice number.

[redacted]

I watched your broadcast Wednesday evening and was extremely dismayed regarding feasibility study, I live in western st Tammany..we are tired of being shit on!!
Every area around the lake surrounding us is increasing flood protection, thus increasing our risk, my house has never flooded but my flood ins has tripled. So screw you assholes! I'm moving

You are the same bought and paid for people that have opened the BC spillway for 3-5 years running, instead of diverting some through morganza. Screw you and your bullshit studies!

Thanks,

Matt

From: Ray
To: Sttammanyfs
Subject: [Non-DoD Source] Flood Control
Date: Monday, August 3, 2020 9:58:14 AM

Is there someone I can talk to about a flood control pond built by the Corp approximately 30 years ago? My name is Ray Sissell and my number is 985-807-2100.

Thank you,
--

Ray Sissell

From: John McDonald
To: Sttammanyfs
Subject: [Non-DoD Source]
Date: Monday, August 3, 2020 3:40:29 PM

Ladies and Gentlemen:

I have attended, via the internet, your last two virtual presentations concerning the above project. In response to your request for comment, I offer the following:

My wife and I reside at the eastern end of Herwig Bluff Road (the eastern most extension of Gause Boulevard east of Slidell, Louisiana). Our property borders on Devil's Elbow, which waterway connects with the West Pearl River, just below I-10.

Since Hurricane Katrina, we have lost the use of a sizeable portion of our property due to the continuous high level of the West Pearl River and Devil's Elbow. This section of our property was almost always dry. Now, it is almost always under water. I am sure there are other landowners downstream with the same problem. I can only assume that the problem is due to silting or obstructions in the West Pearl River which have not been remedied since Hurricane Katrina.

I believe this problem is worthy of consideration and remediation in your study.

Thanking you for your attention, I remain

Very Truly Yours,

John F. McDonald, III

[redacted]

[redacted]

JOHN BEL EDWARDS
GOVERNOR

JACK MONTOUCET
SECRETARY

PO BOX 98000 | BATON ROUGE LA | 70898

August 3, 2020

Ms. Amy Dixon, Project Manager
United States Army Corps of Engineers
CEMVN-PMR-C
7400 Leake Avenue
New Orleans, LA 70118

RE: St. Tammany Feasibility Study – public meeting information

Dear Ms. Dixon:

The Louisiana Department of Wildlife and Fisheries (LDWF) has only very recently become involved in the St. Tammany Feasibility Study, and staff were so far, unable to participate fully in the gathering of information and selection of alternatives and ideas. Nonetheless, we offer the following information and comments in response to the ongoing public comment period associated with the St. Tammany Feasibility Study Public Meetings and information presented. Staff look forward to participating in future Project Development Team (PDT) meetings and other project related discussions.

Scenic Rivers

From what staff can determine, many of the alternatives within the current array impact the Louisiana Scenic Rivers System. A number of the remaining, proposed measures may be detrimental to system streams. Other measures may conflict with related policy constraints. Based on our review of the current array of proposed alternatives, Alternative 4 may impact Cane Bayou, Bayou LaCombe, and Bayou Liberty; Alternative 5 may impact Bayou Liberty and Bayou LaCombe; Alternative 7 may impact the West Pearl River and Morgan River; and Alternative 8 may impact Simpson Creek and Mile Branch. All aforementioned waterways are Louisiana designated Natural and Scenic Rivers (LASR). Several of the proposed measures impacting these waterways are prohibited by the Scenic Rivers Act (LA R.S. 56:1840-1856), while others may require LDWF authorization. For information on prohibitions and permitting requirements, Scenic Rivers Coordinator, Chris Davis can be contacted at (225)765-2642. The Scenic Rivers Act, Scenic Rivers Rules and Regulations (Title 76, Part IX) and other related information can be found at https://www.wlf.louisiana.gov/page/scenic-rivers.

Staff have noted that Environmental Planning has thus far considered the effect alternatives may have on recreation and views from the Lakefront and the St. Tammany Trace. LDWF recommends that these considerations (and others) be extended to LASRs as well.

Additional Alternatives

LDWF has noted that modeling of similar river systems (e.g., Amite River and Vermillion River) have shown that channel improvements and other strategies intended to increase drainage efficiency are often ineffective, counterproductive, or otherwise unviable options for addressing riverine flooding associated with lower gradient reaches, especially those subject to unfavorable tailwater conditions (e.g., high tides

and wind driven water). Due to these findings in similar systems, staff believe USACE should instead consider riverine flood risk reduction strategies that restore natural functions and allow for stormwater and/or floodwater to be retained or detained in the upper watershed, thereby reducing flood peaks and overall flood risk within downstream problem areas. LDWF has noted that many small headwater streams and other smaller tributaries have been and/or are being dredged or otherwise disconnected from their floodplains. Additionally, large scale landscape changes that promote rapid drainage of forested wetlands and other natural storage areas have occurred. We believe that these types of landscape impacts and other features may increase the potential for the siting of meaningful nature based solutions (NBS). Restoration of important natural functions related to flood risk reduction and other NBS strategies may provide significant flood risk reduction in downstream areas. However, for these NBS strategies to be considered fully, staff believe that the study area should be expanded to include the entire eight digit hydrologic unit (HUC 8) for each, larger study area river known to pose significant flood risk to the community. Currently the study area is limited to parish boundaries; however, the catchments of the larger parish rivers extend well beyond that political boundary.

If alternatives and measures are able to address increased flood risk related to development, staff believe that the PDT should investigate impacts of development, the effectiveness of current mitigative measures, and consider modifications to existing stormwater infrastructure that may reduce flood risk. For instance, staff understand that some associated retention/detention ponds may have overly efficient connection to receiving waters and/or may offer very short detention times/volumes, which can create deleterious discharges that lead to extremely flashy receiving waterways and may ultimately contribute to downstream flood risk. Could existing, ponds and outfall devices that are found to be problematic be modified to increase freeboard and detention time, mimicking natural hydrology that existed prior to construction (not merely preconstruction hydrology)? If this project type were found to be cost effective, the measure could easily be reproduced throughout the watershed to have a greater, cumulativeeffect.

LDWF noted that several alternatives in the current array involve ring levees and large linear levees which potentially impact extensive areas of wetlands and other sensitive habitats (e.g., LASRs). Many of the residential structures that would be afforded protection by some of these alignments are currently constructed on pier and beam. Home elevation costs for these particular structures may be much lower when compared to lifting slab on grade homes. We suggest that direct comparisons of levee alternatives and the less environmentally damaging non-structural alternatives (home elevations) be made for these specific areas. When environmental impacts are accounted for, the PDT may find that the cost-benefit for the non-structural options is favorable in certain areas and that some version of the non-structural alternative is preferred.

LDWF submits these recommendations to the U.S. Army Corps of Engineers in accordance with provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). Please do not hesitate to contact Habitat Section biologist Matthew Weigel at (985)543-4931 should you need further assistance.

Sincerely,

/S/ Randell S. Myers

Randell S. Myers
Assistant Secretary, Wildlife Division

mw

c: EPA, Marine & Wetlands Section
USFWS Ecological Services

935 Gravier St, STE 700
New Orleans, LA 70112

August 3rd, 2020

Mrs. Amy Dixon,
U.S. Army Corps of Engineers, New Orleans District
CEMVN-PMR-C
7400 Leake Avenue
New Orleans, La 70118

By email:StTammanyFS@usace.army.mil

Dear Mrs. Dixon:

I am writing comments on behalf of Healthy Gulf, an organization with members in St. Tammany Parish. In our 25 years, we have focused much of our attention and advocacy on the Clean Water Act's regulation of wetlands and water quality. The comments below address "degradation of wetland systems within the Parish" as called for in the scoping language.

The current scoping process for the St. Tammany Parish Louisiana Feasibility Study offers alternatives to reduce flood damage in the Parish through structural and non-structural projects. In 2019, our organization presented the results of a survey of 5 years (2014-2018) of CWA 404 wetland fill permit applications in the Northshore Parishes along the Interstate 12 corridor. We found three hotspots of 404 permit activity: Western St. Tammany Parish, The Amite River corridor in Livingston and E. Baton Rouge Parishes, and in Ascension Parish in the Prairieville/Gonzales vicinity south of Baton Rouge.

<u>Address and emphasize the need for non-structural solutions</u>

One of these hotspot areas –St. Tammany - was within a nonstructural project area identified in the 2017 Louisiana CPRA Coastal Master Plan. This Master Plan nonstructural project STT.01N identified $1.6 billion in elevation and floodproofing costs/needs in 2017. There were, at that time, 5500 residences and 375 non-residential structures in need of this investment in elevation, floodproofing or through buyouts of repetitively flooded properties. There were St. Tammany Parish areas north of I-12 in the Tchefuncte River floodplain identified for this CPRA project, and the Parish's entire coastal zone, south of I-12 fell into this same non-structural project area. This

need is not funded by the state as part of the active Master Plan projects, but provides context to the water management and flooding problem that the Parish must face as more and more wetland filling permits are applied for in each passing year.

The nonstructural areas mapped and identified in Alternative 2 in this St. Tammany Parish La, Feasibility Study fall in the same area as CPRA's Master Plan 2017 STT.01N project.

We strongly encourage the Corps to carry Alternative 2 through its final array, as the need to address elevations in existing homes, businesses and other structures is clear and will only become larger in the face of continued development. This study is a chance to underscore the existing large need for non-structural flood control measures in St. Tammany Parish. Please don't let this opportunity pass. Repetition of this message about non-structural flood control projects (that CPRA has already identified) is badly needed and can inform, and may help change the minds of residents, planners and elected officials in St. Tammany.

<u>Help the Parish to use local 404 permit application data for planning</u>

Elected officials and community residents St. Tammany Parish and the other Parishes we surveyed for our project on Northshore wetland fill permits applied for 2014-2018 were surprised at the amount of wetland filling that goes on where they live, and were at a loss to figure out why this data had not been summarized and presented before. I explained to St. Tammany and Tangipahoa elected officials that all of the permit information is public and can be accessed on the Army Corps websites. The Parishes are not taking the time to look at cumulative wetland losses within their boundaries, and the ACOE is not compiling this data for them either. We believe that this information is too valuable and tells too important a story to not be summarized and put to use.

Wetland loss is a moving target for all the Northshore Parishes. If they cannot keep a periodic tally of the wetlands they are losing to filling for new (and old) development, they can't use this data to modify and update their flood control plans in the face of continued development, which often involves even more applications for wetland filling.

Wetland (habitat) mitigation as required under CWA Sec. 404 by ACOE often happens in mitigation banks in remote parts of these Parishes or in adjoining Parishes, sometimes in different watersheds from the permitted wetland filling (and loss), and does almost nothing to help store water and address flooding where it would do the most good. One acre of wetlands can store one million gallons of water. That local deficit in water storage is not adequately mitigated by purchase of wetland mitigation credits on land many miles away, and the ability of engineered stormwater handling systems in newly developed areas is often overwhelmed after development and build-out. We have all witnessed this with increasing frequency during large rainfall events, like the 2016 floods in many river basins in the Florida Parishes along the I-12 corridor.

Since the Corps maintains the records of 404 permit applications, this information needs to be made available in an easily usable form to planners and floodplain managers in the various Parishes so they can use it to their advantage. Please consider this both as a scoping request and deliverable item for your final study for St. Tammany Parish.

Alternatives that address headwater flooding including Pearl River flooding should be carried through the final array.

Both the Pearl River Basin and the relatively small watersheds upstream of parts of St.Tammany Parish contribute to headwater flooding affecting the middle and lower parts of the Parish. With the largest (and most expensive) structural projects in this array being focused in the Coastal Zone, the contribution of headwaters to the Parish's flooding should not be obscured or treated lightly in the study.

The Pearl River is a regulated river and the water management actions of the Pearl River Valley Water Supply District at the Ross Barnett Reservoir dam affect St. Tammany Parish after a lag time of about a week. Some mention of this problem – Ross Barnett Reservoir authority's dumping water ahead of large rainfall events – and its effect on riverine flooding in Eastern St. Tammany should go into the Study for the sake of completeness and to inform more St. Tammany residents of this source of flooding. Anything that the Corps can include in its Feasibility Study that will document that the Parish is at the mercy of water management decisions in another state would be helpful. (This cannot be emphasized enough as the Pearl faces the possibility of a new, destructive and misguided lake development project in Jackson, Ms. when other less disruptive alternatives are available. Better and different water management protocols by the Reservoir Authority should be adopted to ensure the Lower Pearl has fewer flooding problems) This dumping of impounded water into the river upstream often coincides with storm surge during tropical weather system passage along the Mississippi and SE Louisiana coasts and compounds flooding during hurricanes and tropical storms.

The contribution of landscape conditions and land management and use patterns in upper St. Tammany, Tangipahoa and Washington Parishes to the timing and volume of headwater flooding should be a feature of the Feasibility Study. This factor should not lose emphasis even though a majority of the work of the study will feature levees, ring levees, floodwalls and other structures in the Coastal Zone management area and middle and lower St. Tammany Parish.

Where there are defunct inactive or relict sand and gravel mines in the floodplains of headwater streams affecting St Tammany Parish, the restoration of these mines and a return of the floodplain to a better function can be considered. In Tangipahoa and Livingston Parishes, there are many more of these old mines that can be restored and the river channels stabilized as a result. Where this is appropriate in St. Tammany Parish and in the headwater areas affecting it, such restoration should be discussed and even included in the alternatives so far presented for scoping.

Healthy Gulf appreciates the opportunity to provide these comments. If the ACOE is interested in seeing the 404 permit application maps and tables in our 2014-2018 analysis of Northshore Parishes permit activity, we will share them and discuss them with agency staff.

Sincerely,

Andrew Whitehurst
Water Program Director, Healthy Gulf

From: [redacted]
To: Sttammanyfs
Subject: Re: [Non-DoD Source] St. Tammany Flooding - Input from Citizens
Date: Wednesday, March 18, 2020 9:48:28 AM

Hey Amy,
hope all is well, I do contract wetlands mapping for Mike Henry at Hydrik, I created my basemaps in the early 90's and have been working on the consistently trying to stay up with developments. I probably have more data than the parish as they were mostly concerned about Parish maintained waterways. Do you have any map that I can interface with which identifies the scenic waterways (maybe thru LA Wildlife & Fish.) or are you concerned about them at this point. For instance the Tchefuncte River is scenic, its tributaries: Soap & Tallow Branch and Timber Branch are considered scenic because they touch Tchef. They are in desperate need of de-snagging / widening.
Thanks,
Bert

On Wed, Mar 18, 2020 at 4:29 AM Sttammanyfs <sttammanyfs@usace.army.mil <mailto:sttammanyfs@usace.army.mil> > wrote:

Good Morning Bert,

We would appreciate as much speed as you are able to give, although I understand being tied up with what you are working on right now. Please see below for my phone number, but I am always available at this email.

Thank you,

Amy Dixon
Project Manager
U.S. Army Corps of Engineers
New Orleans District
Work: 504-862-1193

-----Original Message-----
From: bert fontcuberta [redacted]
Sent: Monday, March 16, 2020 11:39 AM
To: Sttammanyfs <sttammanyfs@usace.army.mil <mailto:sttammanyfs@usace.army.mil> >
Subject: Re: [Non-DoD Source] St. Tammany Flooding - Input from Citizens

Yes, I will be tied up next couple of weeks on Medical mapping, we can regroup after, forward your contact info

On Wed, Mar 11, 2020 at 10:21 AM Sttammanyfs <sttammanyfs@usace.army.mil <mailto:sttammanyfs@usace.army.mil> <mailto:sttammanyfs@usace.army.mil > > > wrote:

Good Morning Bert,
After sharing with the team, we would like to know if you could share your map. Let me know if this is possible.
Thanks,
The St. Tammany Team

-----Original Message-----
From: bert fontcuberta [mailto:bertfontcuberta@gmail.com <mailto:bertfontcuberta@gmail.com> <mailto:bertfontcuberta@gmail.com > >]
Sent: Wednesday, March 11, 2020 9:45 AM
To: Sttammanyfs <sttammanyfs@usace.army.mil <mailto:sttammanyfs@usace.army mil> <mailto:sttammanyfs@usace.army.mil > > >
Cc: john martin <mart8708@bellsouth.net <mailto:mart8708@bellsouth net> <mailto:mart8708@bellsouth net > > >
Subject: [Non-DoD Source] St. Tammany Flooding - Input from Citizens

Greetings Corps of Engineers,
The Parish stated that ya'll are open to comments on the flooding in St. Tammany Parish. My thoughts are to widen all non-scenic waterways thereby creating larger detention areas within the existing tributaries. I have them all mapped if you would like to sit down & discuss further, Much Thanks, Bert Fontcuberta New Orleans Map Company
(985)893-5023

p.s. the new La Hwy No. 21 Bridge over the Tchefuncte River creates a choke point for flood waters, the top bank crowns and bridge span should have been widened to accommodate flood waters, *unless it was the plan all along to flood residents upstream from that point, I have the videos to support this.

From: Bob Hodges
To: Sttammanyfs
Subject: [Non-DoD Source] Public comments submitted for the St. Tammany Feasibility Study
Date: Thursday, July 9, 2020 3:12:00 PM

As solicited in the Public Meeting notice printed in a recent edition of The Advocate, I am submitting my comments for the above referenced Feasibility Study. I will not be able to participate in either of the two Facebook Live sessions and I would request these comments be considered to be included in those live sessions.

I have been a resident of the area in near proximity to this study (Flower Estates North) since September 1999. I have witnessed in that time three (3) major flood events that affected my neighbors in the area of the study. My primary concern about the format of the live meetings is the refusal of the USACE to allow any discussion of the impact of future development in the area of the study. Specifically I am referring to the colossal MEDLINE development being proposed by a southshore developer that prompted a spot zoning change by the St. Tammany Parish Council that is now being challenged in the courts as unconstitutional. Anyone with an understanding of the water dynamics of this area knows that this development will only further increase the current flooding risk to the local community. The refusal of the Parish Council to consider these concerns in public hearings has left our community with the hope that only “adults left in the room”, i.e. the USACE would act responsibly and include future development in the feasibility study. I believe it is accurate to say that all in our community who are aware of this study will have the same reaction to the USACE taking its current position.

After the disaster in New Orleans with Hurricane Katrina and the damage that event caused to the confidence the public had in the USACE, it is my hope the USACE will re-consider and include the full scope of present and future development and the impact on flooding risk in the scope of thestudy.

Respectfully,

Bob Hodges

[redacted]

[redacted]

From: Brian Bourgeois
To: Sttammanyfs
Subject: [Non-DoD Source] 20200212 St. Tammany Study Mtg in Slidell
Date: Wednesday, February 12, 2020 7:17:25 PM

Brian Bourgeois
[redacted]

Home flooded during Katrina. About 1ft of water.
Flooding came from surge up the 'Old' Pearl River via the Doubloon Branch and then the French Branch.

Good evening:

Thank you for the meeting, your people did a great job! Very concise presentation.

I am especially happy to have a website I can go to for status of the effort. It's been very difficult to find out what is going on from the State/Parish.

Concerns:

* Future hurricane events causing a repeat of Katrina flooding which inundated about 2/3 of Slidell.

* Higher risk of flood events due to climate change, sea level rise

Without plans for flood protection structures, I am very concerned about my ability to sell this property in the future, and intend to leave the area sooner than later.

An additional concern that I have not seen addressed:

Most of Slidell's potable water is from wells. Flood protection would be grand, but has anyone looked at salt water intrusion into the ground water with rising sea levels?

Thank you,

Dr. Brian Bourgeois, PE
[redacted]

From: Cliff Lloyd
To: Sttammanyfs
Subject: [Non-DoD Source] Flowers Bayou
Date: Monday, July 20, 2020 11:14:10 PM

Not sure who monitors flowers bayou but a lot of mudd has been filling the bayou and if something isn't done the bayou will not be navigable and affect flooding even more due to the amount of mudd and fill that has flowed over from all the development on the other side of Hwy 21.

Thank you.

Cliff Lloyd

From: Curt Coppock
To: Sttammanyfs
Subject: [Non-DoD Source] St. Tammany Drainage and Flooding Problems
Date: Sunday, July 12, 2020 7:07:24 PM

To Whom it May Concern,

Actually, this concerns everyone who lives in St. Tammany Parish! As our parish continues to grow in both population and infrastructure, it is vitally important to protect our property from the ever increasing chances of flooding. Drainage issues are impacting neighborhoods that have never been at risk of flooding before. I have lived in my Covington home for 26 years. I bought my property and built my home in Flower Estates for many reasons but one of the main reasons was to have water-front property for my boat and boathouse. I was happy that I could come home from a long week of working on the road and take my boat and my family out on Flower Bayou, the Tchefuncte River and Lake Pontchartrain on the weekends. For most of the 26 years that I have lived here, we have never had problems navigating the bayou. The depth of the bayou was always adequate to accommodate my shallow-draft deck boat. All of that changed a few years ago and it is obvious why.

As development occurred along Hwy. 21 between I-12 and St. Tammany Parish Hospital several things happened. First, land was cleared for the development of the Winn Dixie, and all of the other businesses in that shopping center such as Cafe-du-Monde, 5 Guys Burgers, and all the rest of the businesses that occupy the Hwy. 21 corridor. Ochsner Clinic and the Stone Creek Health Club also contributed to the problem. As land was cleared and all of the trees and under-brush were removed, any rainstorm washed dirt and sediment into Flower Bayou. Also, there was no vegetation to absorb the water. The result is the fact that the bayou quickly silted up, it is now extremely shallow and it is often only navigable by canoe, pirogue, or kayak. This has been exacerbated by the fact that there are now so many square feet of concrete in the form of building foundations and parking lots that the ground is no longer available to absorb the rainwater as it was designed to do. All of the rain flows directly into the increasingly shallow bayou and because the bayou is now so shallow due to the sediment deposited there during the development, the bayou can no longer handle the increased water volume, the bayou over-flows its banks and homes and properties flood where they never did just a few years ago. This results in property damage, increased insurance costs for homeowners and businesses and decreased property values for everyone.

The problems along Flower Bayou and all of other natural drainage systems in the parish will only get worse as the parish's population and infrastructure continue to expand. That will inevitably happen unless the parish, the state of Louisiana and the Army Corps of Engineers immediately address this problem. One of the things that should be done as soon as possible is that the Corps of Engineers should dredge Flower Bayou and all of the other natural drainage systems and bayous that have always drained this parish. If not, even your property could be at risk of flooding during the next rain storm. As proof of this problem I submit to you the attached pictures of the bayou today. If it was as deep as it was just a few years ago it could drain more water volume at a faster rate and there would be less flooding and water damage during our rainstorms and hurricanes. Please let your voices and concerns be heard.

Curt Coppock

--

Best Regards,

Curt Coppock
[redacted]

From: Curt Coppock
To: Sttammanyfs
Subject: [Non-DoD Source] St. Tammany Parish Drainage Problems
Date: Sunday, July 12, 2020 11:11:03 PM

Here are the pictures that I had intended to attach to my previous email. It is obvious that this vital drainage system has been compromised by the run-off and silt that has been deposited In this waterway due to the development along Hwy. 21 It has gotten progressively worse over the last several years and it will continue to get worse in the future unless the parish and the Corps of Engineers immediately address this problem by dredging this bayou to increase its depth, volume and flow capacity. Property and homes in Flower Estates and other Covington neighborhoods will be at an increased risk of flooding if this and other problem areas are not addressed in the immediate future.

Best Regards,

Curt Coppock
[redacted]

From: DANIEL A IV MCGOVERN
To: Sttammanyfs
Subject: [Non-DoD Source] Needed Flood Protection for Eden isle and Clipper
Date: Wednesday, July 8, 2020 7:51:28 AM

Mrs Amy Dixon:

My name is Dan Mc Govern IV and I am presently on the St Tammany Levee, Drainage and Conservation District. I have been on since its inception but only recently have I seen any efforts to protect our area.

Katrina put over 13 inches of water in my home at 276 Moonraker. I built at an elevation of 13 plus feet and still got flooded.

Neel Schaffer estimated the cost to elevate our homes at about 4,605 residences to be around $806,300,000(Neel Schaffer 2017 Master Plan Structural Risk Reduction.
But under their plan under Case 2 to place a Hwy 11 T wall, lakefront T wall, and Barge Gate and I 10 Levee the cost estimate was $305,000,000.

The Ring Levee built around us also adds to our flooding problem for it was built without any study into risk reduction. It will indeed channel more water from surge upon us.

My flood insurance went from around $600.00 per year to $1300.00. I ask that you help us by devoting the skills and talents of the USACE to help our residents on this problem.

I am retired and see that in the future I may not be able to resume living in this beautiful waterfront community.

I ask that your agency consider one of the proposed conceptual plans outlined on Page 35 of the St Tammany Parish Proposed Flood Protection Conceptual Evaluation of June 2019 by Neel Schaffer.
Sincerely,

Commissioner Daniel A. Mc Govern iv, J.D.

From: Deborah Faust
To: Sttammanyfs
Subject: [Non-DoD Source] Covington is being destroyed
Date: Tuesday, July 7, 2020 8:03:32 AM

Greedy developers are cementing over our wetlands causing flooding.
PLEASE HELP US STOP IT!!

Deborah L. Faust
[redacted]

From: Gene Billingsley
To: Sttammanyfs
Subject: [Non-DoD Source] FW: Website Inquiry St. Tammany/Flower Estates
Date: Sunday, July 12, 2020 12:08:08 PM

Regarding the upcoming public meetings on Flooding in St Tammany Parish, I am attaching an earlier inquiry specifically regarding Flowers Bayou and flooding in Flowers Estates. As a new homeowner and resident of Flowers Estates
we are very concerned with this issue. Look forward to the upcoming events.

Regards,
Gene/Sharon Billingsley
[redacted]

-----Original Message-----
From: HQ-PUBLIC AFFAIRS <HQ-PUBLICAFFAIRS@usace.army.mil>
Sent: Monday, June 1, 2020 12:35 PM
To:[redacted]
Subject: RE: Website Inquiry

Your message has been forwarded to our New Orleans District for assistance.

USACE Public Affairs Office

-----Original Message-----
From: Gene Billingsley[redacted]
Sent: Monday, June 1, 2020 10:50 AM
To: HQ-PUBLIC AFFAIRS <HQ-PUBLICAFFAIRS@usace.army mil>
Subject: [Non-DoD Source] Website Inquiry

Inquiry as to any plans in process for further dredging the Tchefuncte

River where it empties into Lake Pontchartrain. As a resident of Covington, La. and a member of Flower Estates Civic Association,

We are very concerned about the continual flooding which occurs in this area. Just a couple of weeks ago we experienced flooding as a result of the river backing up from the entrance into Lake Pontchartrain. This has been a regular occurrence, and a costly experience for many residents whose properties have gone under these floods. Thanks in advance as to any information in this regard.

Regards,

Gene Billingsley Sr.

[redacted]

[redacted]

[redacted]

From: Greyfellas Ruffino
To: Sttammanyfs
Subject: [Non-DoD Source] St Tammany Parish
Date: Thursday, July 16, 2020 10:56:47 AM

Trees are critical for healthy and vibrant communities. Planting trees helps make cities clean and green, but protecting the trees we already have may be even more important: large mature trees provide many more benefits than smaller young trees. Research shows that mature trees capture more carbon, filter more particulate matter to reduce air pollution, capture more storm water, create shade and reduce energy use, and many other environmental and health benefits.

Some benefits trees provide:
• Prevent flooding. Rain flows down the trunk into the earth;
• Prevents soil erosion;
• Shield children from ultra-violet rays;
• Increase property value;
• Provides oxygen;
• Cleans the air as they absorb pollutant gases.

The unfortunate reality is that the vast majority of trees are not being preserved and cut down. In many cases, trees could have been preserved but were cut down. This causes a massive negative environmental impact. Also, deforestation also destroys much needed habitat for animals, plants and other species. Deforestation has been a tragic disaster for the earth and everyone living on it.

The local level is where deforestation has the most immediate effect. When forest cover is lost, runoff rapidly flows into streams, elevating river levels and subjecting downstream cities, and agricultural fields to flooding, especially during the rainy season. With forest loss, the local community loses the system that performed valuable but often under-appreciated services like ensuring the regular flow of clean water and protecting the community from flood and drought. The forest acts as a sort of sponge, soaking up rainfall brought by tropical storms while anchoring soils and releasing water at regular intervals. This regulating feature of tropical rainforests can help moderate destructive flood and drought cycles that can occur when forests are cleared.

Scores of office buildings sit empty across the parish. Please encourage property owners to renovate vacant buildings or sell them for other uses. I simply ask that you review buildings on a case-by-case basis and discuss where zoning changes make sense and which new uses might work best in a given location.

In regards to clearing land/new construction please do something different and better unlike our previous administration. It takes more years to re-grow trees than it does to build around the tree. In addition to hurting this generation by cutting trees down, you're hurting your children, grandchildren — those you love dearly. PLEASE use your power to make a difference and show other cities, states, countries how to do things better. I am a lifelong resident of Covington and it's just heartbreaking.

Thank you,
Rebecca W Ruffino
[redacted]

From:	Jeanne Stangle
To:	Sttammanyfs; mcooper@stpgov.org; rlheidelberg@stpgov.org; Amy Laborde; Thomas J. Smith; tsmith@stpgov.org; Steve Stefancik; Jerry Binder; Binder Jerry; Lee Domangue; Donna McDonald; Darrell Noveh; Sandra Johnson; Chuck and Roberta Neuman; Michele Duvic; Tommy Lenz; Jeanne Stangle; seanreily
Subject:	[Non-DoD Source] Camp Salmen Meet St Tam Parish Pres Mike Cooper, Mar 9, 2020, Agenda & Flood Control
Date:	Thursday, February 27, 2020 2:41:37 PM
Attachments:	FOCS mike cooper agenda.docx

To St Tammany Parish President Mike Cooper and Staff;

To Dist 14 St Tammany Parish Councilman T J. Smith, Jr, who represents Camp Salmen Nature Park on Bayou Liberty;

To St Tammany Parish Councilmen Stefancik and Binder who also represents portions of Bayou Liberty;

To Lee Domangue, MD, President of Bayou Liberty Assn, and BLA Board Members;

To Darrell Noveh, President of Friends of Camp Salmen Nature Park and Board Members;
To US Army Corps of Engineers Staff from Feb 12, 2020, Slidell meeting:

Please see attached nola.com <Blockedhttp://nola.com> January 24, 2009, summary of federal funding for preservation of forested wetlands along Bayou Liberty, with description by 2009 St Tammany Parish President Kevin Davis: "I began this effort with the acquisition of Camp Salmen eight years ago and continue to make preserving our ecology and habitat a priority...Projects such as this property acquisition in Bayou Liberty help with storm protection, drainage and wildlife habitat".

Please see attached agenda for Introduction of Board of Friends of Camp Salmen Nature Park, Inc, to St Tammany Parish President Mike Cooper,

Monday, March 9, 2020, 10:30 AM to 11:00 AM

Thank you from Jeanne Stangle, Board Member, Friends of Camp Salmen Nature Park, Inc.

GranttohelpBayouLiberty

$1milliantoac,quire andpre®?Jeproperty

By Kia Hall Hayes
St txnau

St. Tammany Parish has received $1 million in federal funds toward the acquisition and preservation of forested and wetlands property along Bayou Liberty.

The 22-acre parcel, located south of Interstate 12 and west of Northshore Boulevard, is a blackwater stream habitat that is "extremely rare" and "increasingly vulnerable to development," the parish wrote in its grantapplication.

Parish President Kevin Davis said in a statement that the preservation project is partof St. Tammany'songoingeffortto "preserveou existing wetJands and restore that wlnen we have lost."

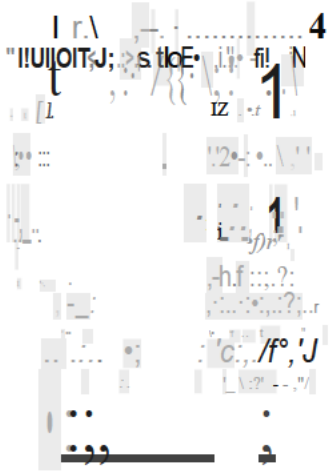
"I began this effort with the acquisition of Camp Salmen eight years agoand continue to make preserving our ecology and habitat a priority", he said.

U.S. Sen.David Vitt.er, R-La., said the grant, which came from the federal Minerals Management Service, is "another step in our continued efforts tose• cure south Louisiana's valuable wetJands."

"The long-term survival of these precious resources depends on the successful planningandexecutionofnumerous projects, including this one in St.Tammany Parish."

The Trustfor Public Land acquired the land for $1.5 million

SeeGRANT, B-!



THE TMES-PICAYI.WE

Wetlands lostduring hurricane

GRANT, from B-1

on behalf of the parish in 2006, and the parish agreed to purchase the land from the trust. St. Tammany will pay the remaining $600,000 with future grantsand parish funds.

In its application for federal assistance, the parish's Department of Environmental Services said that St. Tammany is working to preserve undeveloped tracts of property from commercial and residential development along the Bayou Liberty corridm:

The parish also plans to restoreand enhance the property through the restoration of Bayou Liberty headwaters, reforestation, and the removal of invasive plants and animals, the agencysaid

Davis said preserving the area will also prevent development that might affect the natural basin.

"I am very concerned that St. Tammany Parish lost over 7 square milesof wetlands in Katrinaalone," Davissaid.

"Projects such as this property acquisition in Bayou Liberty help with storm protection, drainage and wildlife habitat," he said, "This is a winning project."

• • • • • • •

Kia Hall can be readied at
.comer
986.845.2848.

From: Jennifer Donewar
To: Sttammanyfs
Subject: [Non-DoD Source] St Tammany Study
Date: Monday, July 6, 2020 1:51:24 PM

There are major concerns with the river beds of west St Tammany. My parents live off of Savannah Branch which is a branch off the Little Tchefuncte River just south of Folsom. My father has lived on this property for 77 years. With all of the new projects that are being permitted by the council to be built along Highway 1077 from Bennett Bridge to Hwy 190 in Goodbee, their potential for flooding is ever increasing. They flooded in 1983 when the Percy Dam busted along the upper river basin. Since then, their home has flooded twice in 2016. They came within inches of flooding again in December of 2018. Their home is built three feet off the ground.
With all of the fill homes that are being permitted in these large subdivisions along 1077, the chances of them flooding increases with every house. The river no longer has a natural floodplain to spill over into. It is not fair to flood out people who have been on family property all of their lives so there is a bigger economic impact for the parish with each residence that is built. The areas that are being permitted for building are widely known as wetlands. This needs to stop!

When water is spilling over Bennett Bridge Road, like a dam flowing, there is a HUGE problem. Please help stop this madness.

Sent from my iPhone

From: Milazzo, John W (Jack) III CIV USARMY CEMVN (USA)
To: [redacted]
Cc: Sttammanyfs
Subject: FW: [Non-DoD Source] presentation (UNCLASSIFIED)
Date: Tuesday, February 18, 2020 7:04:21 AM
Attachments: Proposal to protect against storm surge Corps and CPRA presentation.pptx

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CLASSIFICATION: UNCLASSIFIED

Mr. Faust,

Thank you for sharing. You mentioned Amy Dixon already has a copy, but I am forwarding to our project team e-mail for the record. If you do have anything else to share, please feel free to send to me or to sttammanyfs@usace.army.mil. We will be updating our site regularly, so please check for updates at https://www.mvn.usace.army.mil/About/Projects/BBA-2018/studies/St-Tammany/

Kind regards,

Jack Milazzo, ASLA, PLA
Landscape Architect
U.S. Army Corps of Engineers, New Orleans District
504.862.1505 office

-----Original Message-----
From: John Faust[redacted]
Sent: Saturday, February 15, 2020 4:22 PM
To: Milazzo, John W (Jack) III CIV USARMY CEMVN (USA) <John.W.Milazzo@usace.army mil>
Subject: [Non-DoD Source] presentation

Mr. Milazzo

My name is John Faust, I am Vice-Chairman of the St. Tammany Levee Board. We met at the Corps of Engineers public meeting for the Feasibility Study held in Slidell on February 12th. At the meeting there was a lap top running a presentation of the flooding sustained from Katrina in the Southeastern portion of St. Tammany. You asked me to sent you a copy of the presentation . The attachment below contains the presentation .

The presentation also gives a little history lesson of the progression of flood protection in St. Tammany Parish. If you have any questions please give me a call .

John Faust
[redacted]

CLASSIFICATION: UNCLASSIFIED

Proposal to protect against storm surge in the Southeastern shoreline area of St. Tammany

History of development and flood protection in southeastern St. Tammany Parish

- Both residential and commercial development in southeastern St. Tammany began over 130 years ago.
- The city of Slidell was the center point of early development in the Southeastern region of St. Tammany Parish.
- Over the last 60 years residential and commercial sprawl has taken place beyond the city limits.
- Over the past 45 years rapid residential and commercial development began along the coastal area.
- A short time later, Lacombe and Mandeville saw an increase in residential and commercial development as well.
- Currently, there is more residential and commercial developments occurring outside the area of the city ofSlidell than in it.
- The older developments in the coastal area elevated the land or placed structures on piers to reduce floodrisk.
- About 25 years ago the parish allowed developers of residential and commercial properties to build ring levees as opposed to elevating structures in the coastal zone.
- These ring levee systems were developed through private commercial enterprise and constructed considerably higher than the previously elevated developments.
- Over the past 6 years the parish has connected these ring levees with parish-built levee systems.
- The ring levees that border the older structurally elevated communities are parallel and perpendicular to the older communities. See figure 1
- The last leg of the ring levee system that borders the older structurally elevated communities is connected to the elevated railroad bed which runs parallel to Hwy. 11 from the lake inland. See fig.1

Development of flood protection in the Southeastern region St. Tammany Parish

- Prior to Hurricane Betsy there was little or no attempt to develop community based governmental flood protection in St. Tammany Parish.
- In the late 1980's the parish created a levee board, however, the parish dissolved it in the mid 1990's.
- In the late 1980's the Corps of engineers produced a reconnaissance report discussing a ring levee system around the city of Slidell.
- From the time the reconnaissance report was finished until hurricane Katrina in 2005, no parish levee projects were in development.
- In the 1990's the parish allowed two developers to build ring levee systems for their PUD.
- The two developments were Lakeshore Estates and Oak Harbor Estates.
- In 2012 the parish received SELA funds and used the funds over the next two years to build a connecting levee system between the privately built Oak Harbor and the Lakeshore levee systems. See figure 1
- The connecting levees, along with the Lakeshore and Oak Harbor levees, were built 15 feet or higher.
- The connected the levees of Oak Harbor and Lakeshore Estates are now part of a flood protection for old Slidell.
- There has been no modeling to study if any additional flood risk is accruing to communities located in front of the connected levee systems. See fig. 1
- The levee systems border the earlier developed communities of Eden Isles, Oak Harbor, Highway 11, and Lakeview.
- As stated, the earlier communities were previously developed by either elevating the land or elevated structures on piling.
- The elevations of these communities were set to government flood risk reduction standards at the time of development.
- However, those communities are lower than the ring levee systems which were built to 15 feet or higher.
- The communities of Eden Isles, Lakeview, Oak Harbor, and Highway 11 are surrounded by the ring levee system with an open end facing the lake. See figure 2

Increased flood risk to Coastal region of Southeastern St. Tammany

- The most affected area in St. Tammany Parish by storm surge flooding is in the southeasternregion.
- The affected areas are part of the coastal zone and extend from Lacombe to Hwy. 90 in St. Tammanyparish.
- The outbound surge in almost all cases is higher in the affected region .
- The outbound surge is driven by easterly directed winds across Lake Pontchartrain as hurricanes moveinland.
- As the surge exits through the 5-mile opening between South point, the eastern end of the HSDRRS, and the shoreline of St. Tammany Parish a convergence occurs.. See figure 3
- The outbound surge was estimated to be 3 feet higher than the inbound surge of hurricane Katrina along the southeastern region of St. Tammany Parish.
- Evidence of this occurring can be seen in the damage to the Interstate bridge and the flood damage along withthe debris field in the Eden Isles, Oak Harbor and other areas. See figures 3,5,6,7,
- The extremely large debris field that collected in the communities of Eden Isles and Oak Harbor came from structures destroyed in other communities located along the shores of Lake Pontchartrain.
- The diagram shows the outbound surge as it flows along the HSDRRS levee until it reaches the it's end at South Point. See fig. 3
- There are additional factors that also influence the outbound surge such as the elevated roadbed of Hwy. 90 andthe elevated track bed of L&N railroad at Lake Borgne. See figure 3
- These Hwy 90 and the elevated railroad tracks are perpendicular to the outbound surge reducing the flow.

Fig.1) Eden Isles and levees and the elevated railroad tracks surrounding the community.

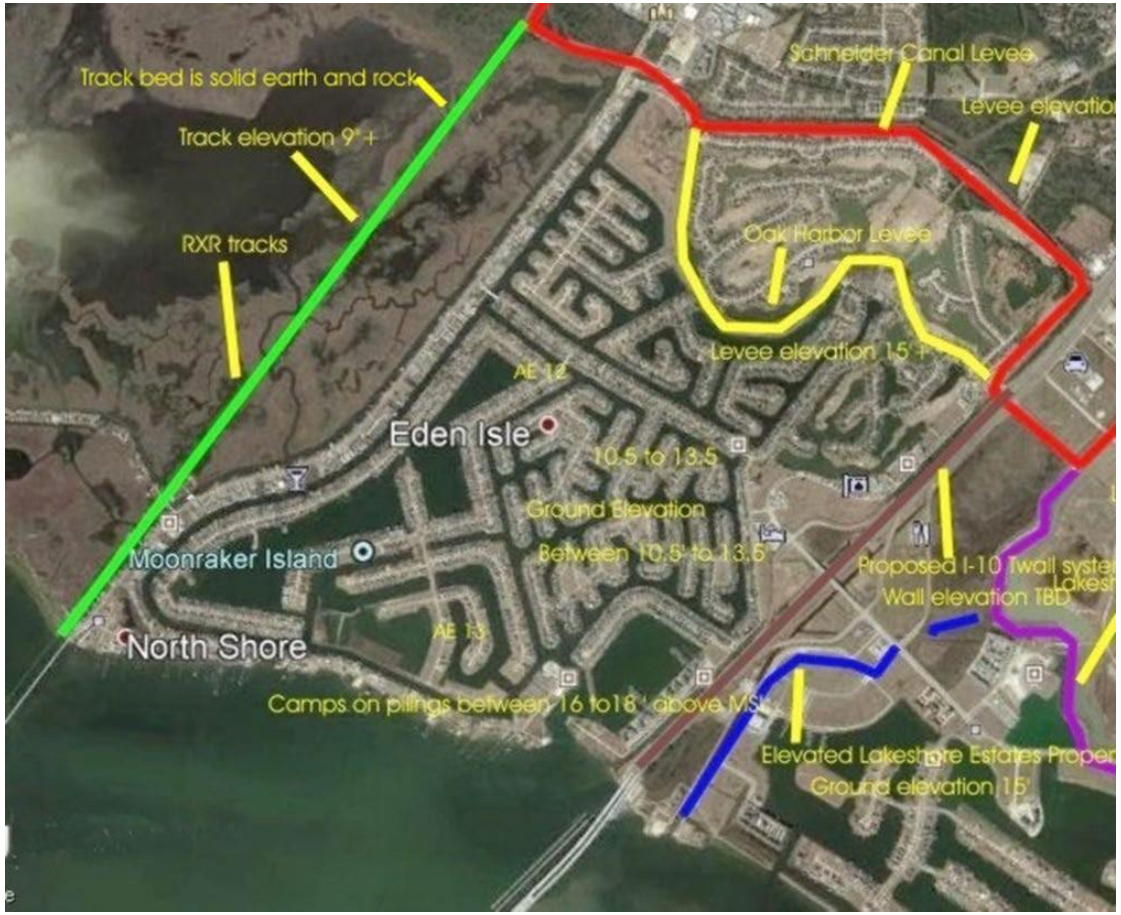


Fig. 2 Surge impact on Eden Isles

Fig 3 Convergence of outbound surge as storm surge is forced out of Lake Pontchartrain as the hurricane moves inland

Katrina storm surge damage to Southeastern St. Tammany

- It has been estimated that St. Tammany Parish sustained over 2 billion dollars in damage to property from Hurricane Katrina.
- It was also estimated that the Southeastern section of St. Tammany parish sustained the greatest amount of damage, with over $ 950,000,000 in property damage.
- The Eden Isles, Oak Harbor, Lakeview, Lakeshores Estates and Car Drive sustained over

  $ 450,000,000.00 in property damage alone.
- These figures do not include Parish government facilities that were damaged in Katrina.
- The debris field was so extensive it took almost a year to be removed. See fig. 5,6,7

Fig. 5 Debris field on eastern St. Tammany shoreline

It should be noted that this debris is not from Eden Isles structures.
It is from other areas along Lake Pontchartrain shorelines that were destroyed by hurricane Katrina.

Fig6 Debris field in Eden Isles subdivision after Katrina

It should be noted that this debris is not from Eden Isles structures.
It is from other areas along Lake Pontchartrain shorelines that were destroyed by hurricane Katrina.

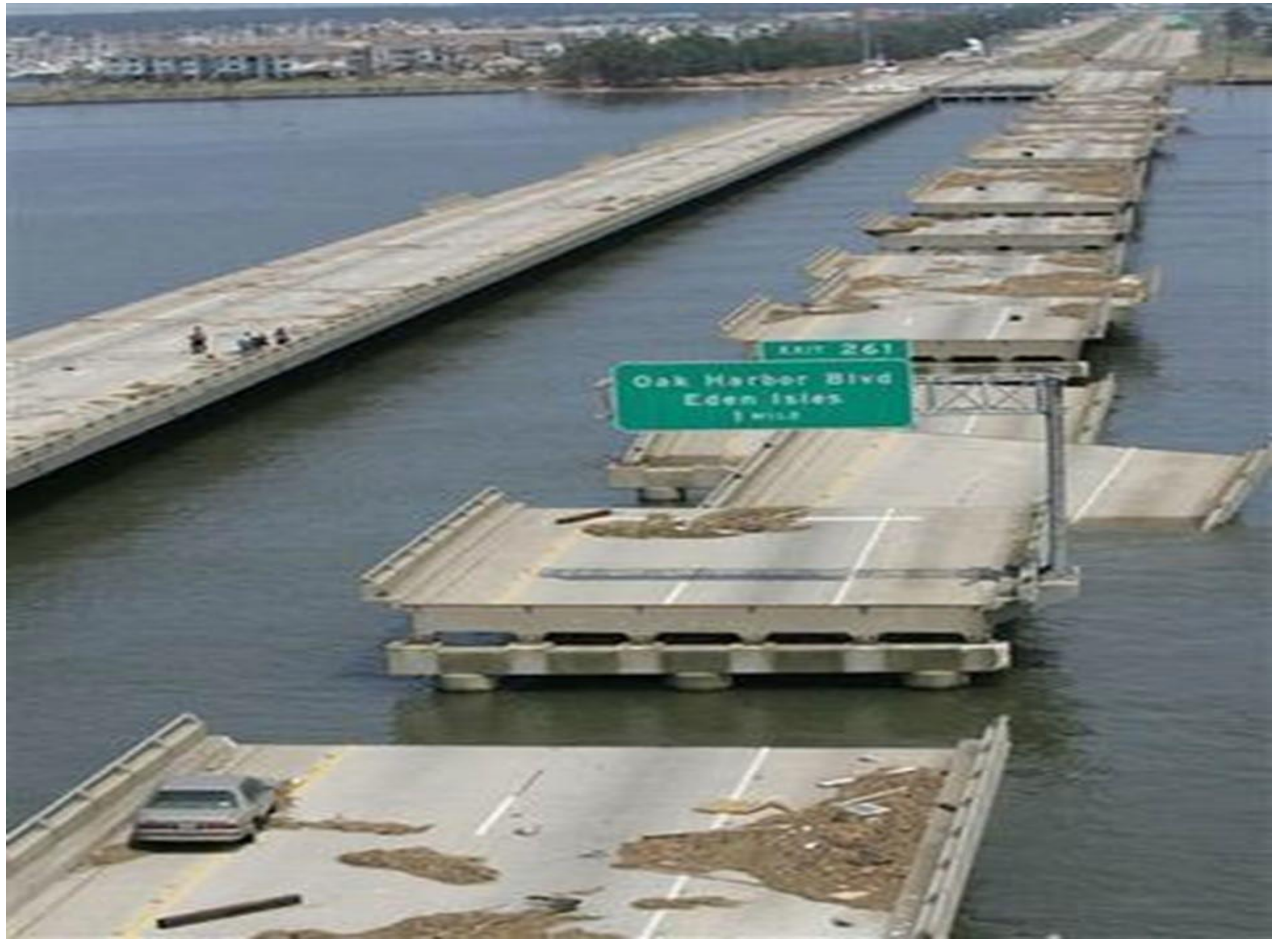
Fig. 7 Debris field on Marina Dr. in Eden Isles subdivision

It should be noted that this debris is not from Eden Isles structures.

It is from other areas along Lake Pontchartrain shorelines that were destroyed by hurricane Katrina.

Damage to I-10 at the shoreline of St. Tammany

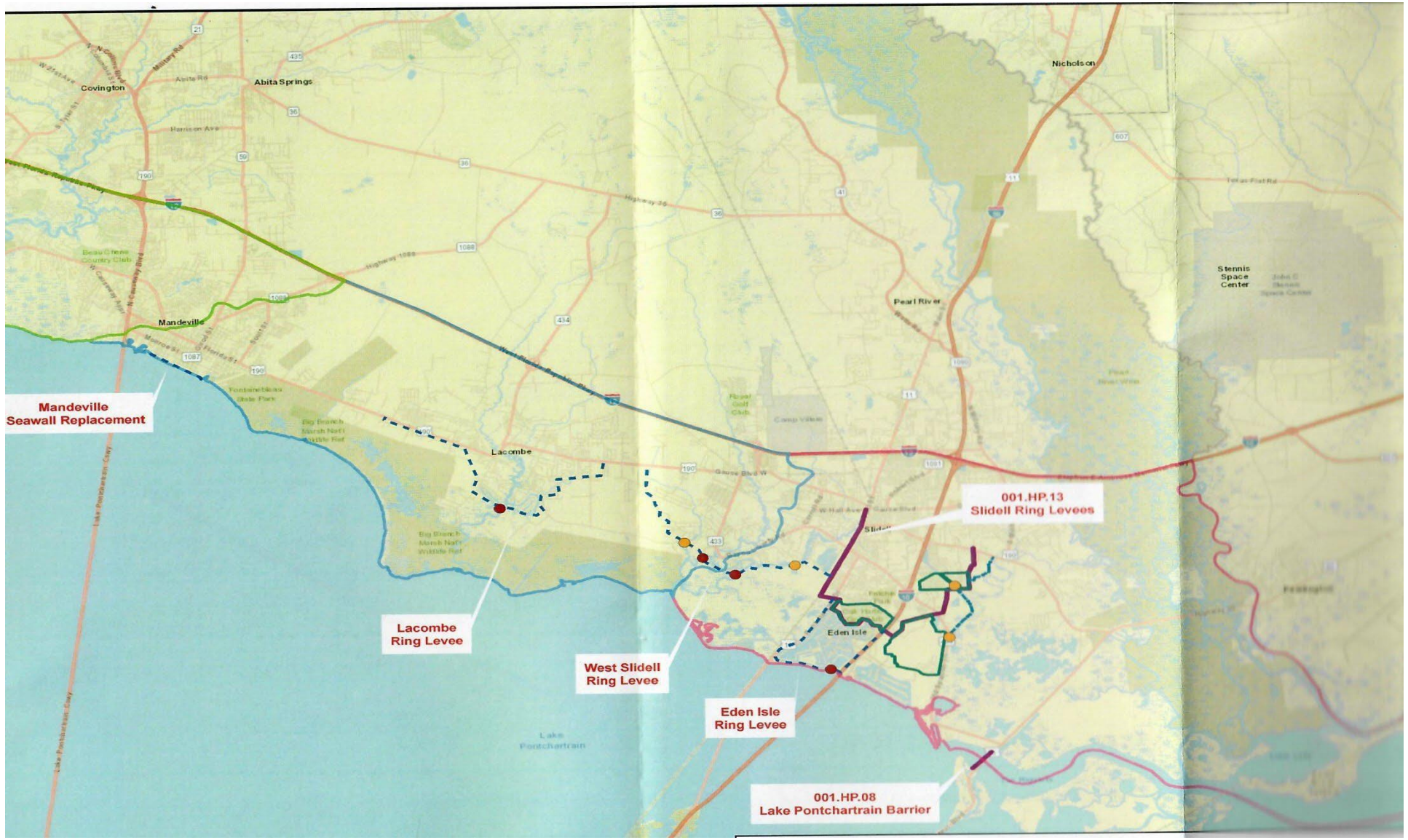
Notice that the bridge sections are shoved off their piers in an outbound direction



St. Tammany Master Plan and Gap Analysis

- The St. Tammany levee board, in conjunction with St. Tammany parish and the CPRA, are in the process of developing a Master Plan that designs flood protection for the coastal region.
- Neel-Schaffer engineering was hired to create the Master Plan.
- During the process, a gap analysis was developed which outlined areas at risk from stormsurge flooding.
- Areas in Lacombe, the city of Slidell, Eden Isles, and Oak Harbor have suffered with repeated surge issues.
- South and east of Eden Isles, the shoreline communities of Lakeshore Estates, Salt Bayou, Rigolets Estates and Treasure Island have also suffered with surges issues.
- Neel Schaffer has developed several possible levee alignments that would effectively protect communities in the southeastern region of St. Tammany Parish.
- In fig. 4 the communities that would benefit from the construction of flood protection are highlighted.
- The levee alignments are shown as dotted lines on the map. See fig.4
-

Fig. 4 Alterative Levee alignments covering at risk areas



What will be achieved when this flood protection is built

- Considerable risk reduction against surge damage in the Lakeview, Eden Isles, Oak Harbor, Lacombe communities and areas in Slidell but outside of the current planed levee project.
- There would be a decrease in costly payouts by the National flood Insurance program.
- The flood protection system would protect against additional damage caused by the extensive debris field driven into residences and businesses.
- The expense of debris clean-up that communities face following hurricanes like Katrina would be drastically reduced.
- The residents and business owners in these communities willdirectly benefit from a reduction in Flood insurance premiums.
- Property values will stabilize, allowing the residents and business owners in these areas to have not only peace of mind, but see continued communal growth.

LEI1£R TO THE EDITOR

floodswillittake?

Ku os toSt. Tammany es1dent Mike Cooper ror his statement reported in The Farmer May 20:"This proves that what has been done in the past is not ,vorking. Ne,v development standards have to be put in place, building standards, before \\'e can continue at the same pace we were developingbefore."

Last \veek's disaster \Vas just the latest of many fre• quent floods of streets, busi• nesses and homes, causing grief, hurt and economic hardship to them and more cost to the parish. This cannot continue.

For many years, the Lltle Tchefuncte River Associa• tion{LTRA) has pleaded with parish officials to rethink this terrible problem and tocon• sider better options. Over the years, \\'e prepared, submit• ted and requested a proposed Special Overlay Ordinance for the La. lOn/U.S.190/ Tchefuncte River corridor, much of,vhichis flood-prone and hasflooded numy times. \Ve believed that could have served as a n1odel not just for our river, but all St. Tammany rivers.all of whichflood.

\Ve prepared for Plann g and Z.Oning and thecou_ncil a listof options toconsider, suchas aninterim morato• rium tobuildsubdivisions in this flood-prone area (many which have been built since and despite our request); incentives or mandates for developers to usepermeable materials for roads, drive• \vays and parking lots; real• isticzoning in flood areas for raised on pier instead of slab on fillsubdivision houses; and,as at least in onecase, prorubiting developers from constructing berms toprotect their houses, risking more flooding of neighbors,vho ,vere there before them.

Ho,v many more floods ,vill it takeforparishofficials not to just listen tothose ,vho have tried to raise the red flag, sound thealarm, and plead for relief for many years, but to take the initia• tiveand do \Yhal is right?

\VithCooper, maybe there's a glimmer of hope.\Ve pray so.

DAVID LEECAMP8EII
President.LittleTchefuncte R,ver Association

From: Dixon, Amy A CIV (USA)
To: Sttammanyfs
Subject: FW: [Non-DoD Source] Re: FW: St. Tammany Parish Feasibility Study list of alternatives
Date: Monday, April 27, 2020 5:25:01 AM

-----Original Message-----
From: Laurésica[redacted]
Sent: Friday, April 24, 2020 10:08 PM
To: Dixon, Amy A CIV (USA) <Amy.Dixon@usace.army.mil>
Subject: [Non-DoD Source] Re: FW: St. Tammany Parish Feasibility Study list of alternatives

Hi Amy,

I was in on the the meeting this morning. I would like to make clear that the Mandeville Lakefront floods frequently, not just with big storms. In fact, we were under water 2 weeks ago on Easter Sunday. No rain. The water came up quickly because of strong winds. I am attaching photos from this flooding on April 12th. I also have a video if you are interested.

I appreciate the work that you are putting into this.

Lauré Sica

On Thu, Apr 23, 2020 at 3:20 PM Dixon, Amy A CIV (USA) <Amy.Dixon@usace.army.mil <mailto:Amy.Dixon@usace.army.mil> > wrote:

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

-----Original Appointment-----
From: Dixon, Amy A CIV (USA) [mailto:Amy.Dixon@usace.army.mil <mailto:Amy.Dixon@usace.army mil>]
Sent: Friday, April 17, 2020 6:34 AM
To: Dixon, Amy A CIV (USA); MEYERS, MICHELLE L; [redacted]

[redacted]

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

Please note the time change to Friday the 24th at 9 AM.

Blockedhttps://usace.webex.com/join/amy.dixon <Blockedhttps://usace.webex.com/join/amy.dixon>

Call in : 2154463656

Access code: 8607393

Security code 9876

** If you allow the webex to call you, it may be easier to connect.

The agenda for this meeting will be supplied on Monday, however this meeting is to discuss the current list of alternatives moving forward in the St. Tammany Parish Louisiana Feasibility Study. I have attached the draft of our presentation to aid in discussion. Please review before the meeting on Wednesday. In alternative 3, the structural barrier at the Rigolets was screened out; only marsh creation and restoration remains at this location. More updates on what alternatives have been screened out and progress moving forward will be discussed at this meeting. We welcome all comments on our current plan. Thank you for attending and taking the time to review the attached presentation.

If you have any questions before the meeting on Friday, feel free to give me a call,

Thank you,

Amy Dixon

Project Manager

U.S. Army Corps of Engineers

New Orleans District

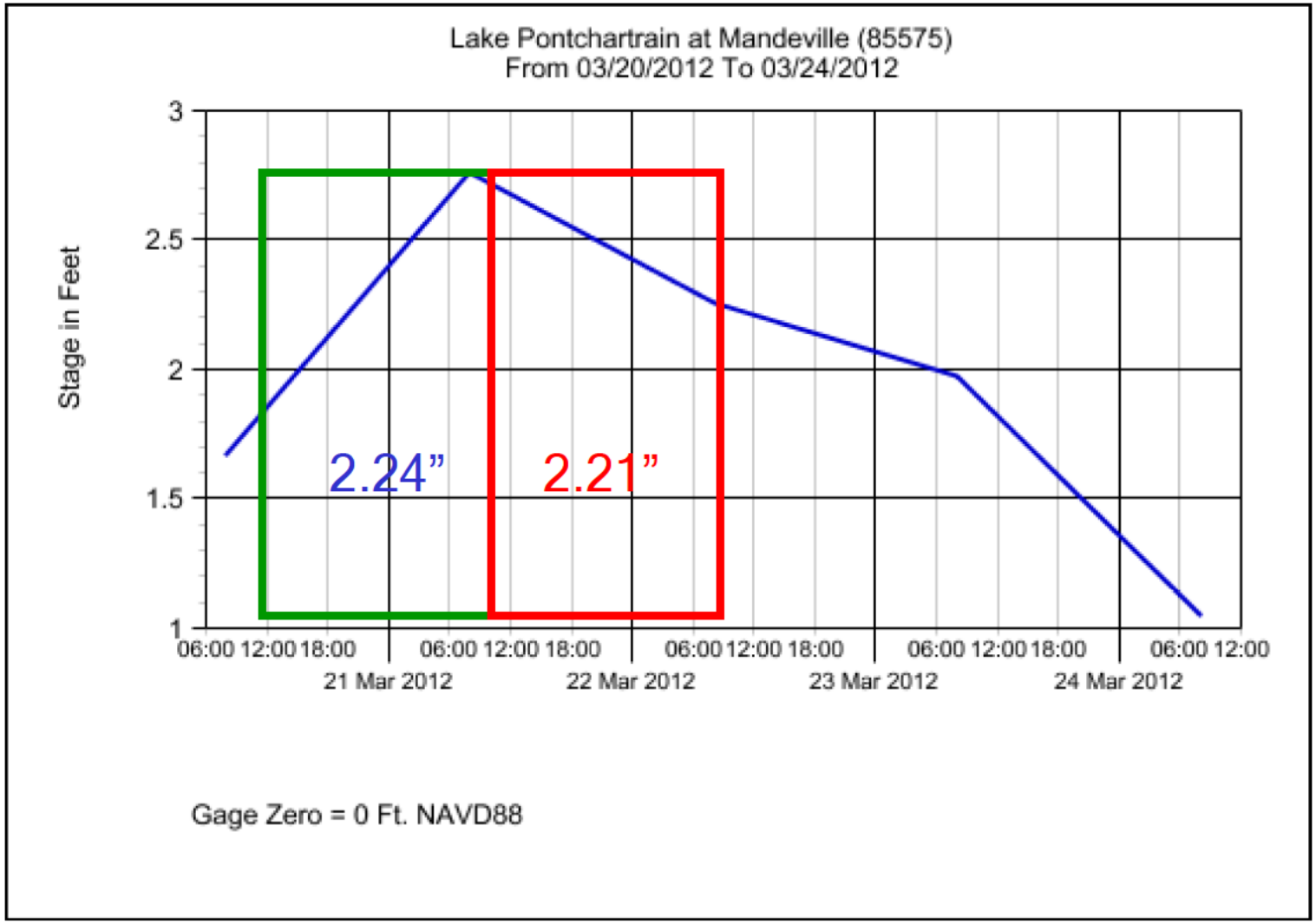
Work: 504-862-1193

[redacted]

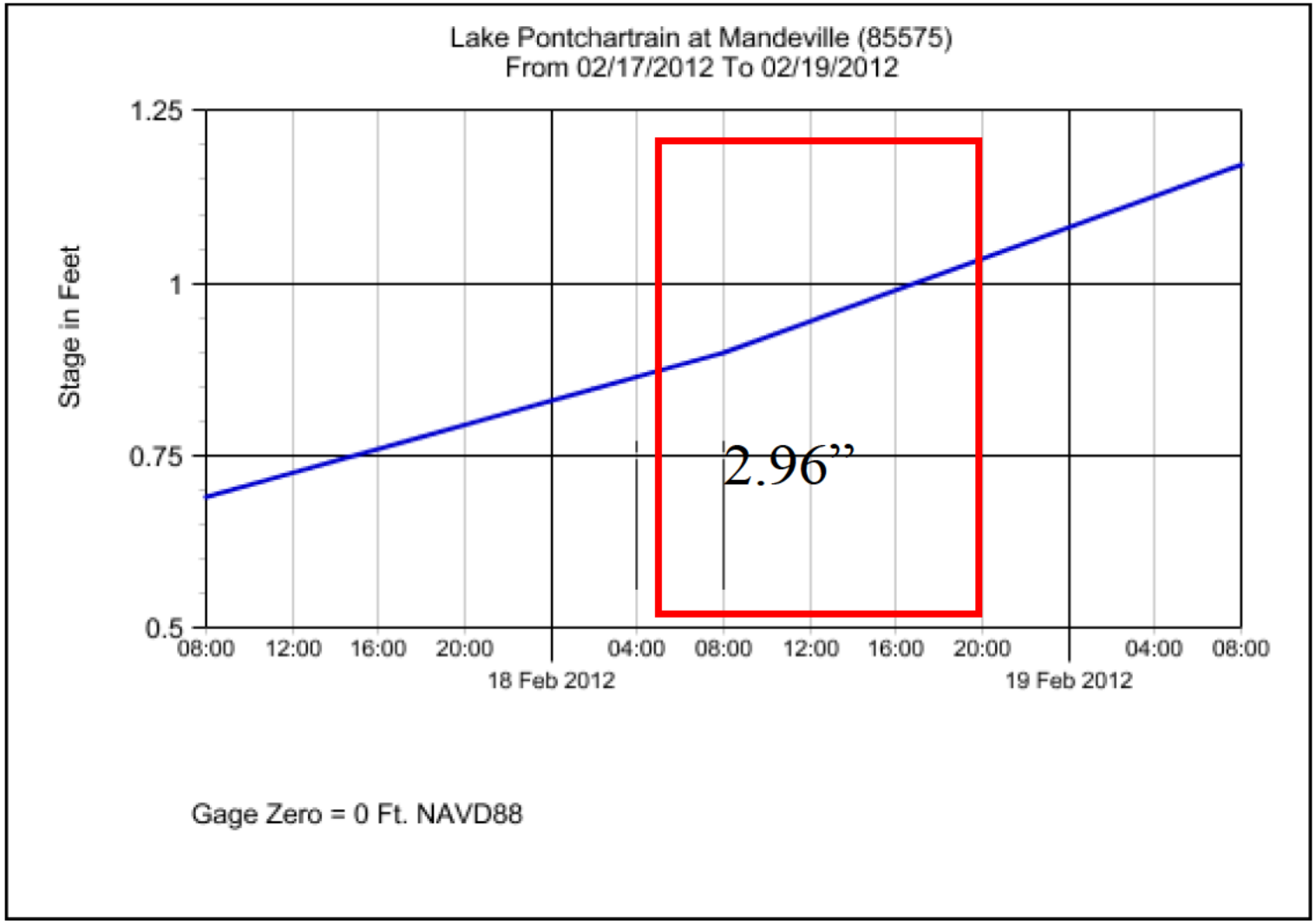
Flood Notes

2012

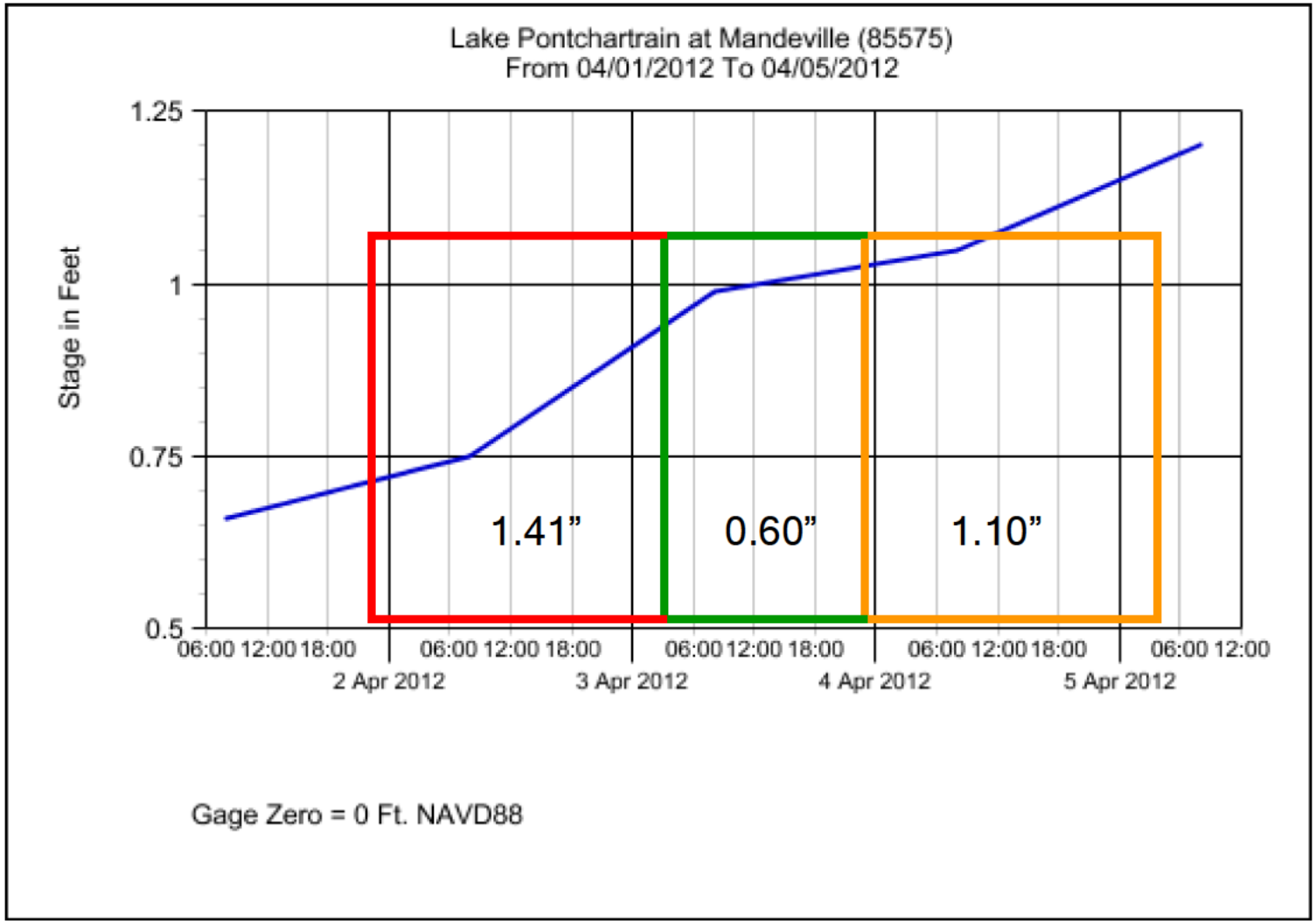
During a recent rain event, Mar. 21 - 23, when 4.45 inches of rain fell in isolated, heavy downpours, we had brief, contained flooding at extreme lows in our front yard at 420 Carroll St. where drains reversed due to high lake tides. When lake levels are lower, similar rains do not have associated flooding.



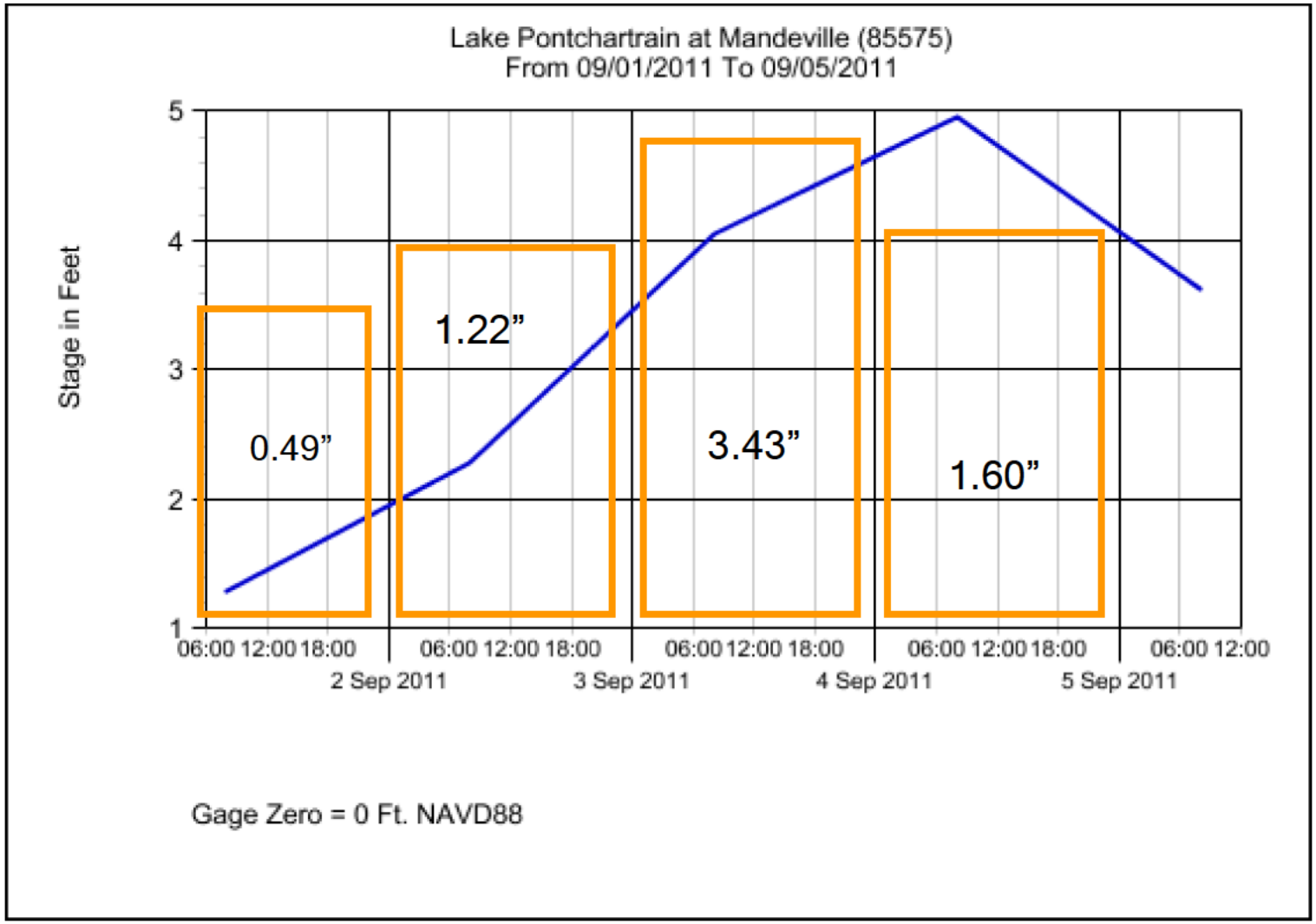
On Feb. 18, nearly 3 inches of rain in a downpour. No flooding because lake level was below the seawall drains. Buried box culverts were not topped out by tidally influenced Ravine aux Coquilles.



April 2 - 4, 3.11 inches in downpours. No flooding. Lake levels below seawall outlets.



Hydrograph and rainfall during the Greater Mandeville Thong and Tattoo Fest (TS Lee) Sept. 1 through 4. Total rainfall of 6.74 inches was spread out over the 4 day period and the flooding at 420 Carroll commenced when the lake levels topped 4 feet Saturday morning (09/03).



Initial flooding Saturday morning (9/3). Minimal rainfall preceded. Water depths 6 to 8 inches. Lake level ~4 ft.

Flooding on Sunday morning (9/4). Rainfall had been sporadic. Water depths 1.5 to 2 ft. Lake Level <= 5 ft.

Closely observing storms from Andrew forward, our conclusion at 420 Carroll is that flooding like this is uniquely associated with Lake level and not rainfall. This is the only flooding we experience with the sole exception being the May 1995 (biblical) floods in which nearly 15 inches of rain fell on each of two successive days. 420 Carroll is ~2000 feet from the Lake but is directly connected to the lake through Ravine aux Coquilles and by large underground box culverts (that very efficiently convey water from the lake).

Why a strict fill ordinance is needed in all flood prone areas. [“No net loss of hydrologic function.”] The flooding of the OLL Carroll St. parking lot was far more extensive due to deposits of well over 1 ft. of fill on the playground/ball field (to the immediate SE) before TS Lee. Flooding of this extent did not accompany prior storms (e.g. Bill, Isadore, Ike, Gustave, Rita). Worth pointing out prior ‘engineering’ that raised the large facility in view by nearly 7 ft. along with the complete destruction of the upper reaches of R. aux Coquilles to build this parking lot. As late as the 1970’s R. aux Coquilles flowed freely at the surface of what is today the parking lot.

View of Coffee St. from a front porch below R. aux Coquilles. Picture obscured by massive rainfall.

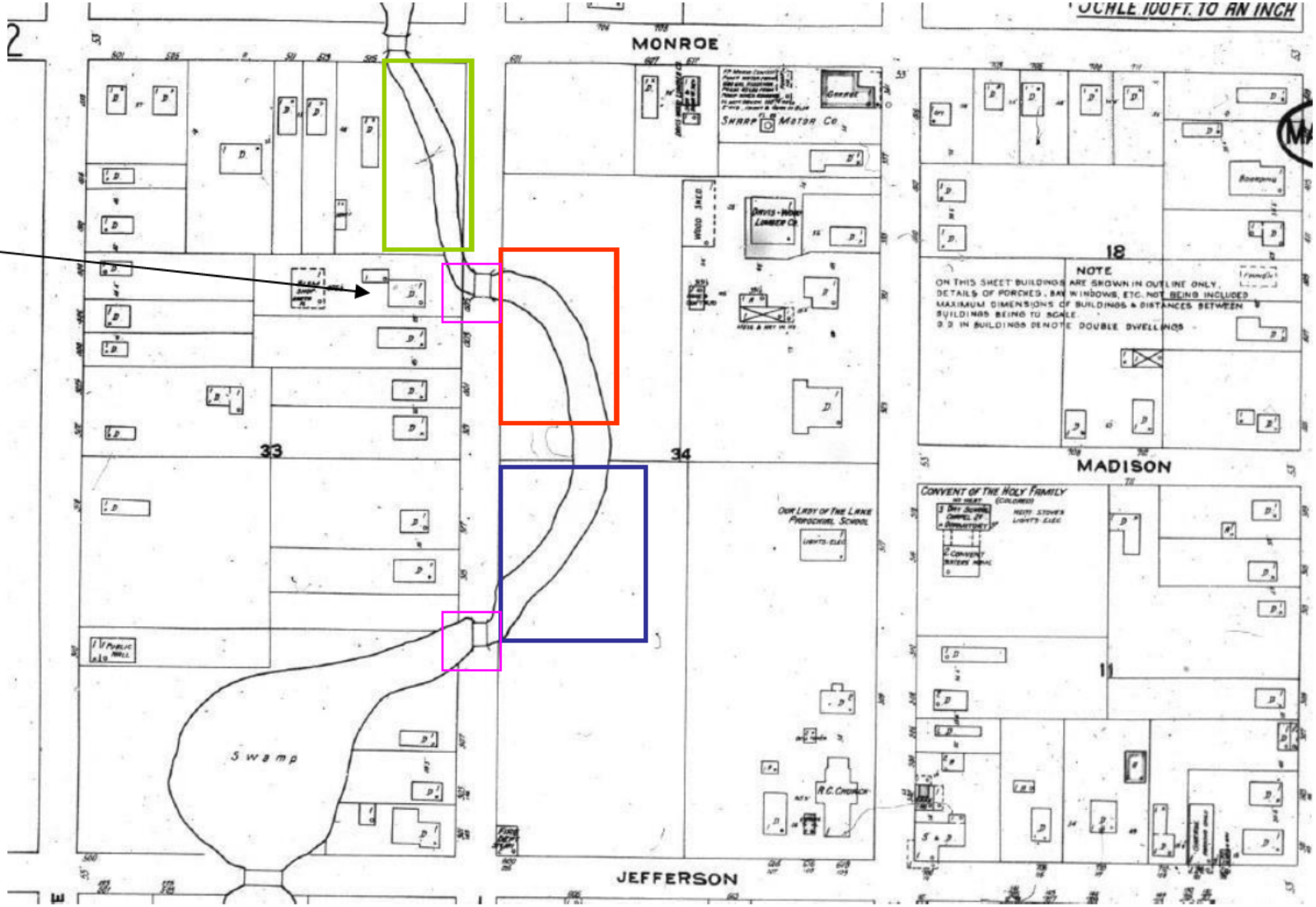
2005

The outlined “pond” was a remnant, tidally influenced slough widened from the Ravine aux Coquilles in the 1970’s by the owner with spoil used to elevate a “road” linking Carroll St. to property front on Lafitte St. It was in the 400 block of Carroll St. Large lot was subsequently subdivided.

2019

Nominal surface elevation of the water in the slough was <2.5 ft NAVD88. Slough surface and beyond was filled to ~3ft with non-native materials. New construction with more fill is shown in progress to the NNE of the former slough site. Since this scene acquisition, another site has been cleared, filled and built directly across from 420.

420
Carroll



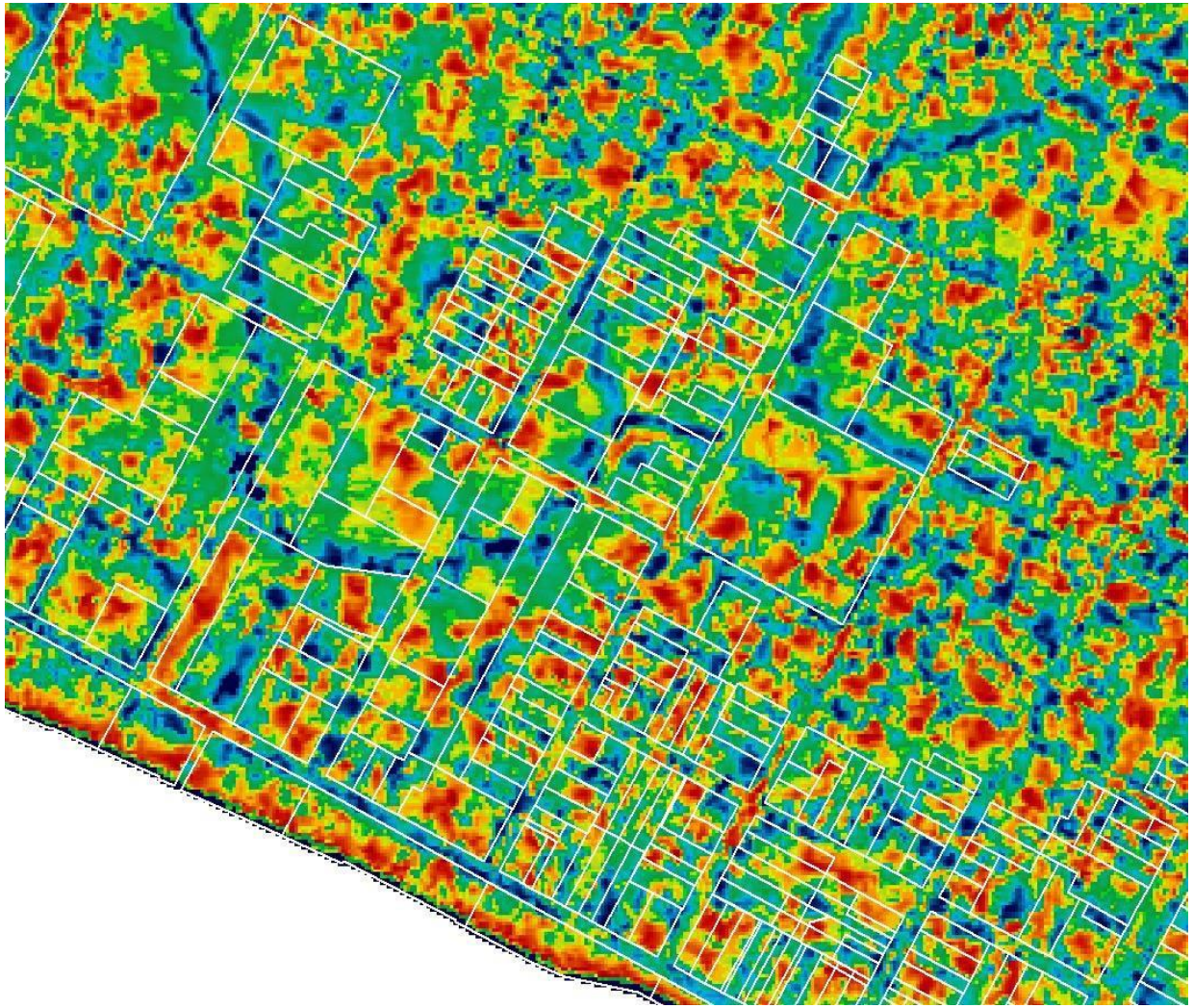
1926 Sanborn [Note this Ravine aux Coquilles alignment persists in USGS maps from 1935 through 1968]

Green - buried and culverted by landowner without permit late 1980's

Blue – buried and culverted by OLL early 1980's

Purple- open ditch/bridge buried, culverted and re-routed as late 1980's "drainage improvement"

Red - slough filled in late 2018



In the general area of Ravine aux Coquilles watershed. White parcels are those with a mean elevation <= 6ft.

Water Accumulation is a dynamic assessment in which the elevation of each position is compared in relation to its neighboring 128 observations. In this case the 'region' is approximately ¼ of an acre. The data in this case are supplied by NOAA from LiDAR surveys and represent the ortho height above NAVD88 of a ~100ft2 area of ground

A value of 1.0 indicates that position is the lowest in the region (100% of the neighboring elevations are greater). A value of 0.0 would mean that position is highest (all neighboring elevations are lower).

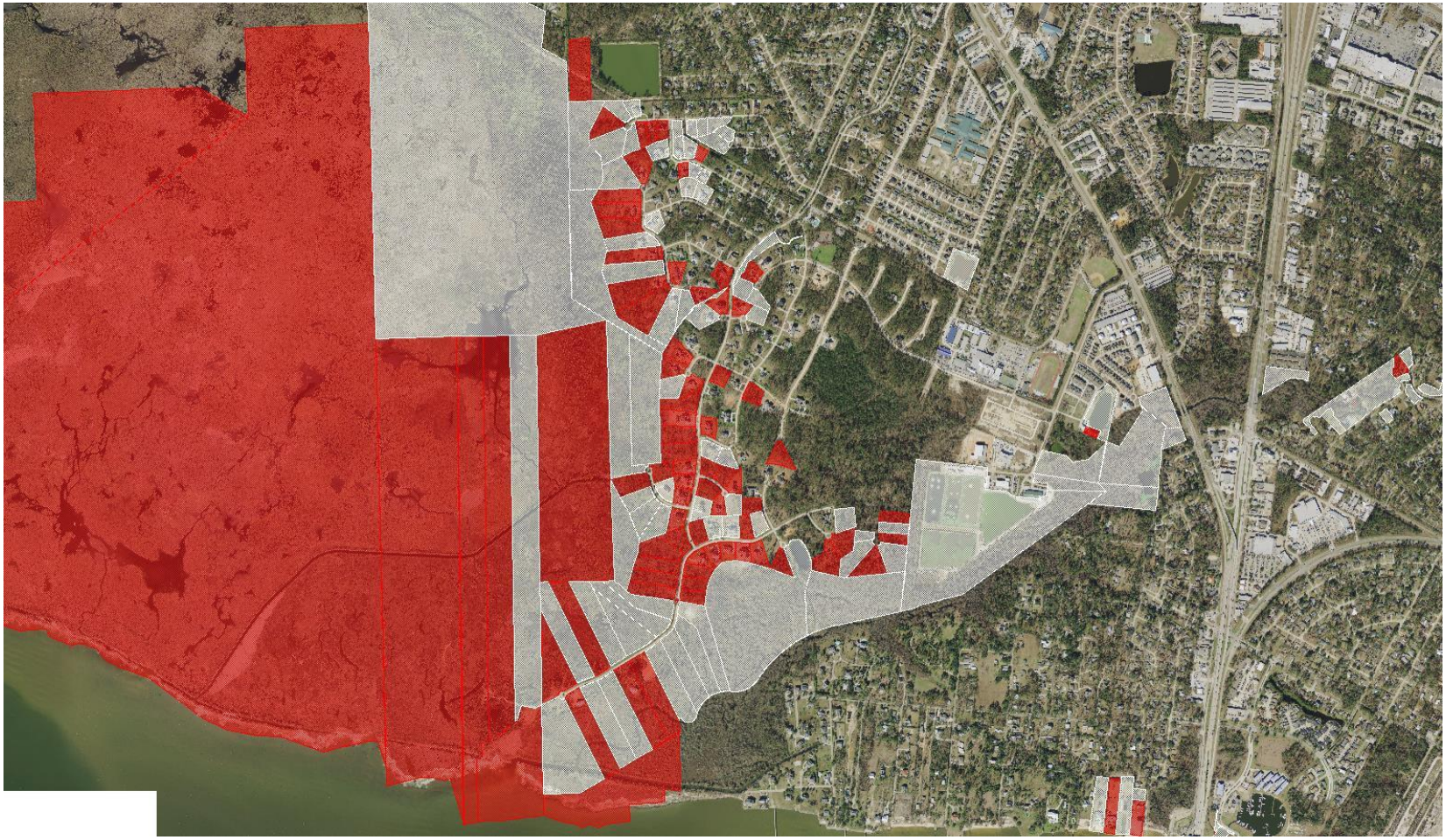
Blue to green is the range of 1 to 0.50. Water would tend to move toward these regions and collect.

Red to yellow is the range of 0.50 to 0.0. Water would tend to shed from these regions.

Grading or filling any area in a site changes infiltration and surface flows (velocity and direction) ultimately affecting all other sites. It does so in ways that are not always easily predicted. Without regional understanding, plan and compliance and after 50 years of uncontrolled and undocumented changes to local terrain, we are at a point where further changes should be rigorously controlled – where avoidance is the sensible strategy.

Again, water surface flows have nothing to do with parcel boundaries. Generating a 'parcel drainage plan' in isolation accomplishes very little in terms of 'community water management'. Sometimes a swamp is a swamp, a slough is a slough and those function to the benefit of the community as such.

Mandeville West. All highlighted parcels (red and white) have a mean elevation below 6 ft NAVD88. The white parcels have, additionally, a higher water accumulation potential. A change to parcel terrain is going to effect water distribution in the region. Fill will often target the areas of highest water accumulation as these are the lowest points within the parcel. A change to parcel terrain inevitably affects water distribution in the region. Water knows nothing about parcel boundaries.



Mandeville East. All highlighted parcels (red and white) have a mean elevation below 6 ft NAVD88. The white parcels have, additionally, a higher water accumulation potential. Fill will often target the areas of highest water accumulation as these are the lowest points within the parcel. A change to parcel terrain inevitably affects water distribution in the region. Water knows nothing about parcel boundaries.

From: Milazzo, John W (Jack) III CIV USARMY CEMVN (USA)
To: Sttammanyfs
Subject: FW: [Non-DoD Source] last one (UNCLASSIFIED)
Date: Thursday, February 13, 2020 2:09:14 PM
Attachments: slough.pdf

CLASSIFICATION: UNCLASSIFIED

Re: Mr Ren Clark at 420 Carroll St.

From: Ren Clark[[redacted]
Sent: Thursday, February 13, 2020 2:04 PM
To: Milazzo, John W (Jack) III CIV USARMY CEMVN (USA) <John.W.Milazzo@usace.army.mil>
Subject: Re: [Non-DoD Source] last one (UNCLASSIFIED)

re: location, see attached. To me, this case is the poster child for why, when it comes to water management, municipal and parish governments should not be allowed to run with scissors.

On Thursday, February 13, 2020, 12:21:50 PM CST, Milazzo, John W (Jack) III CIV USARMY CEMVN (USA) <john.w.milazzo@usace.army.mil> wrote:

CLASSIFICATION: UNCLASSIFIED

Mr. Clark,

Thank you for sharing this information with us. What is the location or address that this took place? I am forwarding this information and that of 420 Carroll St. to the rest of ourteam.

Kind regards,

Jack Milazzo, ASLA, PLA

Landscape Architect

U.S. Army Corps of Engineers, New Orleans District

504.862.1505 office

-----Original Message-----

From: Ren Clark[redacted]

Sent: Thursday, February 13, 2020 11:55 AM

To: Milazzo, John W (Jack) III CIV USARMY CEMVN (USA) <John.W.Milazzo@usace.army mil <mailto:John.W.Milazzo@usace.army mil> >

Subject: [Non-DoD Source] last one

Jack,

One last piece of amateur science. Please note that this area of tidally influenced, periodically flooded, hydric soils with abundant palmetto and other hydrophytic veg, at an elevation below 3 ft on NAVD88 was filled in by 'development' soon after this event.

Ren Clark

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

From:	Rich Small
To:	Sttammanyfs
Subject:	[Non-DoD Source] Another Flood Prevention Idea
Date:	Friday, February 14, 2020 11:00:52 AM
Attachments:	image.png

Good Morning!

While talking with a few of my neighbors yesterday (02/13/2020) the idea of building a "Great Wall" similar to the Great Wall of New Orleans was suggested as another solution.

See site below:

[redacted]y

If this "New" Wall were to be built as a continuation of the Great Wall extending northeast along the rail lines to the Mississippi State Line; it would protect all St. Tammany residence against a storm surge from the Gulf of Mexico.

Also see attached larger picture.

Again Thank You in advance for taking the time to read this note!

Regards,

Dee and Rich Small

[redacted]

[redacted]

[redacted]

Corps of Engineer's St. Tammany Feasibility Study Public Meeting

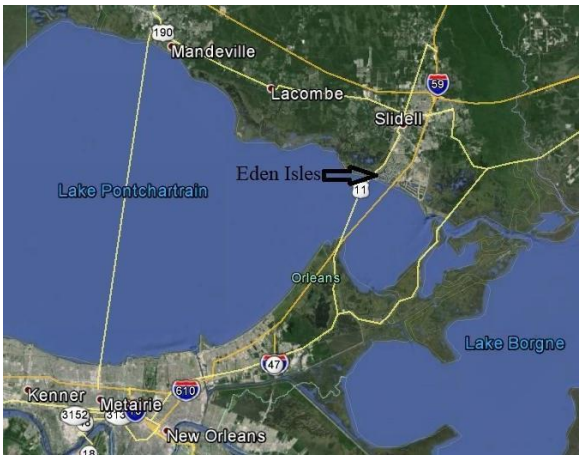
February 12, 2020

Justification for
Eden Isles Storm Surge Protection

1. Eden Isles Vulnerability
2. Eden Isles Demographics
3. Eden Isles Financial and emotional Impact
4. Eden Isles 14 Year Fight for Surge Protection
5. Eden Isles Photos of Katrina Damage

1. Eden Isles Vulnerability:

Eden Isles is a small, high-density (7,000 residents with 3,696 homes) upscale community, located south of the Slidell, east of Highway 11, west of Interstate 10, with only one mile of lake frontage. However, Eden Isles is **the most vulnerable, densely populated community within St. Tammany Parish** and possibly within the entire Lake Pontchartrain Basin not currently in a storms surge protection plan.



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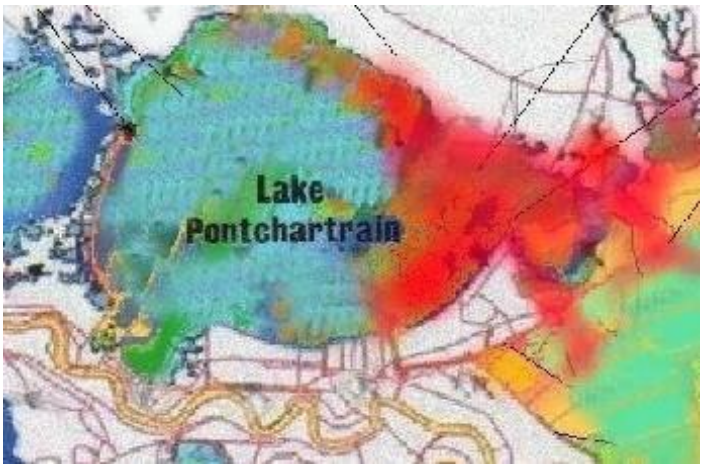


As hurricanes travel north across Lake Pontchartrain, winds shift causing the lake's built-up surge to tilt to the east forcing a tsunami type surge through the only remaining lake exit (under the I-10 Interstate bridge). This narrow five-mile outflow opening increases both surge height and velocity causing severe surge damage in Eden Isles.

2. Eden Isles Demographics:

- Approximately 3,696 homes with a mean value of $341,859 as of 2017, for a total value of $1.3 billion in home value alone (http://www.city-data.com/city/Eden-Isle-Louisiana.html)
- $607 million in assessed property values (St. Tammany Parish Assessor's Office, 2019)
- More than $6.3 million in yearly parish property tax revenue (St. Tammany Parish Assessor's Office, 2019)
- 7,631 residents (2017 American Community Survey estimates)
- St. Tammany Parish Fire District 1's Station 16 fire house valued at $1.2 million
- The communities' water and sewerage treatment facilities

3. Eden Isles Financial and Emotional Impact:

Millions of dollars in yearly property taxes and a billion dollars in property value are not the only impacts associated with the lack of storm surge protection.

The lack of surge protection has created an emotional and financial hardship for the 7,600 residents living in Eden Isles and each hurricane season fills them with stress and anxiety. Eden Isles residents fear their homes may not survive the next hurricane. They also fear Congress will not authorize a long-term solution to affordable FEMA flood insurance.

FEMA has increased the flood zone designations and the Base Flood Elevation (BFL) requirements since Katrina. The lack of surge protection has created a negative effect on personal finances and property values. Flood insurance premiums have increased. The older property owners, on fixed incomes, are concerned about their ability to afford higher insurance cost and may now have to choose between dropping their flood insurance coverage or move. In addition, older homes build at the previously lower BFL have lost their value due to higher flood insurance cost.

4. Eden Isles 14 Year Fight for Surge Protection

The following timeline demonstrates how committed Eden Isles residents are, and the support they have from local, state and federal officials for developing a storm surge risk reduction plan.

After Katrina 2006, The Eden Isles Flood Protection Committee was created and began lobbing for structures at the Rigolets and Chef Pass to keep surge from entering Lake Pontchartrain.

June 16, 2009, U.S. Army Corps of Engineers (USACE) holds meeting at Slidell Harbor Center on protection project selection – Over 1,000 residents filled the Slidell Harbor Center seeking flood protection answers.

January 4, 2010, the Eden Isles Flood Protection Committee requested Parish President, Kevin Davis, not to build the Slidell levee (Schneider Canal project) without first modeling what impact it will have on Eden Isles. No modeling was done prior to building the Slidell levee (Schneider Canal project) and the levee was not approved for construction by the USACE and has not begun any of the 533(d) study phases.

December 23, 2010, At the request of the Eden Isles Flood Protection Committee, Senator, A. G. Crowe proposes an Eden Isles breakwater protection plan.

July 21, 2011, The Eden Isles Flood Protection Committee met with Garret Graves, the Chair of the Coastal Protection and Restoration Authority of Louisiana (CPRA) now a U.S. Representative; State Senator, A. G. Crowe; State Representatives, Nita Hutter and Greg Cromer; Sherri LeBas, Secretary, Louisiana Department of Transportation; and Parish council members. The purpose of the meeting was to explore Eden Isles storm surge protection options.

May 2012, When it became obvious that the USACE' focus is on regional protection rather than comprehensive Lake Pontchartrain Basin protection, the Eden Isles Flood Protection Committee met with Parish President, Pat Brister, and requested extending Slidell levee to include Eden Isles.

April 4, 2013, The Eden Isles Flood Protection Committee met with State Senator Crow and U. S. Senator Vitter requesting surge protection for Eden Isles.

October 2014, The Eden Isles Flood Protection Committee requested the CPRA add an Eden Isles protection "Feasibility Study" to their 2017 Master Plan.

December 12, 2014, The first St. Tammany Parish Levee Board meeting was held and the Eden Isles Flood Protection Committee asked the Levee Board to add the Eden Isles Feasibility Study to the CPRA 2017 Master Plan.

August 28, 2015, **Decade after Katrina, St. Tammany has recovered but is still flood wary,** The Times-Picayune article:

Statement from St. Tammany Parish President, Pat Brister:
"Honestly, we need to look at the bigger picture for St. Tammany. Not just a ring levee around Slidell, because that doesn't cover nearly enough,"
https://www.nola.com/news/article_81ae4823-508f-5a20-a1d8-a069fcb9a903.html

March 3, 2016, Slidell gets flooding fix while other areas remain stranded
WDSU 6 News

"The current project and the larger $64 million Katrina-related work in Slidell does not address flooding south of the city, because those areas lie outside of city limits."

"It does not protect anyone in Eden Isles, Clippers, all those people," Katherine Politt said. "They're left out to dry."

Hutchinson said the Levee Board will continue pushing for future flood relief and storm surge protection for the most vulnerable areas to the parish, many of which lay outside of city limits.
https://www.wdsu.com/article/slidell-gets-flooding-fix-while-other-areas-remain-stranded/3385035

March 2016, The CPRA recognized the need to develop a protection plan for Eden Isles and authorized $2 million to study and develop options to extend south Slidell levee protection to include Eden Isles (The "St. Tammany Parish Coastal Master Plan and Reconnaissance Study" prepared by Neel-Schaffer engineering).

August 16, 2016, Louisiana State Senator, Sharon Hewitt, held a meeting between St. Tammany Parish Government, St. Tammany Parish Levee Board and the Eden Isles Flood Protection Committee to discuss the CPRA's study's scope of work.

July 5, 2017, Eden Isles community leaders met with Congressman Scalise's Chief of Staff, Megan Miller to discuss what measures can be taken to ensure and expedite storm surge protection for the Eden Isles.

August 31, 2017, Congressman Scalise's office held a meeting with the USACE, the CPRA, St. Tammany Parish Government, St. Tammany Levee Board, and the Eden Isles Flood Protection Committee. The meeting focused on how to coordinate efforts between Government agencies in order to expedite the protection process Eden Isles.

2018, Neel-Schaffer began collecting and evaluating flood risk data and identifying locations of storm surge high risk.

2019, Neel-Schaffer completed their "Gap Analyses" and developed a comprehensive risk reduction plan for the most high risk locations within St. Tammany Parish. The plan was approve by the CPRA, St. Tammany Parish Government and St. Tammany Levee Board. The Eden Isles Flood Protection Committee and other community leaders and agencies also indorsed the plan.

September 17, 2019, USACE receives $3 million for a St. Tammany flood control feasibility study. Times-Picayune News article:
https://braiservices.newscyclecloud.com/cmo_bra-c-cmdb-01/subscriber/web/startoffers.html

January 17, 2020, The St. Tammany Levee Board, St. Tammany Parish Government, CPRA, and Neel-Schaffer met with the USACE and requested the adoption of the Parish's Risk Reduction plan into the USACE's St. Tammany Feasibility Study.

February 12, 2020, Request, the USACE accept the just completed Neel-Schaffer Plan and expedite the review, approval and construction of an Eden Isles risk reduction project.

Thomas Nolan Thompson
[redacted]

5. Eden Isles Photos of Katrina Damage

5. Eden Isles Photos of Katrina Damage

Scoping Study Comments Submitted For the Integrated Feasibility Report and Environmental Impact Statement for the Feasibility StudyEvaluating Alternative Measures to Reduce the Risk of Flood Damages in St. Tammany Parish

- Feasibility Study should integrate with existing and future Parish Land Use Plans—ecological/hydrological realities should inform Parish zoning and land use policies relative to Flood Risk reduction

- Feasibility Study should map Scenic Rivers within the watershed. No dredging or channeling of Scenic River should be stated explicitly as a policy in North Shore watershed

- Corps 404 Permits must conform to Watershed Plan Policies—Avoidance first!. Alternative site analysis of non floodplain locations must be performed by independent third parties, not by the applicant Secondary/cumulative impacts must be explicitly assessed relative to Feasibility Study policies and recommendations.

- Similarly, Louisiana Coastal Use permits must not be issued unless demonstrated to be in conformance with Feasibility Study recommendations

- No development in Floodplains!—at minimum all floodplain construction must be elevated

- Water Quality must have equal footing with stormwater abatement in Feasibility Study. EPA TMDLs must be incorporated into Feasibility Study—and current non-attainment areas must be described with source of non

attainment specified. Best Practices Sewage treatment in unincorporated/rural areas must be explicitly stated .

- Parish /State Purchase of privately owned floodplains for use as no- development catchment basins should be given high priority

- Feasibility Study should realistically assess population growth and land use development "carrying capacity" within watershed –relating carrying capacity to stormwater retention and water quality conditions within the watershed

- Climate Change/Seal level rise impacts must be explicitly incorporated into Feasibility Study. All residents, especially newcomers, should be aware that St. Tammany is a coastal parish.

- The adopted 2017 La. Comprehensive Master Plan for a Sustainable Coast contains policies in Appendix E that should be incorporated in Feasibility Study—Below are relevant adopted Appendix E policies :

  - "Effective land use plans can direct development away from high hazard areas and can help to preserve the natural functions of floodplains and other critical areas.

  - Land use planning is an essential ingredient in reducing flood risk to future building inventory.

  - " In terms of planning for future growth, a particularly challenging issue facing many communities in coastal Louisiana is induced development. Induced development occurs when the construction of structural risk reduction

projects (e.g., levees) unintentionally encourages development in flood hazard areas as these projects can provide a false sense of protection. If the residual flood risk associated with structural projects is not considered in land use planning, development may gravitate to areas behind levees rather than in areas that are less hazardous to build. " This adopted policy is particularly applicable regarding viability and cost/benefit analysis of any Lake Pontchartrain/Rigolets Barrier Project.

• "Limiting induced development during the planning, design, and implementation of structural protection projects can be accomplished by implementing a land use plan, creating stricter development standards for areas protected by levees, or maintaining prestructural project flood damage prevention standards. "

• "The State statutes should be revised to require Parishes and municipalities to develop master plans that address sea level rise, subsidence, flood risk and land loss CWPPRA should lobby state legislators regarding this important recommended revision."

•" DNR should revise the "fastland " exemption from Coastal use Permits—specifically to require Coastal use permits for properties that are projected to be below 5 feet above sea level in the next 50 years, as well properties newly encircled by levees (induced development)"

• "Prohibit development in wetlands and other environmentally sensitive areas and avoid development that would require new infrastructure in coastal areas"

Harvey Stern
Conservation Committee
Delta Chapter, Sierra Club

AMM St. Tammany Parish, Louisiana Feasibility Study

Enclosure 1

Roll Call

04132020

HQ-
Sharon Sartor (RIT)
Mike Feldman (RIT)
Katie Williams (RIT)
Jeremy LaDart (OWPR)

MVD DST -
Julie Leblanc
Brian Chewning

MVD (other) -
Charles Stokes
Sean Mickal (Planning)
Matt Mallard (Planning)
Gary Young (Planning)
Megan Ross (OC)
Crorey Lawton (Planning)
Greg Miller (Planning)
Randy Holder (Planning)
James Briggs (RE)
Randy Holder
Jennifer Ryan

NFS -
Justin Merrifield (CPRAB)

MVN -
Col. Murphy, Mark Wingate, Troy Constance, Shawn Vicknair, Brad Inman, Tim Axtman, Mark Haab, Brian Maestri, Michelle Meyers, Elizabeth Manuel, Kim Tessitore, Amy Dixon, Shannon Kelly, Matt Dircksen, Kevin Harper, Travis Creel , Everard Baker , Jill Enerson, Ben Logan, Karen Vance Orange

Public Comments regarding induced flooding and modeling

Question #1
Do the model simulations show surge elevations for the full path/duration of these scenarios passing over Lake Pontchartrain? Will the study be revised to show the southeast Lake Pontchartrain surge tilt as the surge leaves the Lake Basin?
The only reference to surge flow is on Page 14 paragraph 1, of the Corps' evaluation states: the comparison between the SL15-2012, grid and the SL15-1965, grid was modeled to show only surge flows "into" Lake Pontchartrain. In addition all simulation Figures only show wind and surge elevations as the Lake Pontchartrain is tilted to the northwest. The highest surge levels within the Lake Pontchartrain Basin are created when storm winds rotate to the southeast funneling the surge out of the lake (outflow surge). Therefore, official confirmation is needed to confirm that the study model simulations show the full cycle of Lake Pontchartrain Basin's wind and surge tilt, both to the northwest and the southeast.

Question #1 Response
The modeling includes storms that cause the "outflow funnel surge" described above. Noted in the original question, the "outflow funnel surge" destroyed the I-10 bridge in 2005 during Katrina. This outflow is included in the ADCIRC simulation of Katrina, and other storms. ADCIRC simulates the entire duration of each storm and captures the complete surge development and subsequent draining of the floodplain.

The ADCIRC modeling of these storms includes the full time-series of surge development and subsequent draining. The model includes inflow and outflow of Lake Pontchartrain. A surge animation of Katrina or Storm 023 would show winds and surge approaching Eden Isle from the west after the storm crossed the lake. However, the corps approach is not to evaluate such a specific storm when evaluating overall impacts to surge patterns. Storm specific impacts can vary considerably depending of track, size, forward speed, intensity etc. The purpose of the Corps modeling is to determine overall impacts of a wide range of storm parameters.

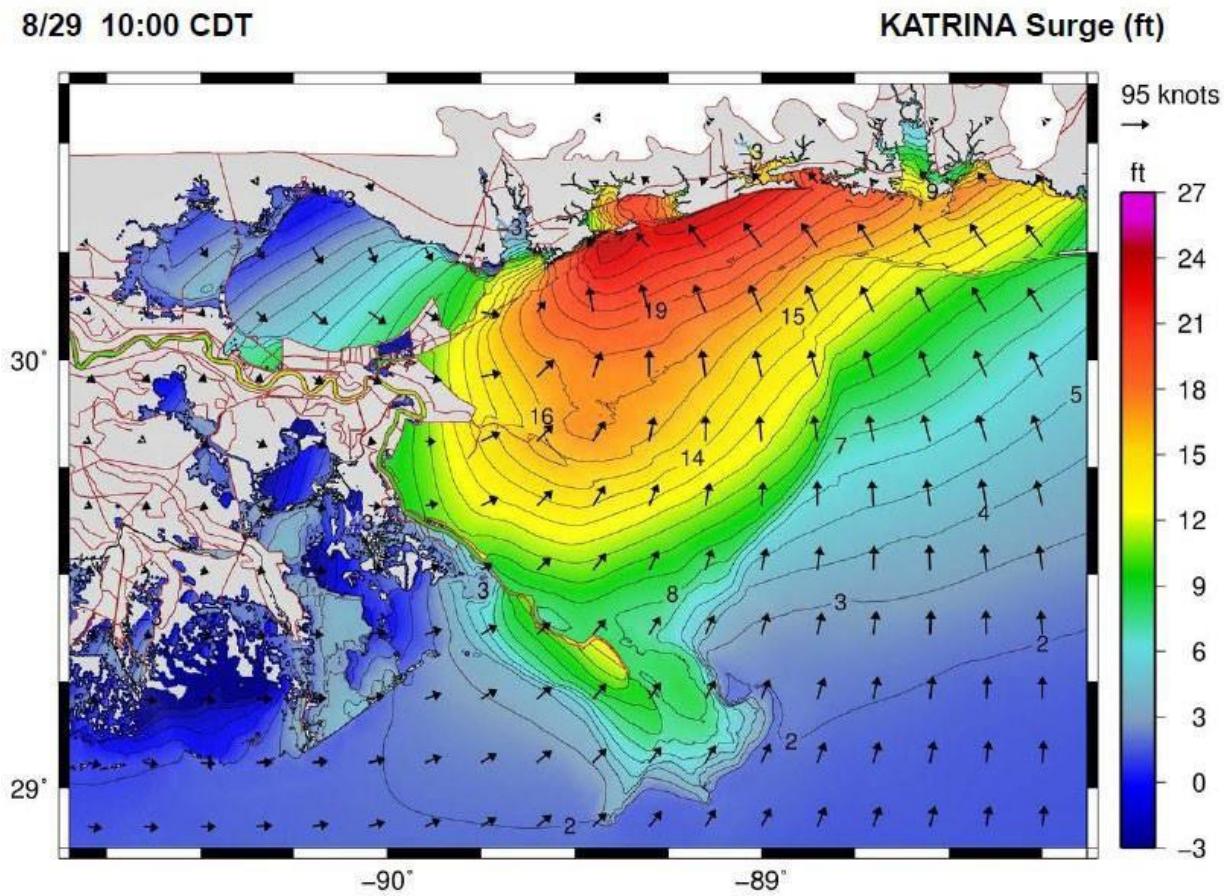


Figure 1 Snapshot of simulated ADCIRC water levels and wind vectors of Hurricane Katrina showing outflow surge from Lake Pontchartrain. Simulation time is 8/29 10:00 CDT.

Question #2 –Why is there a discrepancy between the Corps' study surge elevations and other independent studies? Will the Corps address these discrepancies?
Table 3, page 37, of the Corps' study shows a peak elevation of 12.4 feet at Eden Isles. However, The Lake Pontchartrain Basin Foundation Study Dynamics of Storm Surge in the Pontchartrain and Maurepas Region, has the Hurricane Katrina Slidell surge elevation at 16feet (Table 3, page 26 of the study).

Table 3: Record water levels in feet at various locations around Lake Pontchartrain, based on a SURGEDAT| dataset covering 1900 - 2013. The highest water levels in the lake are expected in Slidell (northeast shoreline) and Frenier (southwest shoreline.)

Location	Storm	Year	Water Level (ft)	Calculated Recurrance Interval (yr)	Datum
Slidell	Katrina	2005	15.7	114	NAVD88
Frenier	Betsy	1965	13.1	115	Unknown
New Orleans Lakefront	Katrina	2005	11.9	98	NAVD88
Mandeville	Katrina	2005	10	78	NAVD88

Question #2 response
High water marks surveyed after the storm by FEMA show coastal flooding elevations of 10.5 to 13.5 feet NAVD88 were recorded in the Slidell vicinity. These values tend to agree with the Corps' Katrina simulation. Typically, ADCIRC matches HWM data to within 1.5ft, but higher discrepancies between observed and modeled high water marks can occur.

https://www.fema.gov/pdf/hazard/flood/recoverydata/katrina/katrina_la_hwm_public.pdf

From page x:
Northern Shore: St. Tammany and Tangipahoa Parishes
The increased volume of water was forced into Lake Pontchartrain by hurricane winds. This caused water to pile up on the north shore of the lake and resulted in storm surge extending north as far as US Highway 190 in Slidell and to Interstate 12 north of Mandeville. HWMs recorded flooding elevations ranging from 7 to 16 feet, with the general trend of the highest values on the east end of the north shore working westward to lower surge values. Coastal flooding elevations of 10.5 to 13.5 feet were recorded in the Slidell vicinity.

HWM data recorded by FEMA

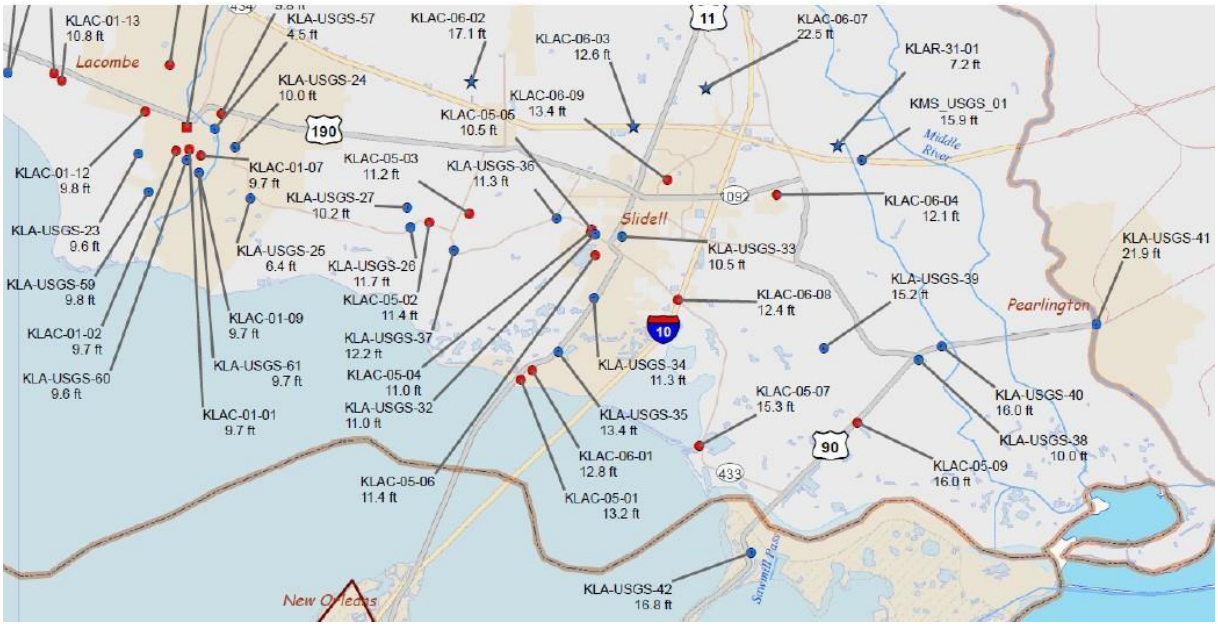


Figure 2 Hurricane Katrina High Water Mark Records from FEMA

Question # 3 –Will the Corps address questions raised about how the 1965 vs. current HSDRRS impacts were determined?

See attached comments by Bob Jacobsen:

The Report Section 2.4, says that the Figure 10 1965 (pre-Betsy) linear feature elevations are taken from information showing “existing conditions” on the original(mid-60s, post-Betsy) Hurricane Protection System Design Memos. For example, see the Report Figure 5 copy of 1967 Design Memo. This Figure 5 shows that there is a substantial “existing” levee at the time of the 1967 design. The Report states that the elevation of this “existing” levee is what is used as the 1965 “pre-Betsy” elevation in Figure 10. HOWEVER, an initial perusal of historical topography (http://historicalmaps.arcgis.com/usgs/) indicates that this substantial “existing” levee shown in Figure 5 may not have been present in 1965 for Betsy. It is important to consider that there likely was significant post-Betsy emergency levee work” done in the immediate aftermath of Betsy in 1965-66 (maybe with federal funds).HOWEVER, if the Report is meant to evaluate the impact of full post-Betsy improvements, then perhaps the real 1965 topography should be used. In this latter case, there may be many reaches of 1965 linear feature elevations that need to be substantially reduced.

Question #3 Response:

The Corps is aware that the historical U.S. Geological Survey topographic maps produced at the time of Hurricane Betsy do not indicate levees around New Orleans East. However, our experience is that these maps do not always provide the best source of information regarding levee alignments and elevations. With this understanding, we sought and consulted additional resources to gain better insight into what levees existed during this time period. We identified the U.S. Army Corps of Engineers’ “Interim Survey Report-Lake Pontchartrain and Vicinity, 21 NOV 1962” during our research for the project. In addition to the attached map, the below is an excerpt from this report that describes the levee system as it existed in 1962:

"Citrus and New Orleans East. The New Orleans Airport is fronted by a vertical seawall with an average elevation of 11.5 feet and a length of 2.3 miles. The embankment of the Southern Railway extends along the remainder of the south shore for approximately 11.5 miles with an average elevation of about 9.3 feet. The area is protected on the west by a levee along the Inner Harbor Navigation Canal having a grade of 9.6 feet, on the east by a levee that extends from South Point to the Gulf Intracoastal Waterwaywith an elevation of 11.6 feet, and on south by a levee along the Gulf Intracoastal Waterway with elevation 9.6 to 14."

We attempted to develop each scenario based on the best information accessible when preparing to undertake this modeling effort. Based on our research, the 1962 survey report provides the most accurate information regarding the existing levee details when establishing the 1965 baseline.

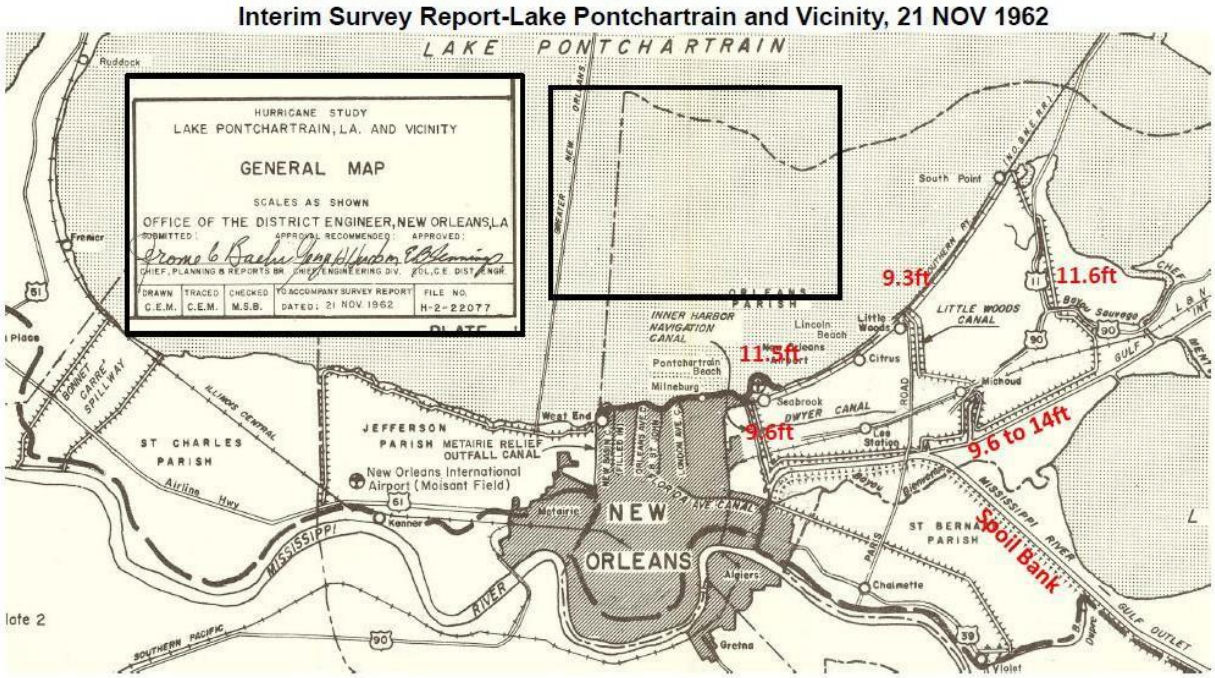


Figure 3 Elevations from "Interim Survey Report-Lake Pontchartrain and Vicinity, 21 NOV 1962"

Subsequent review revealed a discrepancy between the levee heights described in "Interim Survey Report-Lake Pontchartrain and Vicinity, 21 NOV 1962" and the elevations assigned in the SL15-1965 ADCIRC grid. Specifically, the elevation assigned in the SL15-1965 grid for the Southern Railway was approximately 14 ft NAVD88 based on a report from the 1980s. This elevation conflicts with the 1962 report which states the elevation is approximately 9.3ft NGVD. A lower levee elevation assigned in the SL15-1965 ADCIRC grid will result in more inundation within the polder for certain storms. This effect has potential to increase the estimates of induced flooding, since a greater volume of water will be displaced to the polder exterior for "with-project" conditions.

To remedy this error in the assumed levee elevations, a series of ADCIRC simulations were conducted with most up-to-date understanding of the levee system as it existed in 1965. An ADCIRC grid developed by CPRA in 2017 was utilized for this re-analysis. Figure 4 displays the updated elevations assumed in the 1965 ADCIRC grid. In the latest simulations, the elevations along the Southern Railway were set to 8.0ft NAVD88, which is representative of the 9.3 ft NGVD elevation described in the 1962 report. Figure 5 displays the elevations assumed in the 2017 "With Project" ADCIRC grid. From 1965 to 2017, there has been a significant increase in the perimeter levee and floodwall elevations, and also creation of new barriers, such as the Inner Harbor Navigation Channel Surge Barrier. These changes to HSDRRS have potential to displace volume during surge events and increase water levels on the exterior. The ADCIRC simulations comparing 1965 to 2017 give a general idea of the magnitude of increase due to levee and floodwall construction.

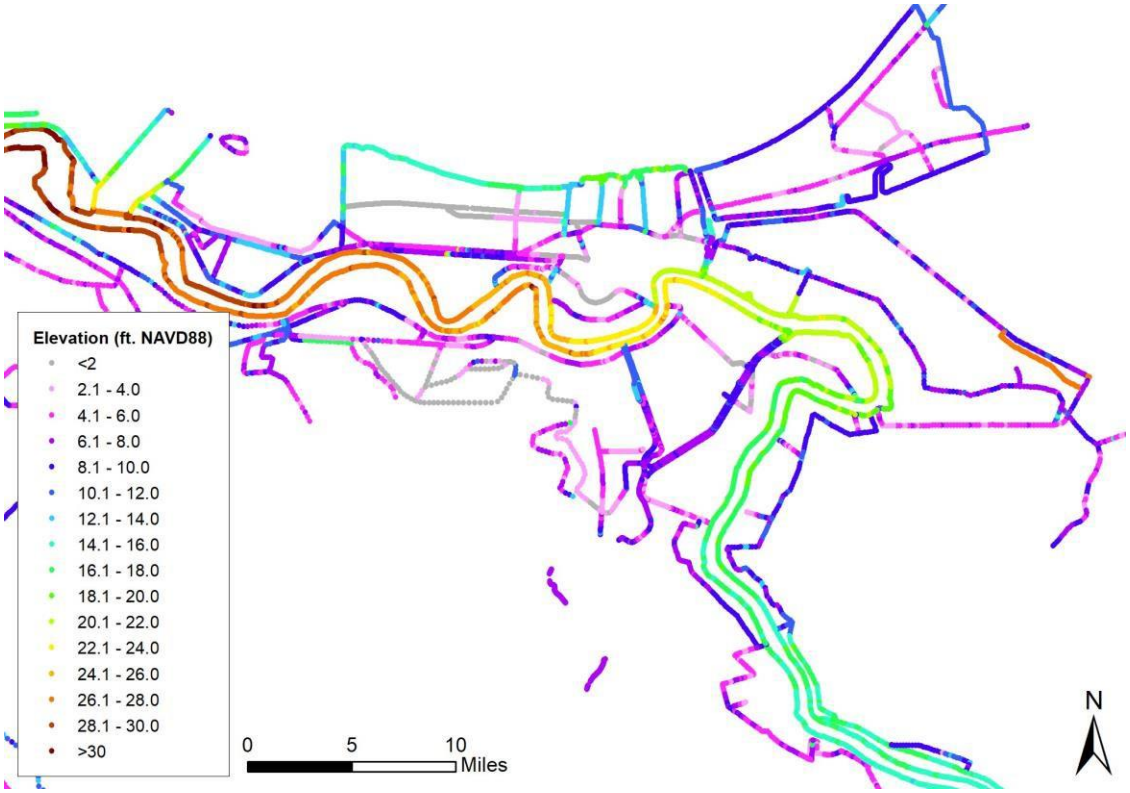


Figure 4 Elevations assumed in the updated CPRA-1965 ADCIRCgrid

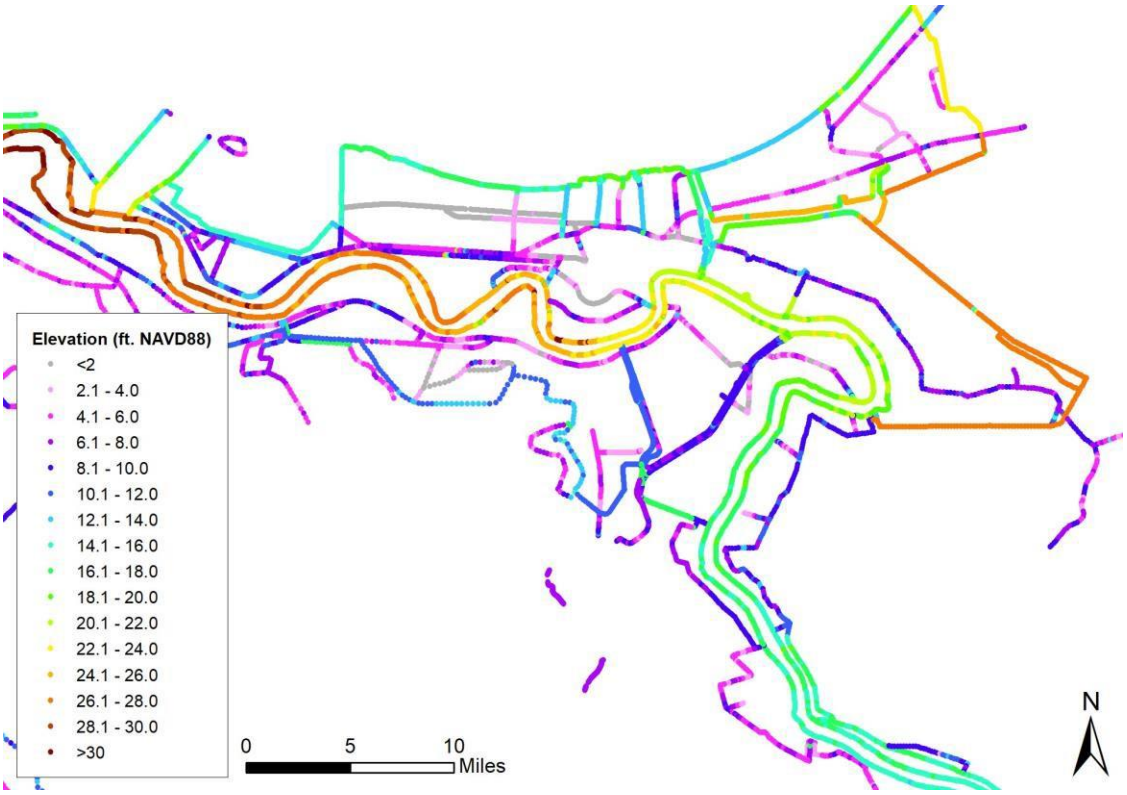


Figure 5 Elevations assumed in the updated CPRA-2017 ADCIRCgrid

Figure 6 displays the maximum water surface elevations produced during the ADCIRC simulation of Hurricane Katrina assuming the 1965 levee elevations. The lower elevations assigned in the grid result in a tremendous amount of volume entering the Saint Bernard, New Orleans East, and New Orleans Metro Polders. In the 1965 simulation, the levee elevations of the Saint Bernard and New Orleans East polders are completely overwhelmed, resulting in complete inundation within the polder. Figure 7 displays the maximum water surface elevation produced by Katrina assuming the 2017 levee elevations. The simulation shows very little overtopping into the HSDRRS polders. Figure 8 displays the difference in maximum water surface elevation between the 2017 and 1965 simulations of hurricane Katrina. The difference plot shows the increase in water surface elevation that can be attributed to the raising of levees from 1965 to present day. At Eden Isles, the maximum surge produced by Katrina on the 1965 grid was 15.3 ft NAVD88 while the maximum surge produced by the 2017 grid was 15.8 ft NAVD88. This means an increase of approximately 6” (or roughly 3%) can be attributed to construction of the HSDRRS at Eden Isle. When looking at a broader area, the maximum increase in water surface elevation along the Northshore communities of Slidell and Pearlington is shown to be roughly 8 to 10”. The earlier simulations showed a maximum surge at Eden Isles of 12.1 ft NAVD88 for the SL15-1965 grid and a maximum surge of 12.4 ft NAVD88 for the SL15-2012 grid. This results in a 4” increase in peak surge level with is a roughly 2% increase in peak surge elevation. The percentage increase in surge elevation is slightly higher (3% vs 2%) using the most up-to-date assumptions.

An additional suite of ADCIRC simulations was conducted to compare results on from the updated 1965 ADCIRC grid to the 2017 ADCIRC grid. Synthetic storms S008, S012, S014, S015, S023, S026, S069, S077, S085, S094, S126, S146 were simulated. These are the same synthetic storms as simulated in the earlier analysis. Table 1 contains the peak surge results for each of the synthetic storm for 1965 and 2017 conditions as well as the difference and percentage difference. Figure 9 displays a map of the selected output locations. The estimates of induced flooding varies by storm and location. Comparison to the earlier estimates of induced flooding show roughly the same order of magnitude of the percent increase. For example, the previous results for all storms show increase in peak surge elevation at Eden Isle to Pearlington on the order of 3 to 6%. The latest simulations show an increase on the order of 3 to 7%. The overall conclusions derived from the latest simulations show that a slightly higher estimate of induced flooding, when compared to previous estimates, can be attributed to the construction of HSDRRS levees from 1965 to present day.

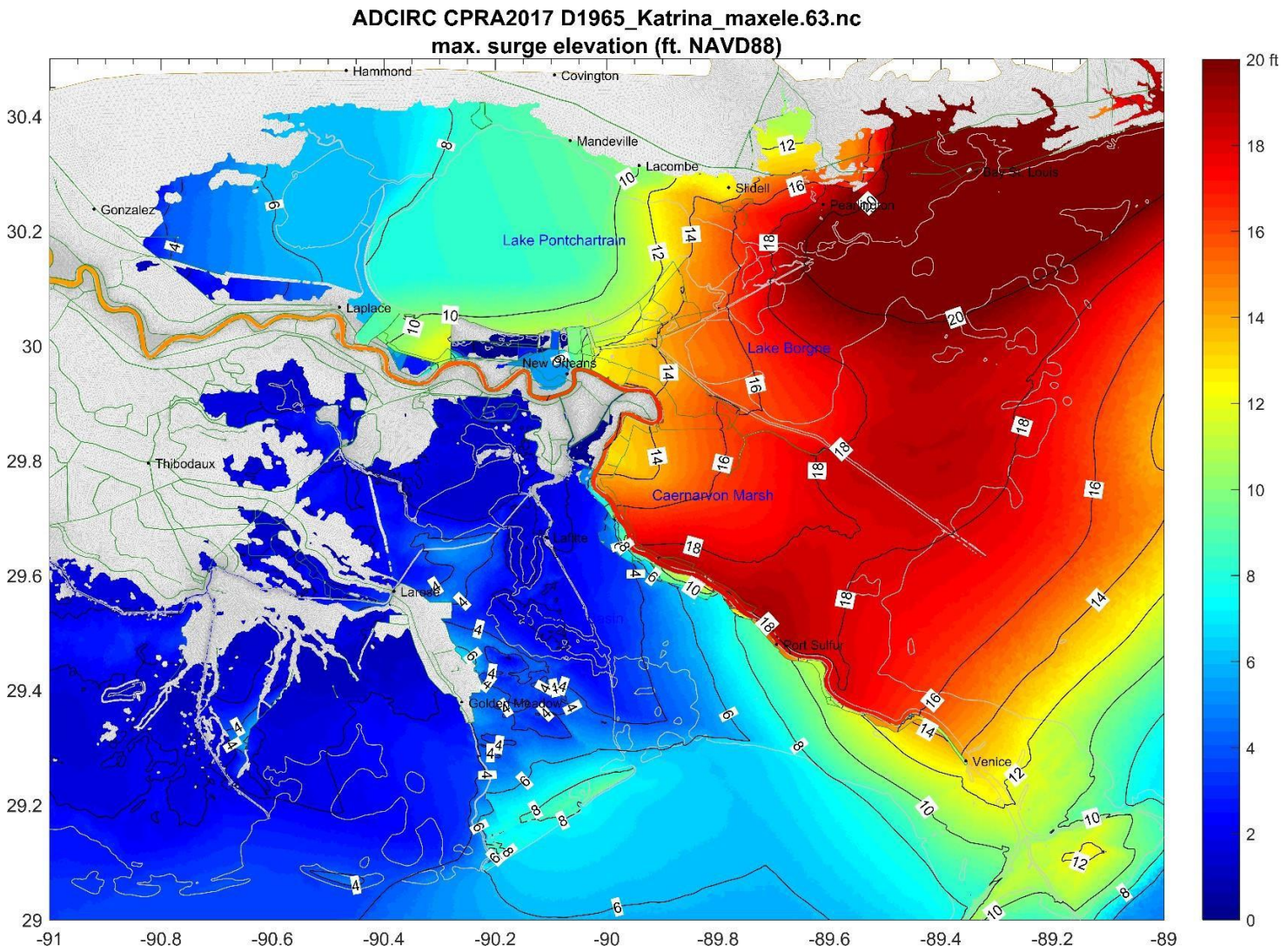


Figure 6 Maximum Water Surface Elevation from Hurricane Katrina Simulation for 1965 Conditions

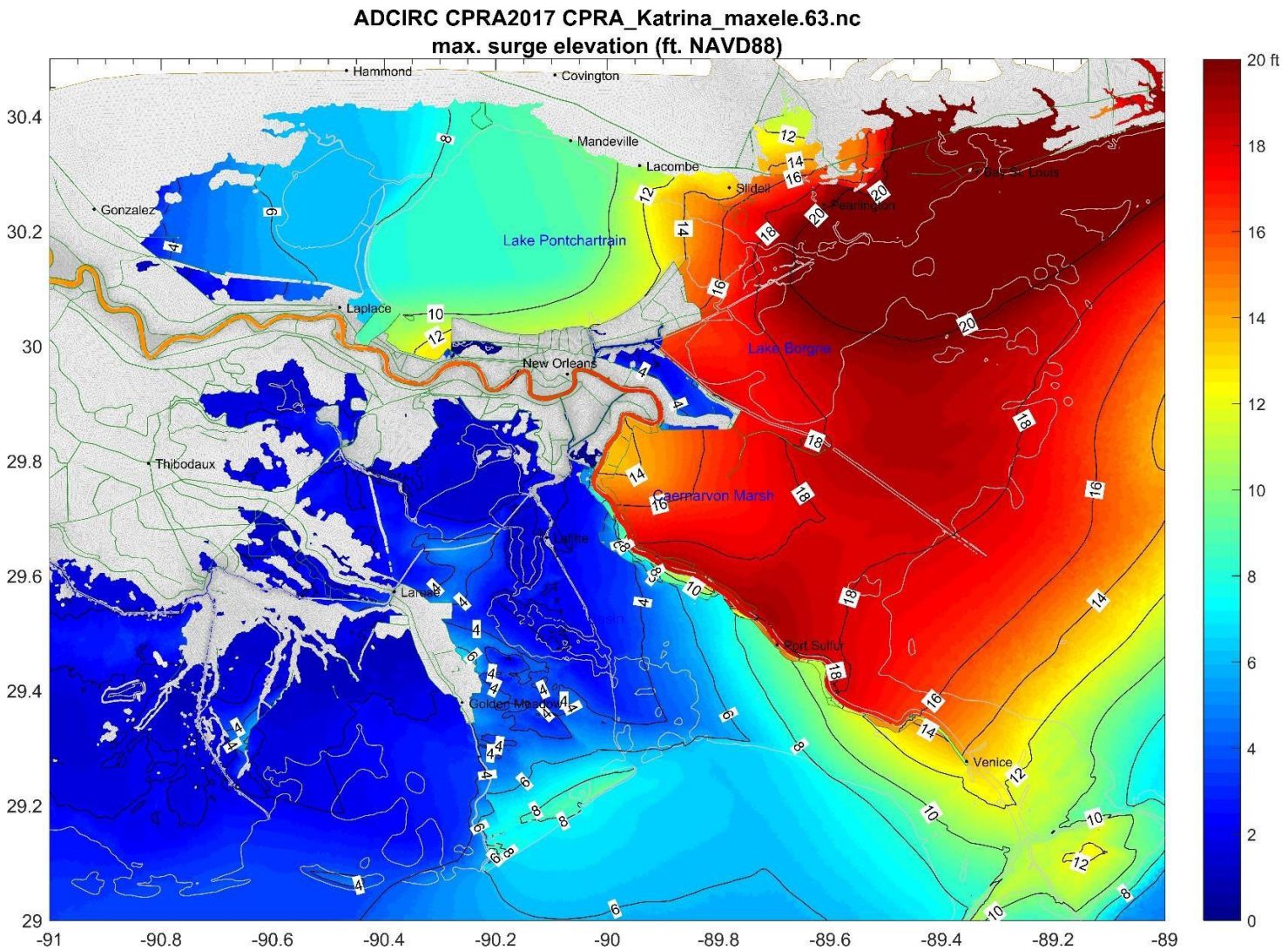


Figure 7 Maximum Water Surface Elevation from Hurricane Katrina Simulation for 1965 Conditions

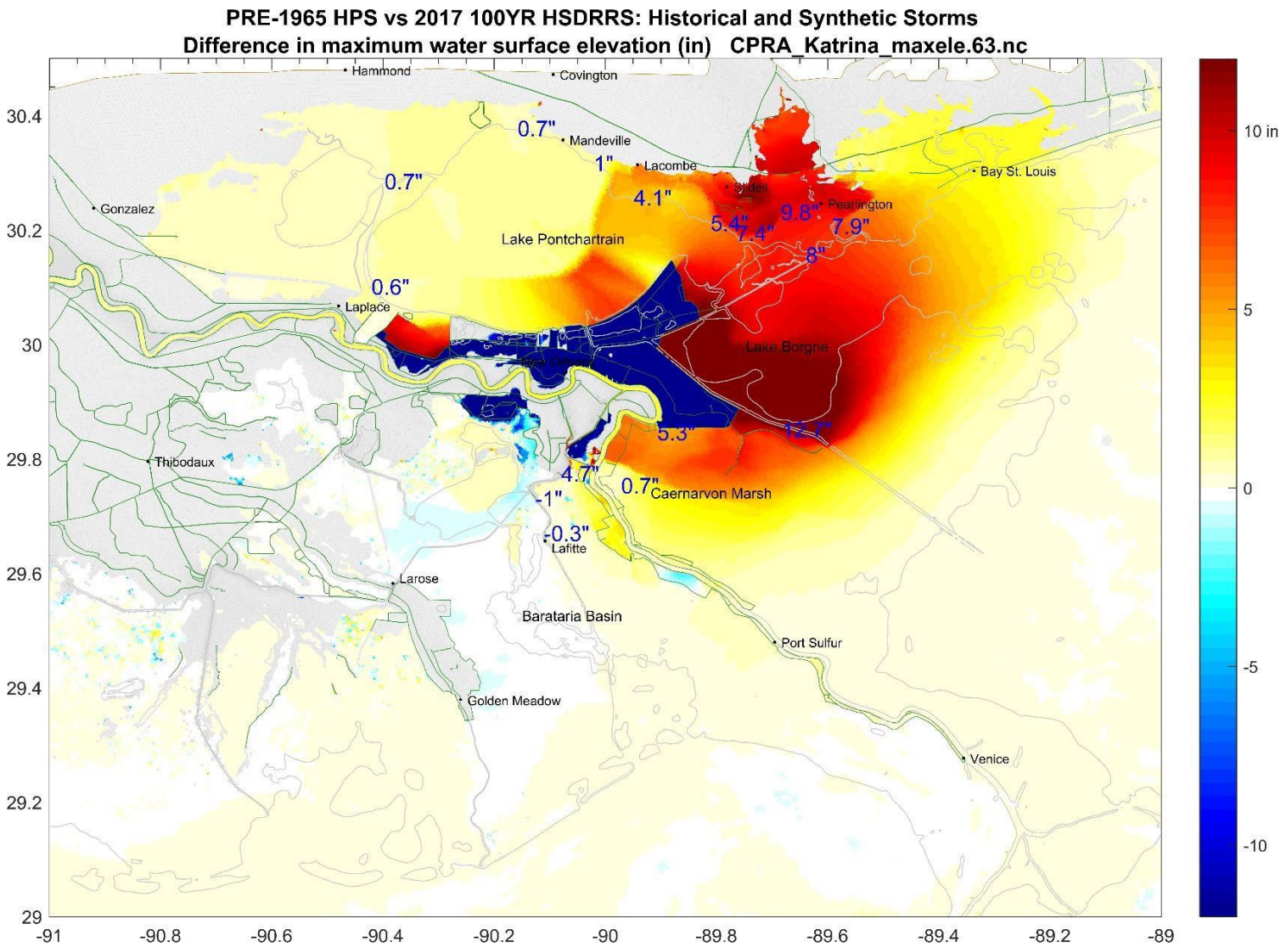


Figure 8 Difference in Maximum Water Surface Elevation between 1965 and 2017 ADCIRC simulations of Hurricane Katrina.

Table 1 Comparison of Peak Surge at Selected Output Locations for the updated 1965 and 2017 ADCIRC Grids

Metairie	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	10.8		7.2		7.0		7.3		8.4		8.6		9.7		3.1		8.1		11.0		9.1		8.2		8.6	
2012 Peak Surge (ft. NAVD88)	11.0		7.2		7.1		7.4		8.4		8.7		9.9		3.0		8.1		10.6		9.0		8.0		8.1	
Difference 1965 to 2012 (ft.)	0.18	1.7%	0.07	0.9%	0.06	0.9%	0.10	1.4%	-0.07	-0.9%	0.09	1.1%	0.27	2.7%	-0.11	-3.4%	0.03	0.3%	-0.41	-3.7%	-0.11	-1.2%	-0.18	-2.3%	-0.52	-6.0%

Kenner	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	10.1		7.2		7.0		7.3		8.4		9.8		9.8		5.2		8.8		11.0		10.5		8.3		9.2	
2012 Peak Surge (ft. NAVD88)	10.2		7.3		7.0		7.3		8.4		9.9		10.1		5.1		8.9		10.6		10.8		8.1		9.4	
Difference 1965 to 2012 (ft.)	0.11	1.1%	0.07	1.0%	0.07	0.9%	0.05	0.7%	-0.07	-0.9%	0.10	1.0%	0.27	2.7%	-0.09	-1.7%	0.03	0.4%	-0.44	-4.0%	0.24	2.3%	-0.19	-2.3%	0.23	2.4%

Caernarvon	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	14.1		13.5		13.3		14.8		17.4		12.8		16.4		8.1		5.2		20.5		19.7		17.0		19.3	
2012 Peak Surge (ft. NAVD88)	14.6		14.2		14.0		15.7		18.4		13.6		17.5		8.3		4.9		21.4		20.5		17.8		20.1	
Difference 1965 to 2012 (ft.)	0.45	3.1%	0.72	5.4%	0.71	5.3%	0.84	5.7%	0.96	5.5%	0.80	6.2%	1.12	6.9%	0.21	2.6%	-0.38	-7.2%	0.87	4.2%	0.75	3.8%	0.84	5.0%	0.74	3.8%

IHNC Surge Barrier	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	14.3		10.0		10.0		10.6		12.4		12.3		14.9		8.2		10.4		15.8		17.1		12.9		14.8	
2012 Peak Surge (ft. NAVD88)	16.3		11.7		11.5		13.1		14.9		16.4		21.0		9.7		13.1		18.2		20.1		15.1		17.4	
Difference 1965 to 2012 (ft.)	2.08	14.6%	1.72	17.2%	1.55	15.5%	2.49	23.4%	2.50	20.1%	4.10	33.4%	6.20	41.7%	1.48	18.1%	2.62	25.1%	2.38	15.1%	2.98	17.4%	2.17	16.9%	2.56	17.3%

Shell Beach	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	16.3		8.4		8.3		8.6		10.4		10.8		13.3		4.6		10.1		13.2		14.9		11.4		13.0	
2012 Peak Surge (ft. NAVD88)	17.6		9.2		9.1		9.5		11.6		12.3		15.3		4.9		11.3		14.4		16.4		12.5		14.3	
Difference 1965 to 2012 (ft.)	1.24	7.6%	0.74	8.8%	0.74	8.9%	0.94	11.0%	1.15	11.1%	1.54	14.2%	2.05	15.4%	0.36	8.0%	1.14	11.2%	1.23	9.4%	1.47	9.9%	1.14	10.0%	1.29	9.9%

Venetian Isles	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	15.5		9.0		9.0		9.6		11.4		10.9		14.2		5.8		7.7		13.9		14.8		11.5		12.9	
2012 Peak Surge (ft. NAVD88)	16.5		9.9		9.8		10.8		12.5		12.8		16.8		6.3		9.2		15.0		16.6		12.7		14.0	
Difference 1965 to 2012 (ft.)	0.96	6.2%	0.85	9.4%	0.79	8.7%	1.13	11.7%	1.15	10.1%	1.90	17.4%	2.61	18.4%	0.43	7.4%	1.45	18.8%	1.08	7.8%	1.80	12.2%	1.15	10.0%	1.15	9.0%

Eden Isle	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	15.3		7.3		8.0		8.2		9.8		11.8		15.0		2.3		2.3		11.6		10.6		8.6		9.4	
2012 Peak Surge (ft. NAVD88)	15.8		7.6		8.2		8.6		10.1		12.2		15.4		2.3		2.3		11.2		11.1		9.0		9.7	
Difference 1965 to 2012 (ft.)	0.47	3.0%	0.25	3.4%	0.17	2.1%	0.41	5.0%	0.26	2.6%	0.34	2.9%	0.43	2.9%	-0.01	-0.5%	-0.01	-0.3%	-0.42	-3.6%	0.54	5.1%	0.41	4.8%	0.33	3.5%

Pearlington, MS	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	19.2		10.2		10.3		11.4		12.9		15.3		19.8		4.8		3.3		13.8		13.7		11.8		12.1	
2012 Peak Surge (ft. NAVD88)	20.0		10.7		10.6		11.9		13.5		15.9		20.6		4.9		3.3		14.5		14.6		12.5		12.8	
Difference 1965 to 2012 (ft.)	0.74	3.9%	0.49	4.8%	0.37	3.6%	0.55	4.8%	0.64	5.0%	0.63	4.1%	0.83	4.2%	0.11	2.2%	0.05	1.4%	0.71	5.2%	0.98	7.2%	0.76	6.5%	0.72	5.9%

Manchac Pass	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	6.2		8.1		7.3		8.4		8.9		6.3		7.3		4.9		3.4		13.0		10.7		9.0		10.5	
2012 Peak Surge (ft. NAVD88)	6.3		8.1		7.3		8.4		8.8		6.4		7.5		4.9		3.3		12.4		10.3		8.8		10.2	
Difference 1965 to 2012 (ft.)	0.06	1.0%	0.03	0.4%	0.02	0.3%	0.00	0.0%	-0.04	-0.5%	0.16	2.5%	0.21	2.9%	-0.05	-1.1%	-0.06	-1.9%	-0.62	-4.7%	-0.39	-3.6%	-0.18	-2.0%	-0.36	-3.4%

Mandeville	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	9.1		8.1		8.6		8.7		10.3		8.6		10.6		3.1		2.9		13.6		11.6		8.9		10.3	
2012 Peak Surge (ft. NAVD88)	9.2		8.2		8.6		8.8		10.2		8.9		10.8		3.0		2.9		13.0		11.0		8.7		9.8	
Difference 1965 to 2012 (ft.)	0.08	0.9%	0.07	0.9%	0.07	0.9%	0.13	1.6%	-0.13	-1.3%	0.29	3.3%	0.17	1.6%	-0.04	-1.4%	-0.03	-1.1%	-0.65	-4.8%	-0.60	-5.2%	-0.22	-2.5%	-0.57	-5.6%

LaPlace	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	8.3		9.5		8.6		11.3		11.5		11.7		11.7		9.8		11.2		14.2		13.3		11.0		11.7	
2012 Peak Surge (ft. NAVD88)	8.3		9.4		8.6		11.3		11.5		11.7		11.6		9.9		11.2		14.0		13.5		11.0		11.9	
Difference 1965 to 2012 (ft.)	0.04	0.5%	-0.05	-0.6%	-0.02	-0.2%	-0.04	-0.3%	0.00	0.0%	0.01	0.1%	-0.02	-0.2%	0.02	0.2%	-0.03	-0.2%	-0.14	-1.0%	0.22	1.6%	0.02	0.2%	0.17	1.4%

MSY Airport	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	11.9		7.1		6.9		8.7		9.6		12.6		12.6		5.7		11.8		11.5		12.3		8.8		11.2	
2012 Peak Surge (ft. NAVD88)	12.7		7.2		7.0		9.1		10.0		13.2		13.5		5.6		12.3		12.2		13.2		8.9		11.8	
Difference 1965 to 2012 (ft.)	0.79	6.6%	0.10	1.5%	0.06	0.8%	0.34	3.9%	0.34	3.6%	0.57	4.5%	0.83	6.6%	-0.09	-1.6%	0.52	4.4%	0.67	5.8%	0.90	7.3%	0.16	1.8%	0.57	5.1%

Braithwaite	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	13.2		13.8		13.2		14.9		17.8		12.1		15.5		9.8		9.3		21.5		20.3		17.6		20.4	
2012 Peak Surge (ft. NAVD88)	13.8		14.4		13.9		15.6		18.6		12.8		16.5		9.8		9.3		22.2		20.9		18.3		21.0	
Difference 1965 to 2012 (ft.)	0.54	4.1%	0.65	4.7%	0.68	5.1%	0.78	5.2%	0.88	4.9%	0.65	5.4%	1.02	6.6%	0.08	0.8%	-0.03	-0.3%	0.64	3.0%	0.57	2.8%	0.77	4.4%	0.59	2.9%

Jean Lafitte	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	2.3		6.3		4.7		6.6		6.8		2.4		3.1		2.6		2.2		11.6		3.3		6.0		6.6	
2012 Peak Surge (ft. NAVD88)	2.2		6.5		4.9		6.7		6.9		2.5		3.0		2.6		2.2		12.1		3.8		6.1		7.0	
Difference 1965 to 2012 (ft.)	-0.09	-4.0%	0.18	2.8%	0.12	2.6%	0.12	1.8%	0.12	1.7%	0.06	2.4%	-0.08	-2.5%	0.01	0.5%	0.05	2.5%	0.44	3.7%	0.56	17.2%	0.08	1.3%	0.41	6.2%

Lafitte	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	1.9		7.2		5.7		7.9		8.2		2.8		3.4		4.3		2.8		13.2		4.6		7.6		7.9	
2012 Peak Surge (ft. NAVD88)	1.9		7.2		5.7		7.9		8.2		2.8		3.3		4.3		2.8		13.5		4.9		7.6		8.1	
Difference 1965 to 2012 (ft.)	-0.02	-1.2%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	-0.01	-0.2%	-0.02	-0.7%	0.01	0.1%	0.02	0.7%	0.27	2.0%	0.23	5.0%	0.00	0.0%	0.13	1.7%

Crown Point	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	1.4		6.1		4.9		6.6		6.9		2.6		3.1		2.6		2.3		12.1		4.8		5.8		7.2	
2012 Peak Surge (ft. NAVD88)	1.8		6.9		5.6		7.7		8.0		2.9		3.5		2.9		2.5		13.3		6.4		6.6		8.8	
Difference 1965 to 2012 (ft.)	0.37	25.4%	0.87	14.4%	0.78	16.0%	1.11	16.9%	1.12	16.3%	0.23	8.5%	0.39	12.6%	0.33	12.7%	0.18	7.7%	1.25	10.4%	1.57	32.9%	0.82	14.1%	1.65	23.1%

Waveland	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	25.6		10.1		9.6		11.3		12.5		17.0		21.5		8.4		11.5		12.7		13.0		11.9		11.2	
2012 Peak Surge (ft. NAVD88)	25.8		10.3		9.7		11.5		12.8		17.3		22.0		8.4		11.6		13.0		13.4		12.0		11.5	
Difference 1965 to 2012 (ft.)	0.25	1.0%	0.12	1.2%	0.13	1.3%	0.16	1.4%	0.25	2.0%	0.34	2.0%	0.47	2.2%	0.02	0.2%	0.02	0.2%	0.33	2.6%	0.35	2.7%	0.19	1.6%	0.31	2.7%

Boutte	Katrina		S008		S012		S014		S015		S023		S026		S069		S077		S085		S094		S126		S146	
1965 Peak Surge (ft. NAVD88)	NaN		5.9		2.9		5.0		4.7		NaN		NaN		2.4		2.3		8.9		NaN		5.1		NaN	
2012 Peak Surge (ft. NAVD88)	NaN		6.2		3.2		5.4		5.2		NaN		NaN		2.5		2.3		9.7		NaN		5.4		NaN	
Difference 1965 to 2012 (ft.)	NaN	NaN	0.32	5.5%	0.26	8.9%	0.36	7.2%	0.46	9.9%	NaN	NaN	NaN	NaN	0.09	3.7%	0.05	2.1%	0.83	9.3%	NaN	NaN	0.27	5.3%	NaN	NaN

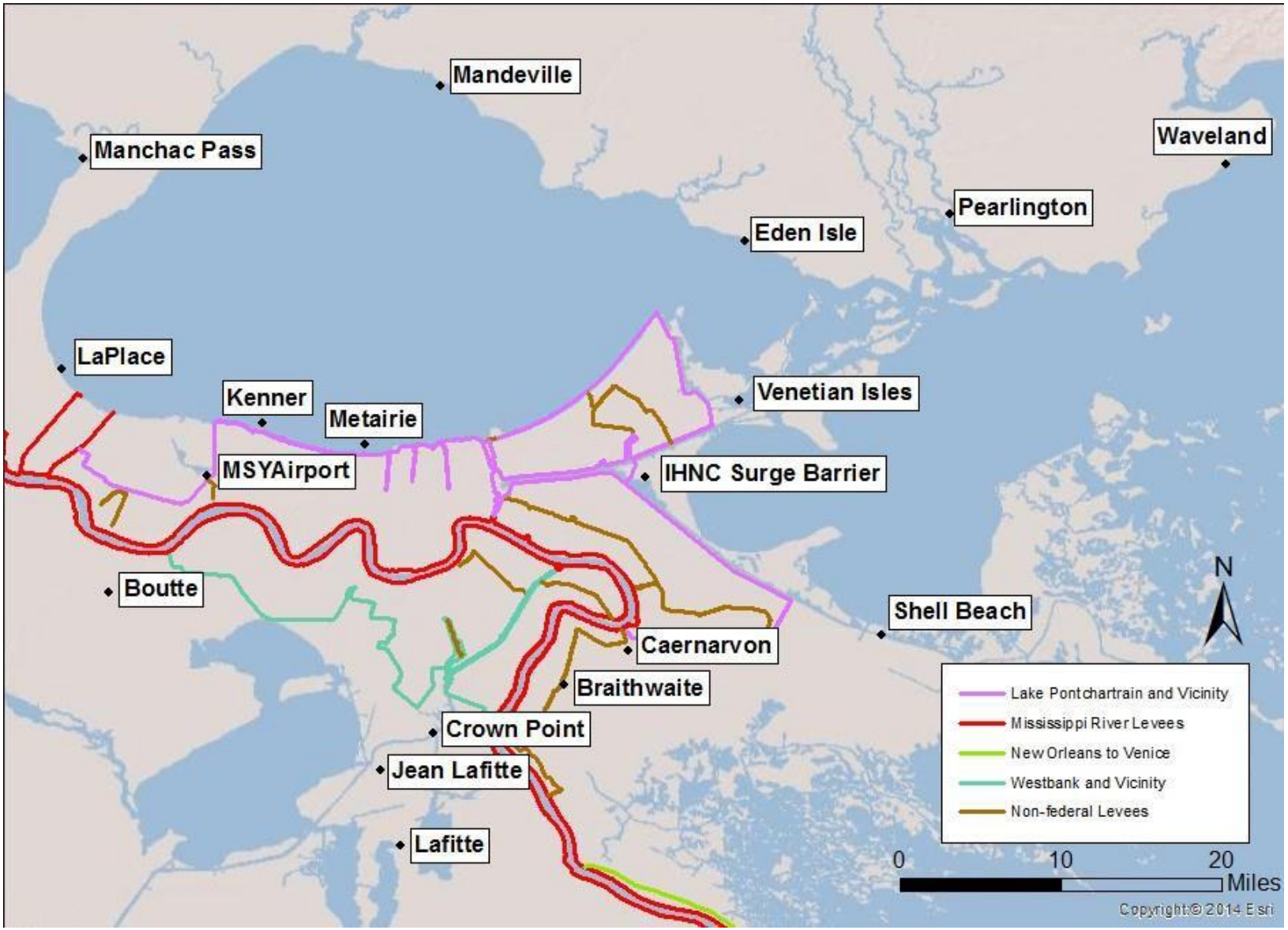


Figure 9 Selected Output Locations

Designate Eden Isles A "Mitigation Project" To Counteract Surge Impacts Government Levee Projects Have Caused

May 13, 2020

Justification For Mitigation Designation

HSDRRS Impact to Eden Isles:

Corps' models have documented the Lake Pontchartrain Hurricane and Storm Damage Risk Reduction System (HSDRRS) has increased storm surge impact to the Eden Isles community, located south of Slidell, between U. S. Hwy. 11 and I-10.

The construction of the HSDRRS began in 1965 with new construction and improvements that will continue for years. With each new barrier constructed, each floodplain walled off by levees and each elevation of existing levees more Lake Pontchartrain Basin storm surge is redirected into Eden Isles.

Eden Isles is located along the only remaining opening for storm surge to enter and exit the Lake Pontchartrain Basin. When hurricanes, approach Louisiana on the east side of the Mississippi River, the storm's counter clockwise rotation channels its surge past Eden Isles into the Lake Pontchartrain Basin. This is due in large part to the Mississippi River levee, the barrier constructed in St. Bernard Parish and the state of Mississippi's shoreline protection barrier system (all government projects that have redirected storm surge flow towards Eden Isles and into the Lake Pontchartrain Basin).

The hurricane's counter clockwise rotation first pushes the surge to the west side of Lake Pontchartrain where it remains and builds up, with no escape route. Once the hurricane passes north of Lake Pontchartrain its wind rotate the surge, within its 4,700 square mile basin, from west to south and finally east, directly towards Eden Isles and the only Lake Pontchartrain Basin exit location.

After Hurricane Katrina in 2005, the Corps of Engineers accelerated construction of the Lake Pontchartrain Basin HSDRRS, which when completed will wall off approximately

40 miles of Lake Pontchartrain's shore line from the east end of the Bayou Sauvage Wildlife Refuge through Laplace. This barrier along the southern edge of Lake Pontchartrain eliminates all the floodplains that had existed prior to construction of the HSDRRS and closes all surge escape routs except for the narrow five-mile opening at Eden Isles.

In 2013, the Corps published their Comprehensive Environmental Document (CED) of the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS). This CED found *no significant cumulative change in water flows or levels due to impacts associated with the HSDRRS,* however, the finding was limited in scope and contained incomplete and incorrect data.

The Corps admitted they only modeled 40% of the HSDRRS for impact to surrounding communities and agreed to correct their HSDRRS "comprehensive" impact findings and provide the corrected data in future supplements of their CED.

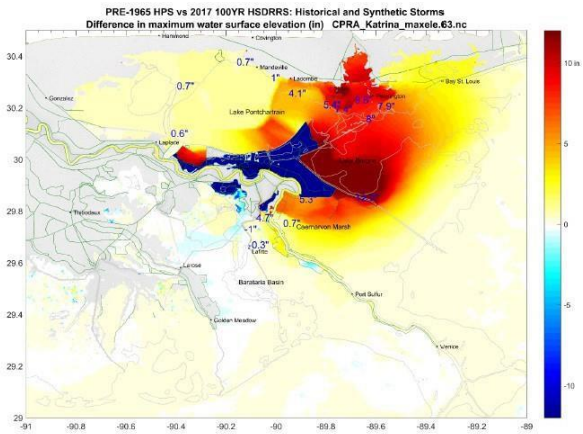


Figure 8 Difference in Maximum Water Surface Elevation between 1965 and 2017 ADCIRC simulations of Hurricane Katrina.

The modeling used to support the CED, was released in 2018, in response to a Freedom of Information Request. Upon review of the models, the Corps admitted their baseline 1965 pre-HSDRRS models were incorrect. Their revised models now show the HSDRRS increases storm surge at Eden Isles by approximately 5", but the models are still incomplete and do not show the full comprehensive impact the HSDRRS. HSDRRS impact on Eden Isles will continue to increase as more components of the HSDRRS are completed and models are corrected and revised.

South Slidell Levee Impact to Eden Isles:

The south Slidell levee was built without studying or modeling the levee's impact to the Eden Isles community.

Before the Slidell Levee was built storm surge could flow through Eden Isles into the city of Slidell which has a ground elevation 6 feet lower than Eden Isles' ground elevation. The Slidell levee eliminated that floodplain and created a storm surge backflow into Eden Isles.

After Hurricane Katrina, in 2005, St. Tammany Parish built the Slidell levee adjacent to an existing drainage canal located along the southern boundary of Slidell. The levee connected Interstate 10 on the east, to the existing railroad embankment levee on the west.

This levee created what is now known as the Schneider Canal Levee System or the south Slidell levee. The south Slidell levee placed the Eden Isles community in a box with the Slidell levee on the north, Hwy. 11 on the west and I-10 on the east, with the open end of the box facing Lake Pontchartrain to the south.

The south Slidell levee was built:
• Without Corps of Engineers approval
• Without benefit of environmental impact studies
• Without storm surge modeling
• Without public meetings to assess the increase risk of flooding to the surrounding community

The Slidell levee project was first made public in January 2010 by a news article in the New Orleans Times-Picayune.

Once the new levee system project was known, Eden Isles voiced its concerns to local, state and federal governmental representatives and agencies asking for public meeting, a study and models to evaluate the impact the levee will have in Eden Isles.

In 2010, the U. S. Army Corps of Engineers submitted the following email response:

> ***The Schneider Canal project has not been approved for construction by the Corps of Engineers; in fact, it has not yet entered upon the detailed study phase.***
>
> *We are presently working to develop an acceptable project management plan for a 533(d) study for the project.* ***The study would have to demonstrate that the Schneider Canal project is technically sound, environmentally acceptable, and economically viable in order for the project to be approved for construction. As part of the study effort, we would determine what effects the work would have on surrounding areas.***
>
> *We anticipate that the 533(d) study would take at least three years to complete; however, funding for the study is not currently available. Initiation of the study is dependent on completion of the project management plan and on appropriation by Congress of the necessary funds. The only information we have for the Schneider Canal project is the twenty-year-old reconnaissance report.*
>
> *Donna M. Urban*
> *Protection and Restoration Office*
> *Regional Projects Branch*
> *Project Manager, SELA, St. Tammany Parish*
> *504-862-1249*
> *FAX: 504-862-2108*

When confronted with the Corps' email denying approval of the Slidell levee, St. Tammany Parish Government admitted the Parish did not have Corps' approval to change the levee alignment or connect to the private levee systems or had conducted an Environmental impact Study or had conducted modeling to assess impact to Eden Isles.

From January 2010, to January 2012, St. Tammany Parish President, Kevin Davis, did not meet with Eden Isles to resolve this issue.

In January 2012, after the new St. Tammany Parish President, Pat Brister, was sworn into office and Eden Isles renewed its efforts to work with St. Tammany Parish Government to mitigate the increased flood risk the Slidell levee has caused.

President Brister directed the St. Tammany Parish Chief Operation Officer, Mr. Bill Oiler, to work with Eden Isles to find a way to mitigate the flood risk associated with the Slidell levee. Mr. Oiler, said the Parish would model the Slidell impact, look into ways to provide storm surge protection for Eden Isles, and the study would be completed by October 2012.

Thirteen months later, after multiple meetings and emails with Mr. Oiler he abruptly retired from St. Tammany Government. On August 2013, Eden Isles met with Mr. Oiler's replacement, Ms. Gina Campo. At that meeting, Eden Isles was informed that Mr. Oiler left no record of our previous meetings or Parish's commitments to model or study a mitigation plan for Eden Isles. However, Ms. Campo did say that modeling was "well on its way" and The Parish would evaluate a mitigation plan to extend Slidell levee protection to include Eden Isles.

In November 2013, Eden Isles met with Ms. Campo and was informed that the Parish decided surge protection for Eden Isles would be too expensive and not worth further study. As of this date, modeling to determine Slidell levee impact has not been done.

In 2014, Eden Isles made a formal request to the Louisiana Coastal Protection and Restoration Authority (CPRA) to include an Eden Isles protection feasibility study into their 2017 Master Plan. The CPRA refused to consider Eden Isles' request, stating it would only consider request from governmental agencies. Note: the St. Tammany Levee Board was not in existence at this time; the St. Tammany Levee Board has subsequently endorsed storm surge protection for Eden Isles.

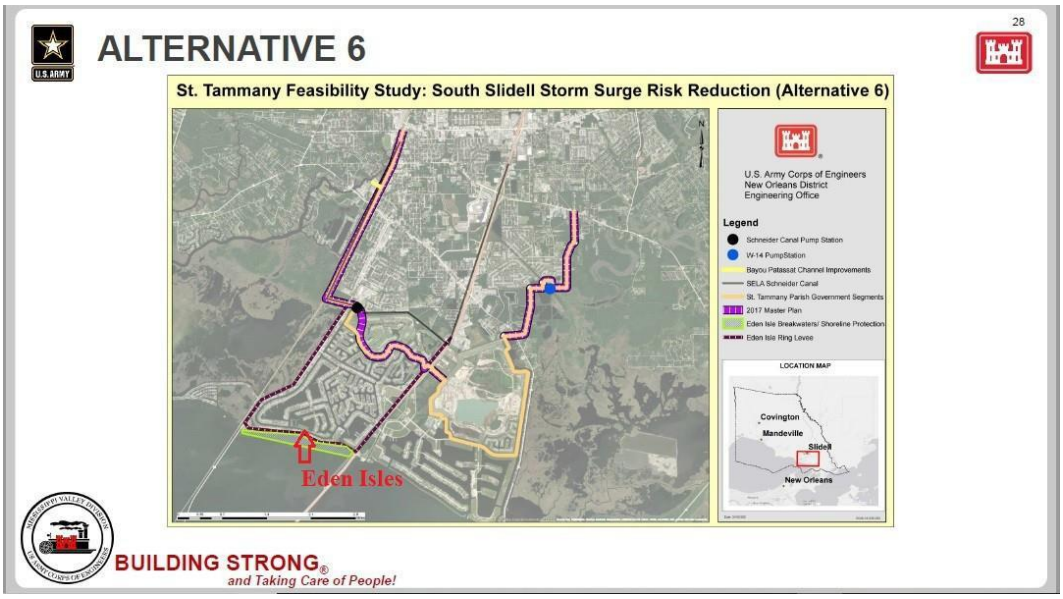
In 2016, Eden Isles met with Mr. Johnny Bradberry, the Governor's Executive Assistant for Coastal Activities. Mr. Bradberry agreed that Eden Isles storm surge protection needed to be evaluated and redirected $2 million from the Slidell Levee Project to fund The St. Tammany Parish Coastal Protection Master Plan, with an emphasis on Eden Isles protection.

Figure 2-1. St. Tammany Parish Coastal Zone Boundary

On March 2020 the St. Tammany Parish Coastal Protection Gap Analysis was completed and a viable, cost effective protection plan for Eden Isles was submitted to The US Army Corps of Engineers for inclusion into their "St. Tammany Parish, Feasibility Study".

Conclusion

The US Army Corps of Engineers' St. Tammany Parish, Feasibility Study has selected the Eden Isles protection plan, proposed by the St. Tammany Master Plan for further study and cost benefit analysis.



In accordance with the 40 CFR § 1508.7, Cumulative impact definition* - the cumulative impact of the HSDRRS and the south Slidell levee must be evaluated when determining the need for mitigation. Based upon the cumulative increased storm surge risk caused by both the HSDRRS and the south Slidell levee, it is hereby requested that the US Army Corps of Engineers designate the Eden Isles protection plan a "Mitigation Project" and expedite its completion.

Respectively Submitted by:

Tom Thompson
[redacted]

*40 CFR § 1508.7 - Cumulative impact definition:
Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

May 4, 2020

Mr. Patrick Smith
U. S. Army Corps of Engineers
Regional Planning and Environmental Division South
PDS-C
7400 Leake Avenue
New Orleans, Louisiana 70118
mvnenvironmental@usace.army.mil

Reference: Public comment on the: West Shore Lake Pontchartrain Hurricane and Storm Damage Risk Reduction Levee System St. Charles and St. John the Baptist Parishes, Louisiana" Draft Supplemental Environmental Assessment #571

Dear Mr. Smith,

The West Shore Lake Pontchartrain Levee System's findings cannot be validated based upon the incorrect data contained in the assessment's supporting documents.

The West Shore Lake Pontchartrain Levee System's Supplemental Environmental Assessment finding of *no significant cumulative change in water flows or levels due to impacts associated with the HSDRRS* are based on two reports that are limited in scope and contained incomplete and incorrect data.

This West Shore Lake Pontchartrain Levee System's Hydrology – Flow and Water Cumulative Impact finding is based upon the USACE November 2012 preliminary report titled: *"Hurricane Isaac With and Without 100- year HSDRRS Evaluation"* and the *"Comprehensive Environmental Document, Phase I, Greater New Orleans HSDRRS", (USACE 2013).*

In November of 2012, the Corps admitted they only modeled 40% of the HSDRRS for impact to surrounding communities. In April of 2013, the Corps agreed to correct their HSDRRS "comprehensive" impact findings and provide the corrected data in future supplements of their Comprehensive Environmental Documents. The West Shore Lake Pontchartrain Levee System's Environmental Assessment does not contain the corrected data; therefore, its findings are invalid.

The modeling used to support the Comprehensive Environmental Document, Phase I, Greater New Orleans HSDRRS Report, was released in 2018, in response to a Freedom of Information Request. Upon review of the models, the Corps admitted their baseline 1965 pre-HSDRRS models were incorrect. Their revised models now show <u>the HSDRRS does increase storm surge in east St. Tammany Parish</u>. The West Shore Lake Pontchartrain Levee System's Environmental Assessment does not address this increase in HSDRRS storm surge impact; therefore, its findings are invalid.

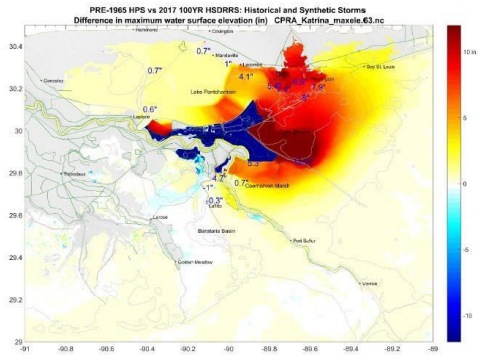


Figure 8 Difference in Maximum Water Surface Elevation between 1965 and 2017 ADCIRC simulations of Hurricane Katrina.

The West Shore Lake Pontchartrain Levee System is an extension of the HSDRRS, and its cumulative footprint eliminates more flood plains and increases the outflow storm surge into communities on the eastern end of Lake Pontchartrain. Corps' models show the HSDRRS (even without the addition of the West Shore Lake Pontchartrain Levee) have increased surge risk to communities on the east end of Lake Pontchartrain; this project will only add to the HSDRRS's storm surge outflow impact.

Corps' 2017 models showed the HSDRRS increased the outflow surge at Eden Isles by approximately 5". This increase in storm surge needs to be mitigated.

A Corps of Engineers' "Storm Surge Risk Reduction Feasibility Study" for Eden Isles is currently underway. The West Shore Lake Pontchartrain Levee System's Environmental Assessment cannot be approved until its errors/omissions are corrected, and the Eden Isles risk reduction project is designated a mitigation project to counteract surge impacts the HSDRRS has caused.

Sincerely,

Thomas Nolan Thompson
[redacted]