

GALVESTON BAY COUNCIL (GBC) QUARTERLY MEETING

Location: Harris-Galveston Subsidence District, 1660 West Bay Area Blvd, Friendswood, TX 77546-2640

AGENDA: Wednesday, July 18, 2018

- 9:30 A.M.:** **Call to Order:** Introduction of Members and Delegates
 Action Item: Approval of April 18, 2018 Meeting Minutes
 Report of the Chair (Helen Paige)
 Action Item: Presentation and approval of revised bylaws (to reflect changes to the interests represented by two seats on the Council: Underrepresented Communities (formerly Minority Communities) and Nature Tourism (formerly Galveston County Chambers of Commerce))
 Action Item: Approval of nomination of Jeff DallaRosa, CenterPoint Energy to represent Utilities
 Action Item: Approval of nomination of Chambers County Commissioner Rusty Senac to represent Nature Tourism
 Report of the Program (Sarah Bernhardt)
 Action Item: Presentation and Approval of minor revision to fiscal year 2019 Galveston Bay Estuary Program budget
- 10:15 A.M.:** **Subcommittee Reporting:** Natural Resources Uses (NRU) featured project: Conservation Assistance Program Accomplishments Fiscal Years 2011 to 2017, Matt Singer, Director of Land Conservation, Galveston Bay Foundation
- 10:45 A.M.:** **Break**
- 11:00 A.M.:** **Presentation & Discussion:** Houston Zoo Initiatives Making a Difference in our Watershed, Peter Riger, Vice-President of Conservation and Education, Houston Zoo
- 11:40 A.M.:** **Presentations & Discussion:** GulfCorps, Marsha Towns, Partnership Director-Gulf Coast, Student Conservation Association (SCA)
- 12:15 P.M.:** **Council Member Roundtable:** News and Announcements
- 12:25 P.M.:** **Public comments**
- 12:30 P.M.:** **Adjourn**

Upcoming Galveston Bay Council Meeting Dates: Tentative September date TBD, 2018 (special meeting for approval of draft final Galveston Bay Plan, 2nd Edition to be submitted to TCEQ Agenda for non-rule adoption); October 17, 2018; January 16, 2019; April 17, 2019. Meetings are held on the third Wednesday of the quarter from 9:30 am-12:30 pm. If there are known conflicts, Council members are welcome to propose alternate dates to the Council.

GALVESTON BAY ESTUARY PROGRAM

DRAFT - Galveston Bay Council (GBC) Meeting Minutes – April 18, 2018

Attendees:

Galveston Bay Council Chair: Helen Paige (Marinas)

Galveston Bay Council Vice-Chair: Glenn Clingenpeel

Estuary Program Staff Lead: Sarah Bernhardt, Galveston Bay Estuary Program (GBEP)

The April 18, 2018 quarterly GBC meeting was held at Harris-Galveston Subsidence District, 1660 West Bay Area Blvd., Houston, Texas, from 9:32 AM to 12:10 PM.

Members Present: Scott Alford, Christine Bergren, Caryn Brooks, Glenn Clingenpeel, Albert Gonzales, Rebecca Hensley, Brian Koch, Audrey Kuklenz, Kristin Lambrecht, Mike Lee, Garry McMahan, Will Nipper, Nancy Parra, Ana Partin, Pamela Plotkin, Taylor Rieck, Hanadi Rifai, Kate Saul, Caimee Schoenbaechler, Ronnie Schultz, Linda Shead, Sharron Stewart, Bob Stokes, Kirk Wiles

Members Not Present/Delegates: Andrea Catanzaro, Phillip Goodwin*, Kelly Holligan*, Jace Houston*, John Huffman, Doug Jacobson, Russ Poppe*, Aaron Rice, Mary Beth Stengler, Rusty Swafford, Jeff Taebel*, Lori Traweek, Chuck Wemple, Tracy Woody

(*=Member designated a proxy)

Proxies Present (council member absent/designated proxy):

Phillip Goodwin/Richard Chapin, Kelly Holligan/Kerry Niemann, Jace Houston/Kim Wright, Russ Poppe/Glenn Laird, Rusty Swafford/Aaron Chastain, Jeff Taebel/Todd Running

Current Vacancies: Utilities, Minorities

Other Attendees: George Guillen (UH-Clear Lake), Scott Galaway (TWDB), Lisa Gonzalez (HARC), Mollie Powell, General Land Office (GLO); Stennie Meadours (Galveston Bay Area Chapter of Master Naturalists)

Additional GBEP Staff present: Cynthia Clevenger, Cassidy Kempf, Lindsey Lippert, Mary Stiles

Call to Order: Introduction of Members and Delegates

Vice-Chair Glenn Clingenpeel called meeting to order and confirmed a quorum before moving to the first action item.

Glenn Clingenpeel announced Chair Helen Paige would be late attending the meeting due to an emergency at the Marina early in the morning. Vice Chair will fill in for the Chair until she arrives.

Action Item: Approval of January 31, 2018 Meeting Minutes

Glenn Clingenpeel opened the meeting with approval of the January 31, 2018 meeting minutes and opened the floor for questions and comments. A motion was requested

for approval of the minutes. Brian Koch moved to approve the minutes followed by Nancy Parra who seconded the motion. The minutes were approved with no changes.

Report of the Program (Sarah Bernhardt)

Dr. Sarah Bernhardt announced an update on the 2019 Funding at the Environmental Protection Agency and Texas Commission on Environmental Quality level of funding. Dr. Bernhardt reported on the Estuary Resilience Assessment and that Houston Advanced Research Center (HARC) will be assisting the Galveston Bay Estuary Program to complete the project. She also reported on the Comprehensive Conservation and Management Plan (CCMP) comments and gave an update. Galveston Bay Estuary Program (GBEP) received over 25 comments, including two very detailed letters with lots of comments; there were commonalities between the two letters.

Report of the Chair:

Glenn Clingenpeel announced there was a discussion held by Budget and Priorities (B&P) regarding addressing CCMP comments. At the next meeting B&P will draft a letter to send a response to each of the commenters. Volunteers that are interested in participating may reach out to the Chair Helen Paige.

Glenn Clingenpeel reported on the status of nominations and anticipates nominations at the July 18th meeting for the Utilities and Underrepresented Communities.

Presentation & Discussion: State of the Bay Report, 4th Edition: Update and Path Forwards; Lisa Gonzalez, President, HARC

Lisa Gonzalez presented to the council the history of the State of the Bay (SOB) reports and HARC's staff changes. Ms. Gonzalez described the new format that is being proposed and will become available online, but it will also include a printable summary document that can be taken to the legislature. Similar engagement process as was used in previous editions and will involve Galveston Bay Council with one big change. Communications will occur in coordination with GBC members and subcommittees. Emails will come from Galveston Bay Estuary staff, but also from Lisa Gonzalez and Erin Kinney, the HARC project managers. The first few chapters will include data heavy chapters from the first chapter to the third chapters, these editions will be re-organized by the four main areas of the Galveston Bay Plan, second edition. Lisa Gonzalez presented success stories that will be included in the third edition and will be requesting feedback from subcommittee members. The new edition will use ESRI story maps. Lisa showed a mock-up of a sample State of the Bay fourth edition using a website. Lisa also showed examples of story maps for Galveston Bay. Major Task and Timelines: Quality assurance project plan will be the first step. HARC will be seeking donations of photographic input.

Presentation & Discussion: Texas Water Development Board (TWDB) updates on the State Flood Assessment and Disaster Recovery Financial Assistance; Caimee Schoenbaechler, Manager of Bays and Estuaries and Scott Galaway, Program Specialist, TWDB

Scott Galaway presented on TWDB, it was developed in 1950 to create reservoirs and there were two main functions 1) state water resource planners, 2) water infrastructure financing. This is a non-regulatory resource agency for anything that is water related. There are four areas of project finance and science.

Regional water plans roll up into the state water plans: a planning document for fifty year horizon and considers municipalities, ag, industry and power generators. It is a regional bottom up planning process. San Jacinto Regional Area and Region H is the local sponsor. Current plan 2017 includes an interactive tool. You can logon at <http://texasstatewaterplan.org>. More web sources from TWDB are at texasflood.org. Provides information on what to do during and after a flood and real-time stream gage data linked state wide from all sources. [Www.texmesonet.org](http://www.texmesonet.org) provides weather forecasting. Mr. Galaway explained his role is to promote TWDB's financial assistance products. The booklet provide as a handout at the meeting provides information on pages 4 and 5 about EPA funding. To get started you may request a meeting with TWDB or Scott Galaway.

Caimee Schoenbaechler next presented to the council. In 2017, the 85th Texas Legislature passed an exceptional item which, among other activities, enables the TWDB to create the first ever statewide assessment of flood risk. The State Flood Assessment, a report that will be completed prior to the start of the 2019 legislative session, will provide comprehensive information about flooding impacts and programs in Texas as well as policy recommendations to reduce flood risk. Three goals guide this first step toward developing comprehensive flood planning for the state: (1) to assess flood risk and catalogue the roles and responsibilities of relevant entities, (2) to estimate the statewide cost to mitigate flood risk, and (3) to envision the future of flood planning in Texas.

The vital importance of this opportunity to ensure adequate flood planning and risk mitigation to communities and citizens throughout Texas hinges on stakeholder input. The success of this effort depends on input and guidance from stakeholders—most importantly the 1,200+ floodplain managers in Texas. Several opportunities for input and engagement were available throughout March and April 2018, including eight regional workshops, one-on-one meetings, water-related conferences, and an online survey. Once datasets are compiled and stakeholder input is reviewed, the draft report will be completed by the end of June, available for review and public comment in July, and finalized in the latter half of the year.

This first step toward developing comprehensive flood planning for Texas does not seek to fund specific strategies or projects related to flood planning, mitigation, warning, or recovery. Instead, this effort seeks to obtain and communicate information that will determine the need for and benefits of statewide flood planning and financial investment. To learn more about the TWDB's State Flood Assessment effort, please visit the website at <http://www.texasfloodassessment.com>.

Q: Will flood planning process align with state planning regions?

After the Break: Glenn Clingenpeel brought the meeting to order and introduced Kate Saul (General Land Office)

Presentation & Discussion: Texas Coastal Resiliency Master Plan Update; Kate Saul, Texas General Land Office

Kate Saul presented on the Texas General Land Office (GLO)'s efforts to develop the 2019 Update to the 2017 Texas Coastal Resiliency Master Plan. The 2017 Plan also

presents resiliency strategies and recommended nature-based projects to mitigate the impacts of the issues of concern. The 2017 Plan was presented to the Texas Legislature and Texas Congressional members in Spring 2017. You may view the 2017 Plan on the GLO's website: www.glo.texas.gov/coastalgrants/projects/files/Master-Plan.pdf. Identifying that further education and coastal restoration is necessary to mitigate the coastal issues of concern, the GLO is working on the 2019 version of the Plan. The 2019 Plan has a broader scope to address the natural and built environments as they pertain to resiliency for coastal communities. Two rounds of meetings with a Technical Advisory Committee (TAC) have been conducted in each of the five coastal planning regions to solicit feedback. Another round of meetings will be held late summer/early fall with the TAC to solicit feedback on the draft update. The 2019 Plan will be presented to the Texas Legislature and local elected officials in Spring 2019.

Q: Albert Gonzalez: How much interaction with Rice/Speed Center?

A: The Resiliency project will not evaluate any currently facilitated federal projects, because GLO is a partner and want to let federal process run its course. Comment period is open for online survey and is closing April 30th.

Subcommittee Reporting:

Presentation & Discussion: Public Participation and Education subcommittee Cynthia Clevenger) including a presentation and Community Based Social Marketing (CBSM) followed by a local case study where CBSM has been implemented at Texas City Dike (TCD) by subcommittee member Stennie Meadours, Galveston Bay Chapter of Texas Master Naturalists and Plastic Pollution Prevention Partnership (P3P)

Presentation introducing the Community Based Social Marketing modeled by the PPE coordinator Cynthia Clevenger. The CBSM model emphasizes understanding the barriers that exist to fostering sustainable behaviors before implementing public outreach and education campaigns, CBSM includes tools that can help entities create programs that measure success of behavior change as well as the return on the investments for programs. To demonstrate a project in the Galveston Bay watershed that is implementing the CBMS model, Stennie Meadours representing the Plastic Pollution Prevention Partnership (P3) and the Galveston Bay Chapter of the Texas Master Naturalists presented the Texas City Dike (TCD) monofilament fishing line project. Stakeholders identified an abundance of fishing line on the TCD causing wildlife engagements and rescues. They have formed a partnership with the City of Texas City's solid waste manager to develop a pilot program aimed at helping anglers keep fishing line off the dike. Stennie Meadours presented to the council the history and facts about Texas City Dike. It is five miles long and was built by USACE. The popular fishing area includes boat ramps and fishing. There are four Facebook pages on fishing Texas City Dike followed by 10,000 people, yet there are no data on dike usage. The current phase of the project is to identify pilot strategies working with City of Texas City.

Monitoring and Research and Water and Sediment Quality Subcommittees: Request for input on knowledge gaps (Mike Lee and Brian Koch)

Brian Koch and Mike Lee each spoke about their subcommittees and stated they are each chair/vice-chair respectively on their subcommittees and asked the council

members to provide input on knowledge gaps that need to be filled in the areas of research, monitoring, water and sediment quality.

Council Members Roundtable: News and Announcements

Todd Running: The H-GAC Clean Rivers Steering Committee meeting will be May 1st from 1:30-3:30. H-GAC is also looking for OSSFs that are failing or in need of repair. The homeowner must be below 80% of their community's median income to qualify for repairs.

Coastal Communities Residential Outreach Project Update: Identified 22 communities without MS4 permits in four coastal counties, support implementation through outreach for existing watershed protection plans, TMDL I-plans, and other water quality projects in the region. Their goal is to work with residents to change behaviors that often contribute to water pollution issues such as pet waste, fats, oil, grease, litter and illegal dumping abatement, on-site sewage system maintenance. Currently conducting needs assessments to determine how to proceed with outreach plans for each community, for further information www.coastalcommunitiestx.com.

The 24th Trash Bash results are in: 3,591 volunteers, 85.5 tons of trash, .94 ton of recycling, and 158.5 miles of shoreline cleaned. This year Rivers, Lakes, Bays "N Bayous Trash Bash was the winner of the 2018 Texas Environmental Excellence Award (civic/community category). Save the date for Trash Bash 2019 will be March 30, for more information you can logon to www.trashbash.org

Pam Plotkin: Free screening of "Straws" in College Station this Friday with a panel discussion. They are also hoping to provide a free screening at A&M Galveston in the future.

Kate Saul: Adopt -A-Beach will be Saturday April 21st, volunteers may sign-up on the website <http://www.glo.texas.gov/adopt-a-beach>. The Coastal Management Program (CMP) application process is beginning soon, with a workshop May 9th in Galveston. This year, pre-applications are required and will be due on June 14th.

Caimee Schoenbaechler: TWDB has hired a new hydrodynamic modeler who will work on a modeling system for Galveston Bay.

Rebecca Hensley: Texas Parks and Wildlife Department hired a new hydrodynamic modeler from Virginia Institute Marine Science. The model used for Galveston Bay will be expanded.

Linda Shead: Artist Boat closed March 8th on sixty-eight acres. Earth Day event will be Saturday April 21st Bayou Preservation Association will exhibit a new car this year.

Kerry Niemann: Regarding the Texas Coastal Nonpoint Source Management Program: The GLO and TCEQ continue to work with NOAA and EPA on approval of six (6) remaining conditions. The remaining conditions are watershed protection, site development, existing development, new development, and roads, highways, and bridges, which have been combined; and On-site Disposal Systems (which includes OSDS Contributions to Nitrogen Limited Waters, and the inspection of OSDS at a

frequency adequate to ascertain if they are failing). The deadline to submit an approvable program is June 2019.

Regarding the TMDL Program: The Lower San Antonio River Implementation Plan was released for public comment on March 23. The public comment period will run for 30-days. The Sycamore Creek TMDL is scheduled to go to agenda for release for public comment on May 23.

Regarding the NPS Program: The 2017 NPS Management Program was approved by EPA on March 23. The 2017 Annual Report was approved by the EPA on April 3. The annual Request for Grant Applications is scheduled to open June 1 and will post for 60 days.

Regarding the 2016 Integrated Report: It is being prepared for public comment and should be released in the Spring.

Regarding Water Quality Standards: They were adopted by the Commission on February 7, 2018 and became effective as a state rule on March 1st. Now with EPA pending approval.

Regarding the Clean Rivers Program: The calendar of Steering Committee Meeting dates may be accessed from the statewide Coordinated Monitoring Schedule. Meetings occur throughout the year and help to establish monitoring priorities. The 2018 Coordinated Monitoring Schedule has been updated and is available on the LCRA's website.

Mike Lee: U. S. Geological Survey is posting three to four jobs in the next six months. They will be available at www.USAJobs.gov.

Lisa Gonzalez: Galveston Bay Report Card funded by Houston endowment for additional two years.

Mollie Powell: General Land Office Harvey debris cleanup in beaches and bays will be completed with existing funds.

Adjourn: Meeting was adjourned at 12:10pm

Upcoming Galveston Bay Council Meeting Dates: July 18, 2018, October 17, 2018. Meetings are held on the third Wednesday of the quarter from 9:30am - 12:30pm. If there are known conflicts, Council members are encouraged to propose alternate dates to the Council.

BYLAWS OF THE GALVESTON BAY COUNCIL

Bylaws approved by Council resolution on 10/19/2016.

ARTICLE I. ORGANIZATION NAME

The name of this organization, hereinafter referred to as the Council, shall be the Galveston Bay Council.

ARTICLE II. ENABLING AUTHORITY

The Galveston Bay Council was created by resolution of the Texas Natural Resource Conservation Commission, now known as the Texas Commission on Environmental Quality (TCEQ or Commission), on November 21, 1995. The Council shall expire as of November 15, 2035, unless a different expiration date is established by subsequent Commission action.

ARTICLE III. PURPOSE AND FUNCTIONS

The Council is an advisory committee to the TCEQ and Galveston Bay Estuary Program (GBEP). The Council will perform the following functions:

1. Provide a forum for technical and stakeholder group review and input during *Galveston Bay Plan* implementation.
2. Advise the TCEQ staff during preparation of progress reports, evaluations, and *Plan* updates.
3. Authorize and make appointments to subcommittees as necessary.
4. Assess the success of action plans and initiate revisions.
5. Address legislative issues and make recommendations to the Texas Legislature.
6. Advise the TCEQ as to annual priorities for implementation of action plans.
7. Monitor the effectiveness of actions taken pursuant to the *Plan*.
8. Review all federal financial assistance programs and federal development projects in accordance with Section 320 of the Clean Water Act.

ARTICLE IV. COUNCIL MEMBERSHIP

Section 1. Composition of Council

The Council shall be composed of 41 members representing the following:

Type of Organization	Interest Represented (listed alphabetically)
Federal Agencies:	National Marine Fisheries Service Natural Resources Conservation Service U.S. Army Corps of Engineers U.S. Coast Guard U.S. Environmental Protection Agency U.S. Fish and Wildlife Service U.S. Geological Survey
State Agencies:	Texas Commission on Environmental Quality Texas Department of Agriculture Texas Department of State Health Services Texas Department of Transportation Texas General Land Office Texas Parks & Wildlife Department Texas Railroad Commission Texas State Soil & Water Conservation Board Texas Water Development Board
Regional/Local Governments:	City of Houston Gulf Coast Waste Disposal Authority Houston-Galveston Area Council Large Local Governments (populations >500,000) Medium Local Governments (populations 25,000 -500,000) Port of Houston Authority San Jacinto River Authority Small Local Governments (populations <25,000) Trinity River Authority
Environmental/ Citizen's Groups:	Citizens-at-Large Coastal Conservation Association Galveston Bay Foundation League of Women Voters Low-income Community Representatives Underrepresented Community Representatives Other Conservation Organizations
Industry/ Business Sector:	Commercial Fisheries East Harris County Manufacturer's Association Nature Tourism Greater Houston Partnership Industry Marinas Utilities
Research/ Academia:	Major Universities Sea Grant Program

Section 2. Appointment of Members

All Galveston Bay Council members are appointed by and serve at the pleasure of the Commission.

Section 3. Vacancies

A member of the Council vacates his/her membership when;

1. the member resigns, dies, or becomes incapacitated; or
2. the member fails to meet the attendance requirements described in Article IV. Section 6; or
3. the member is removed by the Commission; or
4. the member no longer represents the type of organization or interest represented identified in Article IV. Section 1; or
5. the member's term expires.

Section 4. Filling Vacancies

If a vacancy occurs in a membership position that represents a specific agency or organization identified in Article IV. Section 1., then that agency or organization shall nominate to the Commission a replacement for the vacancy.

If a vacancy occurs in a membership position that is not represented by a specific agency or organization identified in Article IV. Section 1., then the Council shall nominate to the Commission a replacement for the vacancy. Such nominations shall be made in accordance with *The Galveston Bay Plan* to maintain the balance of representation.

Section 5. Terms

Council members shall serve four-year terms. Council members' terms are staggered such that approximately half the terms will expire biennially in November. The members are grouped as follows into four-year terms offset by two years:

Type of Organization	Group 1	Group 2
Federal Agencies	National Marine Fisheries Service Natural Resource Conservation Service U.S. Coast Guard U.S. Geological Survey	U.S. Army Corps of Engineers U.S. Environmental Protection Agency U.S. Fish and Wildlife Service
State Agencies	Texas Commission on Environmental Quality Texas Department of Agriculture Texas Department of State Health Services Texas General Land Office Texas Parks & Wildlife Department	Texas Department of Transportation Texas Railroad Commission Texas State Soil & Water Conservation Board Texas Water Development Board
Regional/ Local Governments	City of Houston Gulf Coast Waste Disposal Authority Houston-Galveston Area Council Medium Local Governments (populations 25,000 -500,000) Small Local Governments (populations <25,000) Trinity River Authority	Large Local Governments (populations >500,000) Port of Houston Authority San Jacinto River Authority
Environmental /Citizen's Groups	Citizens-at-Large League of Women Voters Underrepresented Community Representatives	Coastal Conservation Association Galveston Bay Foundation Low-income Community Representatives Other Conservation Organizations
Industry/ Business Sector	Greater Houston Partnership Nature Tourism	Commercial Fisheries East Harris County Manufacturer's Association Industry Marinas Utilities
Research/ Academia	Major Universities	Sea Grant Program

Section 6. Attendance

Attendance shall be recorded at all Council meetings. If a Council member misses three consecutive regular meetings, as defined in Article IV. Section 1., or more than half of all Council meetings in a one-year period, that member automatically vacates his/her position on the Council. In the case of a vacancy the Council shall nominate a replacement to the Commission. The Commission shall make an appointment to fill the remainder of the unexpired term of the vacancy. Proxies shall count for meeting attendance.

ARTICLE V. OFFICERS

Section 1. Terms and Elections

The Council shall select a Chair and Vice-Chair biennially from among its members that do not represent a Federal or State agency or department. Officers may serve successive terms.

Section 2. Chair

The Chair shall preside at all regular and called meetings of the Council. The Chair shall review and approve agendas for all Council meetings prior to their distribution to members. The Chair may call special meetings of the Council, appoint standing and ad-hoc committees, and may delegate duties and responsibilities to the Vice-Chair. The Chair shall report Council's advice and attendance in writing to the Commission. The Chair may assign administrative tasks/duties related to the operation of the Council to the GBEP program manager.

Section 3. Vice-Chair

The Vice-Chair shall assume the duties of the Chair in the event of the Chair's absence or inability to serve.

ARTICLE VI. EXPENSES

Members of the Council shall not be reimbursed for expenses unless the commission expressly authorizes reimbursement by resolution. The commission may, in its discretion, reimburse the expenses of members of any duly authorized subcommittee of an advisory committee.

ARTICLE VII. MEETING PROCEDURES

Section 1. Regular Meetings

At least one regular meeting of the Council shall be held in each calendar quarter. At the last regular meeting of each calendar year, regular meeting dates for the following year shall be established. Advance notice and agenda packets for regular meetings shall be provided to the full membership at least 10 days in advance by first class U.S. Mail or facsimile, or other electronic means. Other program information, GBEP products, and member requested materials may be distributed with the agenda packets.

Section 2. Called (Special) Meetings

The Chair or a TCEQ Commissioner may call special meetings of the Council. Advance notice and an agenda for a called meeting shall be provided to the full membership at least five days in advance by first class U.S. mail, facsimile, or other electronic means. Other program information, GBEP products, and member requested materials may be distributed with the agenda or at meetings.

Section 3. Open Meetings

All meetings of the Council shall be open to the public in accordance with the Texas Open Meetings Act requirements.

Section 4. Quorum

A quorum of the Council shall be a simple majority of the members or their designated proxies.

Section 5. Proxies

A Council member may designate in writing or by electronic means to the Chair the name of a specific person who may participate on his/her behalf at any meeting of the Council. The Chair of the Council shall recognize such proxies received prior to or during the meeting. Proxies shall count toward member attendance.

Section 6. Voting

The Council shall attempt to reach all decisions by consensus. If consensus is not reached, the Council meetings shall follow parliamentary procedures in *Robert's Rules of Order, Newly Revised*. If voting is required, each Council member or designated proxy shall have one vote.

Section 7. Meeting Agendas, Materials, and Information

The agenda shall be developed by the Chair and the GBEP program manager. The Chair shall review and approve all regular meeting agendas prior to their distribution. Council members with items for inclusion on the agenda shall submit such items to the GBEP program manager at least three weeks prior to the meeting.

Section 8. Minutes

Minutes of all Council meetings shall be taken by the GBEP program manager and shall be distributed to members as soon as possible but no later than 10 days prior to the

next regular Council meeting. Minutes will be approved by the Council at their next regular meeting.

ARTICLE VIII. SUBCOMMITTEES

The Chair may appoint standing and ad-hoc subcommittees. One member of each subcommittee shall serve as the Chair of that subcommittee. The Chair of the subcommittee shall be a Council member. A non-Council member may serve as the Chair only if approved by the Council. Subcommittee Chairs shall make written reports regarding their subcommittee's work to the Chair of the Galveston Bay Council. Subcommittees of the Council may include members who are not members of the Council, but must include at least one member of the Council. A Vice-Chair will be selected and will perform the duties of the Chair in the event of the Chair's absence. A GBEP staff member will assist each subcommittee in its operation.

ARTICLE IX. CONDUCT AND CONFLICTS OF INTEREST

Council members may not use or allow the use of, for other than official council purposes, information obtained through or in connection with their council affiliation that has not been made available to the general public.

In no case shall a Council member represent individual opinions as those of the Council, the GBEP, or the TCEQ.

In order to make GBEP business transparent, any Council member or proxy that has an interest (financial, personal or business interest including a contract, subcontract, or grant) in any matter before the Council or a subcommittee or working group shall identify such interest prior to discussion and voting on such matter. No Council member or proxy shall cast a vote or seek to influence any decision on any matter that would provide a direct financial benefit to that member or proxy, or otherwise give the appearance of a conflict of interest under State, Federal, or local law. The Council member shall recuse themselves after identifying any conflict of interest and refrain from any deliberations on that matter.

All Council members are expected to conduct themselves in a civil manner, showing courtesy and respect to other Council members, GBEP staff, and any other individuals present at the meeting.


ARTICLE X. AMENDMENT OF BYLAWS

These Bylaws may be amended by two-thirds vote of the members of the Council in attendance at a regular meeting.

ARTICLE XI. ANNUAL ACKNOWLEDGEMENT OF BYLAWS


Each Council member will sign a form each year that acknowledges these Bylaws. That form shall include a reprint of Article IX, Conduct and Conflicts of Interest. Failure to sign this acknowledgement will prevent that member or proxy from voting at Council or subcommittee meetings.

DRAFT




State of the Bay, 4th Edition Update and Path Forward

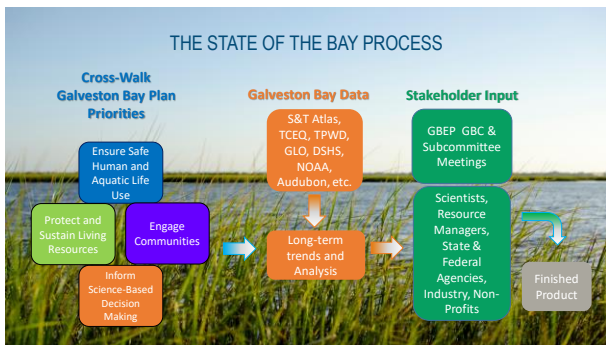
Lisa Gonzalez
President, HARC



Components of a Bay Information Framework

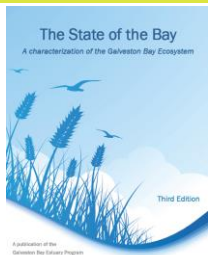
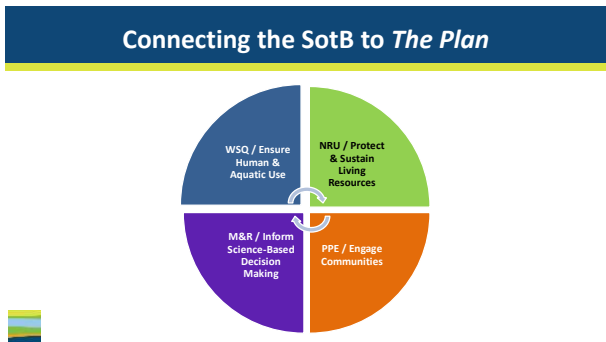


Modified from the Integration and Application Network at University of Maryland Center for Environmental Science




SOTB 1st – 3rd Edition Chapters

1. Assessing the state of Galveston Bay
2. Galveston Bay: An overview of the system
3. The Human Role: Past
4. The Human Role: Present
5. Physical Form and Processes
6. Water and Sediment Quality
7. Key Habitats of the Galveston Bay Watershed
8. The Bay's Living Resources
9. The Bay and Public Health
10. The Future of Galveston Bay

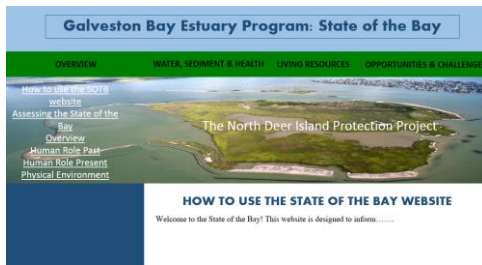



SOTB 4th Edition Proposed Sections

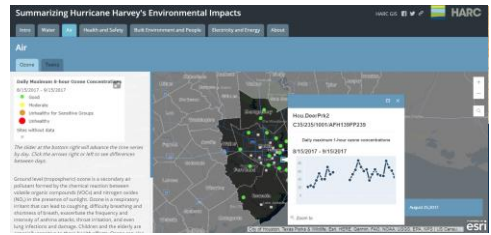
- **Overview:**
 - How to use the State of the Bay website
 - Assessing the state of Galveston Bay
 - Galveston Bay: An overview of the system
 - The Human Role: Past
 - The Human Role: Present
 - Physical Environment
- **Water, Sediment & Health:**
 - Water and Sediment Quality
 - Freshwater Inflows
 - The Bay and Public Health
- **Living Resources:**
 - Key Habitats of the Galveston Bay Watershed
 - The Bay's Fish & Wildlife Communities
 - Invasive Species
- **Successes, Opportunities & Challenges:**
 - Imbedded in sections
 - TBD Story map Gallery

 To connect SotB subheadings with Plan Priorities

4th Edition – Online Structure



Embedded Story Maps



Major Tasks & Timelines

Quality Assurance Project Plan	Approved March 2018
Determine new outline aligned with Galveston Bay Plan (June subcommittee meetings)	Spring-Summer 2018
Acquire data & additional information <ul style="list-style-type: none"> Data Bibliography Photos 	Spring-Summer 2018
Draft text & success stories, submit to TCEQ GBEP & stakeholders for review	Summer – Fall 2018
Create website	Fall – Winter 2018/19
Launch website & release PDF summary document	Spring 2019
Host website/ track visitor traffic	5 years after launch

QUESTIONS?



Lisa Gonzalez
jgonzalez@HARCresearch.org

Dr. Erin Kinney
ekinney@HARCresearch.org

HARC (hărk), *n.*
 an independent research
 hub helping people thrive
 and nature flourish.



Galveston Bay Council
April 18, 2018

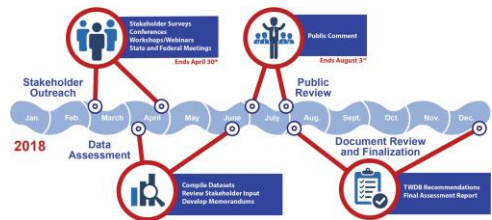
STATE FLOOD ASSESSMENT PROJECT GOALS

1. Assess flood risks and roles
2. Estimate flood mitigation costs
3. Envision the future of flood planning in Texas

STATE FLOOD ASSESSMENT PROJECT GOALS

- will provide a comprehensive understanding of existing programs, risks, and needs for floodplain management and mitigation
- will incorporate broad input from stakeholders
- *will not* standardize project evaluations or prioritize projects for funding

STATE FLOOD ASSESSMENT PROJECT TIMELINE

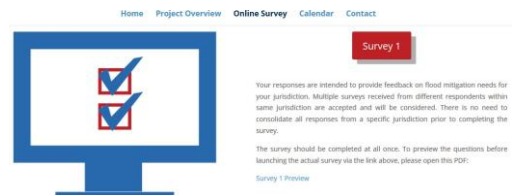


STATE FLOOD ASSESSMENT STAKEHOLDER WORKSHOPS

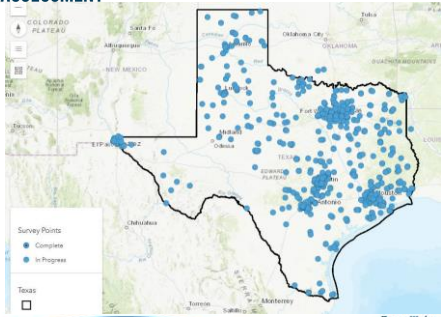


- March 27 Austin
- March 29 El Paso
- April 3 Nacogdoches
- April 5 Lubbock
- April 10 McAllen
- April 17 Arlington
- April 20 Houston
- April 25 Corpus Christi

STATE FLOOD ASSESSMENT www.TexasFloodAssessment.com



STATE FLOOD ASSESSMENT EARLY SURVEY RESULTS



STATE FLOOD ASSESSMENT EARLY SURVEY RESULTS

My community would most benefit from more state resources directed toward



STATE FLOOD ASSESSMENT EARLY SURVEY RESULTS



STATE FLOOD ASSESSMENT

WE NEED YOUR HELP



STATE FLOOD ASSESSMENT REGIONAL CONTACTS



Wes Birdwell, PE	(512) 777-4545
Cindy Engelhardt, PE, CFM	(512) 777-4552
April Smith, PE, CFM	(512) 457-7818
Chris Wright, PE	(512) 419-6419
Jeff Irvin, PE	(512) 419-6523
Tucker Martin	(817) 764-7497
Barney Austin, PhD, PE	(512) 826-2604
Wes Birdwell, PE	(512) 913-2906
Scott Rushing, PE, CFM	(817) 764-7487
Susan Roth, PE, PMP	(512) 796-6692
Sam Hinojosa, PE, CFM	(936) 777-6372
Ross Gordon, PE, CFM, LEED AP	(281) 675-1765

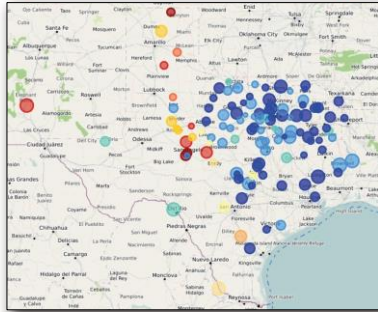


OTHER FLOOD RELATED ACTIVITIES

- Additional flood-hardened USGS stream gages
- Website enhancements
 - www.TexasFlood.org
 - www.Texmesonet.org
- TexMesonet (website, stations, & partners)
- Support of NWS flood forecasting
- Expanded funding for Flood Protection Grants
- Expanded community outreach & assistance
- Acquisition of LIDAR data



[//waterdatafortexas.org/](http://waterdatafortexas.org/)



Water Data for Texas Reservoirs Drought Groundwater Coastal

STATE FLOOD ASSESSMENT THANK YOU

Mindy Conyers, PhD
State Flood Assessment Coordinator
512-463-5102
mindy.conyers@twdb.texas.gov

www.TexasFloodAssessment.com

www.twdb.texas.gov www.facebook.com/twdb [@twdb](https://twitter.com/twdb) Texas Water Development Board



www.twdb.texas.gov

www.facebook.com/twdbboard @twdb



Topics

- What is the Texas Water Development Board (TWDB)?
- What financing tools do we offer?
- How can the TWDB help you complete your project?


www.twdb.texas.gov

www.facebook.com/twdbboard @twdb



Mission

The TWDB's mission is to provide leadership, planning, financial assistance, information and education for the conservation and responsible development of Water for Texas.







www.twdb.texas.gov

www.facebook.com/twdbboard @twdb



TWDB Resources

 <p>Project Financing</p> <ul style="list-style-type: none"> • Water • Wastewater • Flood Control • Nonpoint Source Pollution Control 	 <p>Science</p> <ul style="list-style-type: none"> • Groundwater availability • Environmental flows • Lake surveys • Conservation • Innovative Technologies • TexMaconet (Weather Data) 	 <p>Planning</p> <ul style="list-style-type: none"> • State Water Plan • Interface with regional water planning groups • Water Use Surveys 	 <p>Data</p> <ul style="list-style-type: none"> • State's official repository for mapping & GIS data • Demographics • Flood data • Interactive State Water Plan
---	--	---	---

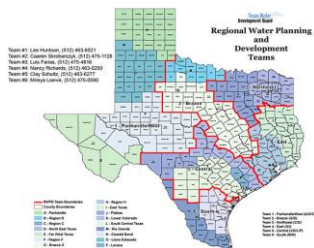
www.twdb.texas.gov

www.facebook.com/twdbboard @twdb



TWDB Across Texas

- Austin
- Harlingen
- Houston
- Lubbock
- Mesquite



Water Planning in Texas

Regional Planning Groups analyze water supply needs on a 50-year planning horizon

- Municipalities, agriculture, industry, and power generation are all considered
- Each regional plan lists **recommended water management strategies** and their anticipated costs



www.twdb.texas.gov

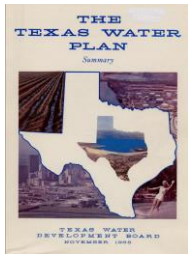
www.facebook.com/twdbboard @twdb



www.twdb.texas.gov

www.facebook.com/twdbboard @twdb





State Water Plan by Year:

1961, 1968, 1984, 1990, 1992, 1997, 2002, 2007, 2012, 2017 next 2022

2017 Texas State Water Plan

Population

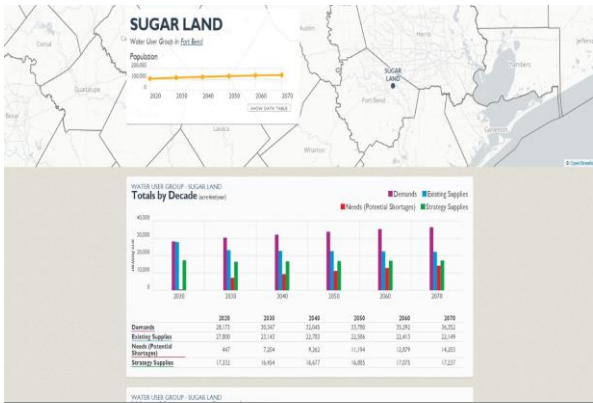
2000 2010 2020 2030 2040 2050

Interactive State Water Plan
texasstatewaterplan.org

Development of the state water plan is critical to the mission of the Texas Water Development Board. Based on its regional water plan, the plan addresses the needs of all water user groups in the state – municipal, irrigation, manufacturing, domestic, mining, and clean electric power – during a period of record that the state suffered in the 1950s. The regional and state water plans consider a 50-year planning horizon: 2020 through 2070.

This website lets water users investigate data on regional water use in the 2017 State Water Plan and how water needs change over time by showing:

- projected water demands,
- existing water supplies,
- the relative severity and projected water needs (potential shortages),
- the water management strategies recommended to address potential shortages, and
- recommended capital projects and other options.



Are the rivers near me flooding?
I need to evacuate. Which route is safest?
What's the weather forecast?
How full are the lakes near me?

TEXAS FLOOD.org
What to Do? Before, During, and After a Flood

What to Do? Before, After, and During a Flood

- What is a flood?
- Before a Flood
- During a Flood
- After a Flood

Flood Protection Grant Programs
National Flood Insurance Program (NFIP)
Workshop & Training
Community Resources
Flood Mitigation Planning Staff

Texas is no stranger to flood. With its diverse geography and extensive, hilly coastline, the state frequently leads the nation not only in structural damage but also in loss of lives related to flooding events. Given the deadly nature of floods and the rapid timeframe in which they can occur, being ready for the next event is essential. We list the most critical steps to take in each stage of the flood.

www.TexMesonet.org

TEXMESONET
Weather Forecast Historical Weather Data Services About

2017 Hurricane Season
Last 10 - September 2017
2017 Hurricane 2017 - Click on the link to view details

Map of Texas showing weather data points.









A Toolbox for Public Water Utilities

With the creation of the TWDB, the legislature created a set of financing tools to help public utilities achieve their infrastructure goals.

Many of our financing options are unique, and some are designed for specific purposes:

- Rural Projects
- Projects serving Economically Distressed Areas
- Right-sizing projects for future demand

A Toolbox for Public Water Utilities

-  Agricultural Water Conservation Loans/Grants (AG)
-  Clean Water State Revolving Fund (CWSRF)
-  Drinking Water State Revolving Fund (DWSRF)
-  Economically Distressed Areas Program (EDAP)
-  Rural Water Assistance Fund (RWF)
-  State Participation Program (SP)
-  State Water Implementation Fund for Texas (SWIFT)
-  Texas Water Development Fund (DFund)

How Can These Tools Work for You?
















AAA Bond Rating/
Interest Rate
Subsidization

Funding to
accommodate
projects of all sizes

















Some projects
qualify for combined
funding through
multiple programs

All project phases are
eligible for funding

Eligible Applicants

	SWIFT	CWSRF	DWSRF	EDAP	RWAF	SP	DFund
Political Subdivisions							
Non-profit WSC's							
Investor-owned Utilities							

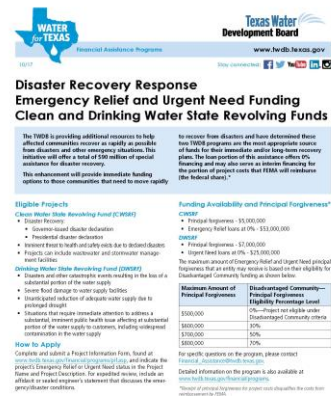
Eligible Projects

	SWIFT	CWSRF	DWSRF	EDAP	RWAF	SP	DFund
Water Supply: Current Need							
Water Supply: Future Need							
Water Treatment							
Water Transmission & Distribution							
Potable Reuse							
Wastewater Collection							
Wastewater Treatment							
Nonpoint Source Pollution Control							
Flood Control & Storm Water Management							



**Disaster Recovery Response
Special Funding for Water-Related
Infrastructure**





**Disaster Recovery Response
Emergency Relief and Urgent Need Funding
Clean and Drinking Water State Revolving Funds**

The TWDB is providing additional resources to help affected communities recover as rapidly as possible from disasters and other emergency situations. This initiative will offer a total of \$56 million of special assistance for disaster recovery. This enhancement will provide immediate funding options to those communities that need to recover rapidly.

Eligible Projects

- Clean Water State Revolving Fund (CWSRF)
 - Disaster Recovery
 - General fund disaster declaration
 - Presidential disaster declaration
 - Emergency flood health and safety costs due to broken/boiling
 - Projects can include wastewater and stormwater management facilities.
- Drinking Water State Revolving Fund (DWSRF)
 - Disasters and other catastrophic events resulting in the loss of a substantial portion of the water supply
 - Ground water damage to water supply facilities
 - Unplanned reduction of adequate water supply due to physical drought
 - Unplanned reduction of adequate water supply due to a substantial, imminent public health issue affecting a substantial portion of the water supply to customers, including underground contamination in the water supply

How to Apply

Complete and submit a Project Information Form, based at least on the information provided on the program website and the project's Emergency Relief or Urgent Need status in the Project Status and Project Description. For expedited review, include an affidavit or water engineer's statement that discusses the emergency/disaster conditions.

Funding Availability and Principal Forgiveness*

Program	Principal Forgiveness
CWSRF	<ul style="list-style-type: none"> Principal forgiveness: \$1,000,000 Emergency fund based on 0%: \$12,000,000
DWSRF	<ul style="list-style-type: none"> Principal forgiveness: \$1,000,000 Urgent Need based on 0%: \$23,000,000

Maximum Amount of Principal Forgiveness

Program	Disadvantaged Community - Eligibility Percentage Level
\$100,000	0% - Project not eligible under Disadvantaged Community criteria
\$200,000	10%
\$300,000	50%
\$400,000	100%

*Percent of principal forgiveness for projects which qualifies for the credit loss recovery by TWDB.

Flood Protection Grant Programs



Flood Protection Planning

• Grants to conduct feasibility studies for structural and non-structural solutions to flood hazards in an entire watershed



Flood Mitigation Assistance

• Federal funding for cost-effective measures to reduce or eliminate long-term flooding risk



Severe Repetitive Loss

• Federal funding to assist implementation of mitigation measures to reduce or eliminate long-term risk

Pre-Application Meetings



www.twdb.texas.gov

www.facebook.com/twdbboard @twdb

Texas Water
Development Board

www.twdb.texas.gov

www.facebook.com/twdbboard @twdb

Texas Water
Development Board

Scott Galaway, Outreach Specialist

Texas Water Development Board – Houston
Field Office
3920 Cypress Creek Parkway, Suite 330
Houston, Texas 77068-3547
Office: 281 895-0722 |
scott.galaway@twdb.texas.gov
www.twdb.texas.gov

TEXAS WATER DEVELOPMENT BOARD

1700 North Congress Avenue, Austin, TX 78701
TEL: 512-463-7847 / FAX: 512-475-2053

[Facebook](#) [Twitter](#) [LinkedIn](#) [YouTube](#) [Join Mail List](#)

www.twdb.texas.gov

www.facebook.com/twdbboard @twdb

Texas Water
Development Board

PLANNING OVERVIEW & UPDATE - THE TEXAS COASTAL RESILIENCY MASTER PLAN

Kate Saul
Texas General Land Office
Galveston Bay Council Meeting
April 18, 2018

Presentation Overview

- Recap 2017 Texas Coastal Resiliency Master Plan
- Enhancements for the 2019 Plan
- 2019 Planning Process
 - 2017 Fall meetings – gather input
 - 2018 Spring meetings – evaluative projects
- Next Steps

THE NEED FOR A TEXAS COASTAL RESILIENCY MASTER PLAN

In support of the General Land Office's legislative authority to restore, enhance and protect the state's coastal natural resources, the Texas Coastal Resiliency Master Plan provides a framework for community, socio-economic, ecological and infrastructure protection from coastal hazards.

PLANNING TEAM

- GLO contracted with AECOM for engineering services, HRI for data analysis and Crouch Environmental for education and outreach.
- The Technical Advisory Committee (TAC) is made up of more than 200 coastal experts.

TECHNICAL ADVISORY COMMITTEE

- State & federal agencies
- Universities
- Local governments
- Non-profits
- Engineering firms
- Port representatives
- Regional trusts, foundations & partnerships

Technical Advisory Committee (TAC)

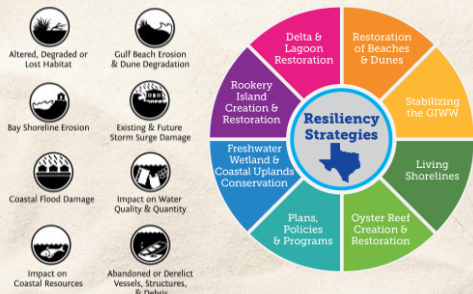
2017 TEXAS COASTAL RESILIENCY MASTER PLAN

Products: Executive Summary, The Plan, and Technical Document

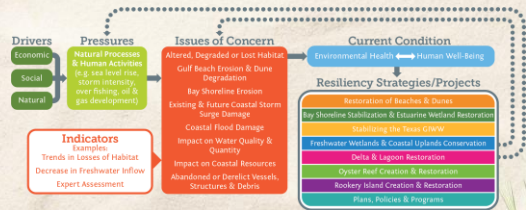
Project Result	Region	Name	Plan Development Team Assessment		TAC Assessment		Plan Development Team Assessment		
			Initial Score	Final Score	Y/N	Feasibility	Score	Feasibility	
Tier 1	3	Chokeberry Island Riparian Habitat Protection	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 1	4	Crystal Beach Park and Golf Course Restoration	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 1	4	Bahia Grande Wetlands Restoration	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 1	4	Port of Corpus Christi Wetlands Restoration	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 1	4	Bird Island & Texas Island Restoration	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 1	4	Wash Bay Wetlands Restoration	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 1	4	Engineers Island Wetlands Restoration	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Marsh Restoration Data Collection & Monitoring Station	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Longhorn Wetlands of Gulf Development and Restoration	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Wetland Restoration in Support of Wetland Dunes and Other Structures	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Construction of Artificial Banks to Reduce Impacts of the Gulf of Mexico	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Wetland Restoration, Water Quality Improvement, and Flood Risk Reduction	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Coastal Dune and Flood Buffer	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Dune and Wetland Protection and Buffer Access	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Alternative Solutions for Beach Erosion	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	0	Trinity Dunes and Wetlands Frequency Assessment	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	1	Trinity Sea Level Rise Wetlands Frequency Assessment	4	3.75	Y	4.00	4.00	4.00	4.00
Tier 2	1	Deep Island and Upper Island Restoration	4	3.75	Y	4.00	4.00	4.00	4.00

<http://www.glo.texas.gov/coast/coastal-management/hurricane-preparedness/index.html>

2017 COASTAL IOCs AND STRATEGIES



2017 RESILIENCY STRATEGY FRAMEWORK



2019 TEXAS COASTAL RESILIENCY MASTER PLAN ENHANCEMENTS

- 1. Enhance 2017 Plan Resiliency Strategies and Framework to incorporate storm surge suppression and infrastructure projects.
- 2. Identify multi-faceted actions that consider nature-based and traditional infrastructure to enhance community resiliency.
- 3. Conduct a gap analysis to identify actions that are needed where projects are not specifically proposed.
- 4. Introduce physical modeling to adapt to future changing conditions and to ensure the most resilient suite of projects is identified.
- 5. Incorporate best practices into the 2019 Plan, and define adaptive management processes for proposed actions and projects.

2019 RESILIENCY STRATEGY FRAMEWORK

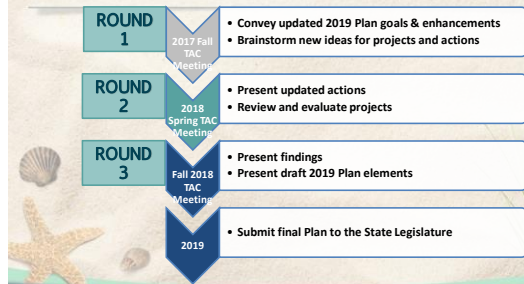


Actions: one or more proposed projects that work to mitigate a coastal IOC or the underlying Pressures.

COASTAL RESILIENCY STRATEGIES



OVERVIEW OF TAC MEETINGS FOR 2019 PLAN



ROUND 1 2019 TAC MEETINGS

Fall 2017 – Meetings to solicit input from TAC on regional solutions, incorporating infrastructure projects.

Update TAC members on 2017 Plan results

Discuss regional coastal issues of concern

Inform TAC of 2019 Plan enhancements

Review proposed projects and actions for Region

Identify potential locations and applications for multi-faceted (combining "green" and "gray") actions



MEETING FORMAT

Multi-Disciplinary Conversation to Initiate Mutually Beneficial Ideas



Feedback driven by:

- Small Group Discussions
- Large Group Open Discussions
- Individual Comment Cards

Reference Materials: Info packet, quick reference card, and maps

INTEGRATED INFRASTRUCTURE EXAMPLE

IMPROVEMENTS TO CIVIC AMENITY PROPERTY



REBUILD BY DESIGN MEADOWLANDS CAG Meeting #7 // January 31, 2017 AECOM

GAP ANALYSIS



Wetland Change

- Past (USFWS National Wetlands Inventory)
- Future (SLAMM Model)
- Altered, Degraded or Lost Habitat IOC Evaluations



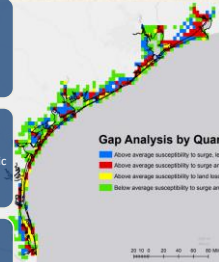
Shorelines

- Armored Shorelines (NOAA ESI data)
- Shoreline Change Rates (UT-Bureau of Economic Geology)
- GIWW (Ducks Unlimited Breakwater Model)

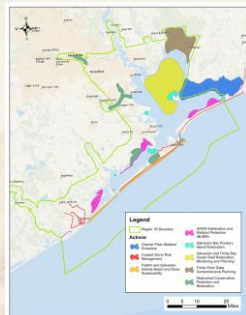


Storm Surge Inundation

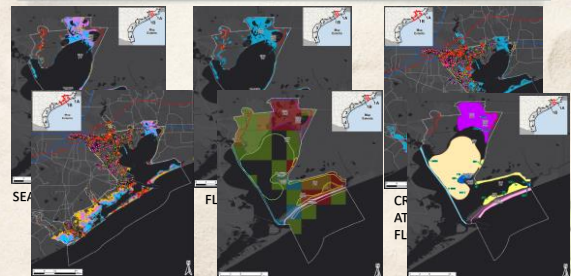
- Present (Percent Developed Impervious)
- Future (SLOSH Model)



REGION 1B ACTIONS



Data Shown at TAC Meeting

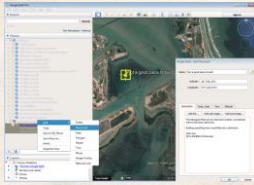


CRITICAL FACILITIES AT RISK DUE TO SEA LEVEL RISE

GAP ANALYSIS

ACTIONS

Feedback Process



- Google Earth data layers
- Two types of feedback
 - Individual comment form
 - Small group Google Earth notes

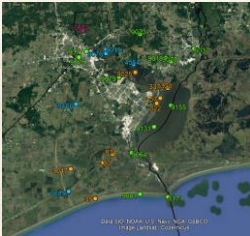
ROUND 2 2019 TAC MEETINGS

Spring 2019 – Meetings for TAC evaluation of proposed regional actions and solutions

- Recap 2019 Plan intent and concepts
- Discuss Coastal Resiliency Framework applications
- Inform TAC of current regional actions
- Review and evaluate proposed projects for region

MEETING FORMAT AND GOAL

Goal: Evaluate an array of projects and discuss their priority to achieving Texas coastal resiliency.



- Feedback driven by:
- Small Group Discussions
 - Large Group Open Discussions
 - Individual Worksheets

Reference Materials: Info packet, quick reference card & maps

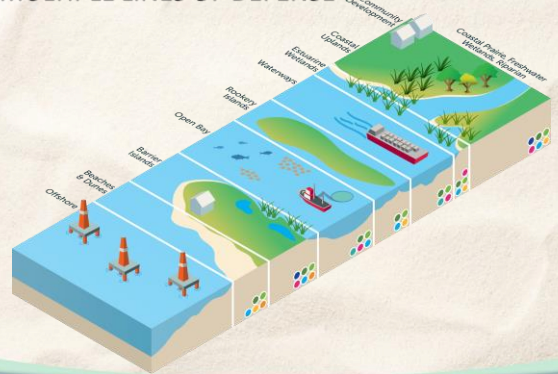
Meeting Format

- Recap Fall meetings
- Coastal Resiliency Framework
 - Capture resiliency examples
- Evaluate Projects
 - Detailed
 - Conceptual
 - Planning
 - 2017 Tier 1
- Next Steps

EXAMPLE IOC RELATIONSHIPS

Issues of Concern (IOC) & Example Considerations	
	Altered, Lost or Degraded Habitat (ALDH) Coastal Pressures: Tropical Storms, Hurricanes and Extreme Weather Events, Relative Sea Level Rise, Depletion of Freshwater Inflow, Sediment Deficits, Industry Activity, and Infrastructure and Development Example Considerations: Mangroves, Estuarine and Freshwater Wetlands, Bottomland Hardwood Forests and Coastal Flats
	Gulf Beach Erosion and Dune Degradation (GBEDD) Coastal Pressures: Tropical Storms, Hurricanes and Extreme Weather Events, Relative Sea Level Rise, Sediment Deficits, and Infrastructure and Development Example Considerations: Subsidence, Sediment Deficit, Impacts from Development, Storm Impacts, Erosion and Sea Level Rise
	Bay Shoreline Erosion (BSE) Coastal Pressures: Tropical Storms, Hurricanes and Extreme Weather Events, Relative Sea Level Rise, Sediment Deficits, Industry Activity, and Infrastructure and Development Example Considerations: Subsidence, Sediment Deficit, Impacts from Development, Storm Impacts, Erosion and Sea Level Rise
	Existing and Future Coastal Storm Surge Damage (EFCSSD) Coastal Pressures: Tropical Storms, Hurricanes and Extreme Weather Events, Relative Sea Level Rise, and Infrastructure and Development Example Considerations: Sea Level Rise, Coastal Storms and Impacts from Development
	Coastal Flood Damage (CFD) Coastal Pressures: Tropical Storms, Hurricanes and Extreme Weather Events, Relative Sea Level Rise, Sediment Deficits, and Infrastructure and Development Example Considerations: Storms, Storm Flooding, nuisance Flooding and Impacts from Development
	Impact on Water Quality and Quantity (IWQ) Coastal Pressures: Tropical Storms, Hurricanes and Extreme Weather Events, Depletion of Freshwater Inflow, Industry Activity, and Infrastructure and Development Example Considerations: Freshwater Inflow, Nutrients, Water Pollution Chemical, Sediment, Saltwater Intrusion, Non-Point Source Pollution, Hydrologic Connectivity, Artificial Aquifer Storage and CS Sinks
	Impact on Coastal Resources (ICR) Coastal Pressures: Tropical Storms, Hurricanes and Extreme Weather Events, Relative Sea Level Rise, Depletion of Freshwater Inflow, Sediment Deficits, Industry Activity, and Infrastructure and Development Example Considerations: Oysters, Turtles, Fish, Fish, Crabs and Endangered Species
	Abandoned or Derelict Vessels, Structures and Debris (ADVSD) Coastal Pressures: Tropical Storms, Hurricanes and Extreme Weather Events, Relative Sea Level Rise, Industry Activity, and Infrastructure and Development Example Considerations: Obstructions to Public Easement, Abandoned Oil and/or Gas Wells, Abandoned Boats, Dock Piling and Piers, Storm Cleanup

MULTIPLE LINES OF DEFENSE



PROJECT EVALUATIONS: DETAILED PROJECTS

ID	Name	Resiliency Strategy	Action
112	Treasure Island Nourishment Project	Beach and Dune Enhancement	Follet's and Galveston Islands Beach and Dune Sustainability
255	Candy Abshier Wildlife Management Area Shoreline Protection and Marsh Restoration	Wetland Enhancement	Chenier Plain Wetland Protection
1194	Galveston Island State Park Wetland Restoration & Shoreline Protection Phase 3	Wetland Enhancement	N/A
1199	Babe's Beach Nourishment	Beach and Dune Enhancement	Follet's and Galveston Islands Beach and Dune Sustainability
1214	Essex Bayou Habitat Restoration Engineering	Freshwater Inflow and Tidal Exchange Enhancement	GIWW Stabilization and Wetland Protection (BUDM)
1218	The Bolivar Peninsula Nature Trail	Wetland Enhancement	N/A

112

TREASURE ISLAND NOURISHMENT PROJECT

ID	Name	Project Subtype (Type)	Current Funding Sources and Allocations
112	Treasure Island Nourishment Project	Beach Nourishment (Gulf)	N/A
	Status		
	Proposed / Engineering & Design		
	Action	Category	Resiliency Strategy
	Follet's and Galveston Islands Beach and Dune Sustainability	Detailed	Beach and Dune Enhancement
Description			
The project focuses on developing alternatives for a beach nourishment project in the vicinity of the revetment and fishing pier area to widen the beach and provide a buffer to reduce storm impacts to the existing shoreline. The GLO executed a Project Cooperation Agreement with Treasure Island for permitting and design. Funding is still needed for construction.			

The provided ID and project name allow for cross-referencing with the more detailed information provided in the Information Packet.

Please fill in the IOC boxes below with the corresponding level of benefit achieved by this project.
0 - no benefit 1 - slight benefit 2 - moderate benefit 3 - high benefit 4 - essential

ID #002:	Restore Upper and Lower Laguna Madre Dredge Placement and Roostery Islands							
	ALDH	GBDD	BSE	EFCSSD	CFD	IWQQ	ICR	ADVSD
Feasibility (0-4)								
Priority (Y/N)								

Would you consider this project a priority for coastal resiliency in this region? (Y/N)

What is the feasibility of executing this project?
0 - not feasible 1 - low feasibility 2 - moderate feasibility 3 - high feasibility 4 - certain feasibility

Under "Notes," provide additional information. For example, additional project details, known impediments to implementing this project, ways the project could be improved, and thoughts on project goals or intent.

NEXT STEPS



THANK YOU!

Kate Saul
Team Lead Coastal Policy & Audit
Texas General Land Office
Kate.Saul@glo.texas.gov
(512) 936-9581