Final Report to the Texas Commission on Environmental Quality for Galveston Bay Estuary Program (GBEP) Comprehensive Conservation and Management Plan Revision

TCEQ Contract no.: 582-17-70188

Submitted on December 20, 2018

Questions about this report should be directed to:
Kathy Janhsen
Houston–Galveston Area Council
P.O. Box 22777
Houston, TX 77227–2777
713–993–2423
Kathy.Janhsen@h-gac.com

Funding for this report was provided by the U.S. Environmental Protection Agency and the Texas Commission on Environmental Quality.
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REFERENCES (DOCUMENT LINKS)

Project Website
Public Engagement Plan
Workshop #1 Full Execution Plan
Workshop #1 Meeting Results
Workshop #2 Full Execution Plan
Workshop #2 Meeting Results
DRAFT Water & Sediment Quality Framework
DRAFT Public Participation & Education Framework
DRAFT Monitoring & Research Framework
DRAFT Natural Resource Uses Framework
Workshop #3 Full Execution Plan
Workshop #3 Meeting Results
The Galveston Bay Plan, 2nd Edition (Accessibility–Compliant Version)
The Galveston Bay Plan, 2nd Edition – Appendix D (Accessibility–Compliant Version)
The Galveston Bay Plan, 2nd Edition – Appendix E (Accessibility–Compliant Version)
The Galveston Bay Plan, 2nd Edition – Appendix F (Accessibility–Compliant Version)
The Galveston Bay Plan, 2nd Edition – Executive Summary (anticipated December 2018)

APPENDICES

Appendix A: Contract Communication Log
Appendix B: Project Article
Appendix C: Presentations to the Galveston Bay Council
I. Executive Summary
The Galveston Bay Estuary Program’s (GBEP) Comprehensive Conservation and Management Plan (CCMP), *The Galveston Bay Plan (GBP’95)*, was completed in 1995. An update to *GBP’95, Charting the Course to 2015: Strategic Action Plan (SAP)* was completed in 2005. The Environmental Protection Agency’s (EPA) Fiscal Year 2015–2016 funding guidance to National Estuary Programs (NEP) requires that each NEP complete a full revision of their CCMP prior to September 30, 2018.

The Houston–Galveston Area Council (H–GAC) worked with the GBEP and its partner organizations to revise *GBP’95*, thus fulfilling the EPA requirements for NEP’s to revise their management plans to better reflect current challenges and priorities.

That revision, *The Galveston Bay Plan, 2nd Edition (GBP’18)*, builds upon 30 years of factual and scientific information. It identifies specific Actions, Goals, and Objectives to address Priority Issues identified by stakeholders. The strategies and tools identified in *GBP’18*, in concert with the collaboration, coordination and monitoring that occur through the Galveston Bay Council and its subcommittees, will ensure that generations to come continue to Back the Bay.

II. Introduction
Galveston Bay is the largest of 12 estuaries in Texas and is the seventh largest in the nation. The watershed that flows into Galveston Bay covers approximately 24,000 square miles, accounting for nine percent of the State of Texas’ total square mileage. The lower watershed downstream of Lake Livingston and Lake Houston is the focus of *GBP’18*. It covers approximately 4,000 square miles and influences the estuary through 1,295 miles of rivers, streams, and bayous.

*GBP’18* is a long–term plan that contains 38 Actions to address water quality and living resource challenges and priorities, as well as identifies ways to support robust engagement and monitoring activities.

III. Project Significance & Background
*GBP’18* is a blueprint to guide future decisions in Galveston Bay to address a wide range of environmental protection issues, including:

- water quality;
- habitat;
- fish and wildlife;
- pathogens;
- land use; and
- introduced species.

The Actions identified within *GBP’18* are used to develop the GBEP’s annual work plan and priority projects for funding recommendations.
More than 150 members of the Galveston Bay community, representing local governments, industry, academia, nonprofit organizations, resource agencies and the public, donated their time and talents to develop GBP’18.

**IV. Methods**

*Task 1. Project Management*

The H–GAC acted as Project Manager for GBP’18, providing general project oversight, maintaining and frequently updating the project schedule and associated deliverables timeline, and leading internal / external communication efforts.

H–GAC also supported the Technical Advisory Committee for GBP’18, comprised of the GBEP Project Manager, Galveston Bay Council chair, a TCEQ representative, an EPA representative, and other key stakeholders.

Frequent communication between the H–GAC Project Manager and GBEP Project Manager occurred (see Appendix A: Project Communications Log). In addition, H–GAC provided a Project Article, a one-page briefing paper to the GBEP Project Manager upon her request (see Appendix B: Project Article).

*Task 2. Public Engagement*

GBP’18 is the result of strong and sustained involvement by the Galveston Bay Council and its subcommittees. It serves as a guidance document for improved coordination among stakeholders across the Galveston Bay watershed to optimize the efficiency and efficacy of regional efforts and to avoid duplication.

H–GAC developed a Public Engagement Plan, outlining the process used to inform and engage stakeholders about GBP’18. In addition to the Public Engagement Plan, H–GAC developed a Full Execution Plan (FEP) for each of the three workshops held in the development of GBP’18. Each FEP included goals for each workshop, a detailed agenda, promotional information, and data needs. Links to these material outcomes can be found on page 7.

Between October 2016 and March 2018, H–GAC facilitated three workshops and one open house. These meetings provided stakeholders and the public with an opportunity to participate in pre–planning, prioritization, and review of GBP’18 content. Links to associated meeting reports and outcomes can be found on page 7. H–GAC also facilitated discussion with the Galveston Bay Council subcommittees through six meetings and presented project updates to the Galveston Bay Council on three separate occasions.

To support public engagement activities, H–GAC developed a project website. The website – hosted on H–GAC’s main website – publicized opportunities to participate in the creation of GBP’18, background and resource information, provided a location for downloading GBP’18, and all other required materials. A link to the project website can be found on page 7.
H-GAC solicited comments on the DRAFT GBP’18 during a 30-day public comment period. Commenters were invited to provide feedback in-person during Workshop #3 on March 6, 2018 as well as online. During this time, 427 comments were received. All comments were documented, and H-GAC provided draft responses to public comments to the GBEP for review and approval.

**Task 3. DRAFT Plan Revision Framework and Prioritization**

To ensure GBP’18 built on the successes and sound scientific basis provided by GBP’95 and the SAP, H-GAC reviewed and incorporated those documents into a summary chart of existing work efforts, called the Plan Revision Frameworks.

The Frameworks were used as a starting point for discussion during Workshop #1 and six Galveston Bay Council subcommittee meetings. Final versions of the Frameworks, based on stakeholder priorities, were presented during Workshop #2. Links to the Frameworks can be found on page 7.

**Task 4. DRAFT Plan Revision**

Based on feedback on the Frameworks received during Workshop #2, H-GAC developed draft GBP’18 content for the GBEP’s review and guidance.

Content development was iterative, with more than six versions of the document developed and reviewed by the GBEP and / or Galveston Bay Council, its subcommittees, and the Technical Advisory Council prior to the release of the DRAFT GBP’18 in March 2018 for public comment.

The DRAFT GBP’18 included:

- Summary table listing the prior CCMP’s actions completed, revised, ongoing, and obsolete,
- Description of how the NEP has contributed to or supported activities that helped develop new information,
- A map of the study area,
- Description of the NEP’s program structure and membership,
- Discussion of proposed changes in Actions,
- Monitoring approach,
- Finance strategy,
- Habitat/restoration strategy,
- Public review process and summary of public comments,
- Crosswalk table comparing GBP’95 and GBP’18.

During the 30-day public comment period, 427 comments were received.

**Task 5. Final Plan**

Based on stakeholder feedback and public comments, the DRAFT GBP’18 was revised where deemed appropriate by the GBEP and the TCEQ. Responses to all 427 comments received during the public comment period were included in the final version of GBP’18.
H-GAC presented GBP’18 to the Galveston Bay Council. On October 17, 2018 it was unanimously approved for adoption. As of November 16, 2018, GBP’18 is awaiting approval and adoption by the TCEQ Commissioners. After that, it will move forward to the EPA for final approval. A link to GBP’18 can be found on page 7.

In addition, an accessibility–compliant version of GBP’18 was developed in compliance with TCEQ requirements. A link to the accessibility–compliant version of GBP’18 can be found on page 7.

Task 6. Final Report
This document fulfills Subtasks 6.1 and 6.2, as outlined by the contract.

Task 7. Additional Review, Edits & Revisions
No additional review, edits or revisions were required.

Task 8. Executive Summary
Completion of Task 8 is currently underway and will be completed prior to the project end date. Once completed, the Executive Summary will be made available on the project website. In addition, an accessibility–compliant version of the Executive Summary will be developed with TCEQ requirements. A link to the accessibility–compliant version of the Executive Summary can be found on page 7.

V. Results & Observations
The final version of GBP’18, pending TCEQ and EPA review and approval, builds on the original document and identifies new and emerging issues that must be addressed in a simpler, easier to read format. GBP’18 is 312 pages, including covers and appendices.

A total of ten facilitated stakeholder meetings were held over the course of the project, with three additional meetings with the Technical Advisory Committee, three presentations to the Galveston Bay Council, and two workshop training sessions also conducted.

More than 150 stakeholders provided content, comment, and feedback for GBP’18. The following individuals provided formal comment between March 5, 2018 – April 4, 2018.

<table>
<thead>
<tr>
<th>COMMENTER</th>
<th>NUMBER OF COMMENTS PROVIDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandt Mannchen, Sierra Club – Houston (LETTER)</td>
<td>171</td>
</tr>
<tr>
<td>Doug Jacobson, EPA (VERBAL / E–MAIL)</td>
<td>25</td>
</tr>
<tr>
<td>Jan Culbertson, TPWD (ONLINE FORM)</td>
<td>3</td>
</tr>
<tr>
<td>Jeff Taebel, H–GAC (E–MAIL)</td>
<td>3</td>
</tr>
</tbody>
</table>
VI. Discussion

Successes
H–GAC staff has identified the following activities as successes for the creation of GBP’18:

- Engagement with Subcommittees
  Through facilitated workshops and individual meetings, the subcommittees to the Galveston Bay Council provided consistent, quality technical information and non-technical guidance in the development of GBP’18.

Opportunities for Growth
H–GAC staff identified the following areas for potential growth and improvement for future CCMP updates / revisions:

- Review Requirements & Processes
  For the next CCMP update and / or revision, H–GAC will seek to more clearly understand the GBEP and the TCEQ review requirements and associated timelines, as well as accessibility compliance requirements.

REFERENCES (DOCUMENT LINKS)

i www.GalvestonBayPlan.org


# APPENDIX A
## CONTRACT COMMUNICATION LOG

<table>
<thead>
<tr>
<th>DATE</th>
<th>TYPE</th>
<th>DISCUSSION ITEMS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/28/2016</td>
<td>Meeting with Sarah</td>
<td>Workshop #1 Brainstorming</td>
</tr>
<tr>
<td>8/24/2016</td>
<td>Meeting with Sarah</td>
<td>Kick-Off Meeting (Contract, TAC Composition, NEP Questionnaire &amp; Draft PEP)</td>
</tr>
<tr>
<td>9/7/2016</td>
<td>Call with Advisory Committee</td>
<td>Notes not available.</td>
</tr>
<tr>
<td>9/20/2016</td>
<td>Meeting with Sarah</td>
<td>Notes not available.</td>
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<tr>
<td>10/14/2016</td>
<td>Meeting with Sarah</td>
<td>Notes not available.</td>
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<tr>
<td>10/22/2016</td>
<td>Workshop #1 / Open House</td>
<td>See workshop meeting report online.</td>
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<tr>
<td>11/22/2016</td>
<td>Meeting with Sarah</td>
<td>Notes not available.</td>
</tr>
<tr>
<td>12/1/2016</td>
<td>WSQ Subcommittee Meeting</td>
<td>WSQ Framework for The Plan</td>
</tr>
<tr>
<td>12/8/2016</td>
<td>Call with Sarah</td>
<td>Conference Call</td>
</tr>
<tr>
<td>12/12/2016</td>
<td>M&amp;R Subcommittee Meeting</td>
<td>M&amp;R Framework for The Plan</td>
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<tr>
<td>1/12/2017</td>
<td>NRU Subcommittee Meeting</td>
<td>NRU Framework for The Plan</td>
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<tr>
<td>1/12/2017</td>
<td>Meeting with Sarah, Nancy, GBEP Staff</td>
<td>Workshop #2 Discussion (FEP Submitted &amp; Discussed)</td>
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<tr>
<td>1/17/2017</td>
<td>PPE Subcommittee Meeting</td>
<td>PPE Framework for The Plan</td>
</tr>
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<td>1/24/2017</td>
<td>Call with Sarah</td>
<td>Workshop #2 Discussion</td>
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<tr>
<td>2/2/2017</td>
<td>Lunch Meeting w/Sarah</td>
<td>The Galveston Bay Plan Revision Outline</td>
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<td>2/8/2017</td>
<td>Meeting with Sarah</td>
<td>Workshop #2 Walk-Thru &amp; Discussion</td>
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<td>2/21/2017</td>
<td>Workshop #2 Training w/GBEP Staff</td>
<td>Materials &amp; Activities Dry Run and Discussion</td>
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<td>3/1/2017</td>
<td>Workshop #2</td>
<td>See workshop meeting report online.</td>
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<td>3/23/2017</td>
<td>Meeting with Sarah</td>
<td>Notes not available.</td>
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<td>4/26/2017</td>
<td>Meeting with Sarah</td>
<td>Timeline / Schedule, Revised Review Process, Revised Outline, To Do List Updates</td>
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<td>5/12/2017</td>
<td>Meeting with Sarah</td>
<td>Schedule Changes &amp; To Do Lists</td>
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<tr>
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<td>Call with Sarah</td>
<td>Style Guide, Accessibility Requirements, GBEP Review, Introduction Re-vamp, Name Alternative for Global Plan Elements</td>
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<td>5/31/2017</td>
<td>Meeting with Sarah</td>
<td>Workshop #2 Findings report, Public Comment Log, Revised Text Timelines, Comprehensive Edits, Monitoring Partners List</td>
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<tr>
<td>6/13/2017</td>
<td>Call with Sarah</td>
<td>Comprehensive Draft 1 Discussion - Prior to Send Out</td>
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<tr>
<td>6/23/2017</td>
<td>Meeting with Sarah</td>
<td>GBEP Edits / Changes to Nomenclature, TAC Review, EPA Review</td>
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<tr>
<td>Date</td>
<td>Event Description</td>
<td>Details</td>
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<tr>
<td>------------</td>
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<tr>
<td>7/12/2017</td>
<td>Meeting with Sarah</td>
<td>Project Status Update, July 19 GBC Meeting Preparation, MR and PPE Priority Plan Language Options</td>
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<td>Call with Sarah</td>
<td>Syntax, Nomenclature of Hierarchy, Technical Section Introductions, Potential Facilitated Meeting</td>
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<td>w/GBEP Staff, Language Preferences</td>
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<td>7/20/2017</td>
<td>Call with Sarah</td>
<td>GBC Presentation &amp; Discussions with EPA Contact</td>
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<tr>
<td>7/27/2017</td>
<td>Meeting with Sarah</td>
<td>All-Day Facilitated Discussion RE: Outline, Hierarchal Language, Action Plans, Outstanding TAC</td>
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<td>Issues, Next Steps &amp; Milestones</td>
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<tr>
<td>8/24/2017</td>
<td>Call with Sarah</td>
<td>Content Discussion, Eblast Status, Technical Templates Status, Letters of Support, Contract</td>
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<td>Extension</td>
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<td>8/30/2017</td>
<td>Call with Sarah</td>
<td>Content-Specific Discussions</td>
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<td>9/6/2017</td>
<td>Call with Sarah</td>
<td>Content Discussion, Eblast Status, Technical Templates Status, Letters of Support, Contract</td>
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<td>Call with Sarah</td>
<td>Content Discussion, Outstanding Text from GBEP, Crosswalk / Actions, Timing for Sharing DRAFT</td>
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<td>9/29/2017</td>
<td>Call with Sarah</td>
<td>Amendment Discussion</td>
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<td>10/25/2017</td>
<td>Call with Sarah</td>
<td>Status of Letters of Support, Comprehensive Draft 3 Status, Public Comment Log, Amendment 1,</td>
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<td>Comprehensive Draft 3, Amendment 1, Revised Timeline</td>
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<td>Call with Sarah</td>
<td>Amendment 1 Follow Discussion (Contract Budget / Tasks Remaining)</td>
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<tr>
<td>12/8/2017</td>
<td>Call with Sarah</td>
<td>Check In: Amendment 1 Follow Discussion (Contract Budget / Tasks Remaining)</td>
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<tr>
<td>1/8/2018</td>
<td>Call with Sarah</td>
<td>Check In: Amendment 1, draft document taskers, planning for release to GBC / subcommittees</td>
</tr>
<tr>
<td>1/31/2018</td>
<td><strong>Presentation of draft to GBC</strong></td>
<td><strong>H-GAC Presented The Galveston Bay Plan, 2nd Edition draft to GBC / Subcommittees</strong></td>
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<tr>
<td>2/13/2018</td>
<td>Meeting w/GBEP Staff</td>
<td>Group review / discussion of outstanding GBC / subcommittee edits and comments for incorporation</td>
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<td></td>
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<td>prior to release for Public Comment.</td>
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<tr>
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<td>Call with Sarah</td>
<td>Discussed outstanding updates to draft document, as well as training timeline and day-of details.</td>
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<td>2/26/2018</td>
<td>Workshop #3 Training w/GBEP Staff</td>
<td>Training call for Workshop #3 / Open House Facilitators</td>
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<tr>
<td>2/27/2018</td>
<td>Call with Sarah and Cynthia</td>
<td>Open House Talking Points Discussion / Media Inquiries</td>
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<td>3/5/2018</td>
<td><strong>Workshop #3</strong></td>
<td>See draft workshop meeting report, submitted on 5/7/18.</td>
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<td>4/9/18</td>
<td>Call with Sarah &amp; Team</td>
<td>Discussion of draft public comment responses.</td>
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<td>5/3/18</td>
<td>Executive Summary Kickoff Meeting w/GBEP Team</td>
<td>Proposed content of Executive Summary, timeline, and expectations.</td>
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<td>5/11/18</td>
<td>Call with Sarah</td>
<td>Check-in on public comment responses, pending GBEP and TCEQ feedback.</td>
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<tr>
<td>7/19/18</td>
<td>Call with Sarah, Cynthia, and Cassidy</td>
<td>Project management transition plan and updates to the timeline / milestones.</td>
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<td>7/24/18</td>
<td>Call with Kerry &amp; GBEP Team</td>
<td>Discussed public comment responses, revised timeline / milestones, GBC approach.</td>
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<td>Call with Kerry</td>
<td>Discussed Budget Revision and content of foreword, following Sarah’s departure from GBEP.</td>
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<td>Call with Cynthia</td>
<td>Discussed performance measures appendix.</td>
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<tr>
<td>10/4/18</td>
<td>Call with Cynthia, Lisa and Cassidy</td>
<td>Discussed Executive Summary content, layout and timeline.</td>
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<td>10/15/18</td>
<td>Call with Cynthia, Lisa and Cassidy</td>
<td>Discussed accessibility requirements / path forward and revised timeline.</td>
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<tr>
<td>10/17/18</td>
<td><strong>Presentation of final draft to GBC</strong></td>
<td><strong>H-GAC Presented The Galveston Bay Plan, 2nd Edition final draft to GBC / Subcommittees for adoption</strong></td>
</tr>
<tr>
<td>11/27/18</td>
<td>Call with Cynthia, Lisa and Cassidy</td>
<td>Discussed edits to Executive Summary, revised delivery timeline, additional edits to GBP'18 and accessibility documents.</td>
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Galveston Bay Comprehensive Conservation and Management Plan Revision

<table>
<thead>
<tr>
<th>Waterbody: Galveston Bay and connecting waters</th>
<th>Project Period: September 28, 2016—May 31, 2018</th>
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<tbody>
<tr>
<td>Location: Galveston Bay Watershed</td>
<td>GBEP Contribution: $75,000</td>
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<td>Contractor: Houston–Galveston Area Council</td>
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**Project Description:**
The Galveston Bay Estuary Program (GBEP) is one of 28 National Estuary Programs (NEPs), each charged with developing a collaborative Comprehensive Conservation and Management Plan (CCMP). For GBEP, the CCMP is titled, *The Galveston Bay Plan*, also known as, *The Plan*.

The Galveston Bay Plan
This document guides conservation and restoration of the estuary and surrounding natural resources. It is based on scientific research aimed at protecting and restoring Galveston Bay through the identification of problems, solutions, and actions to meet the bay's growing needs. The most recent version, approved in 1995, established 82 management initiatives to address 17 specific priority problems.

**Strategic Action Plan**
In 2005, the GBEP created the Strategic Action Plan (SAP) to focus on three sections to highlight priority areas of *The Plan*. This document characterized goals and objectives of each priority area that would guide planning and implementation through 2015.

Priority areas included:

1. Protecting existing coastal habitats in the Lower Galveston Bay Watershed.
2. Creating a sense of personal ownership and shared responsibility for all cultural components of the community including the public, industry, and government.
3. Restoring and enhancing coastal habitats in the Lower Galveston Bay Watershed.
4. Ensuring freshwater inflows necessary to maintain the balance of salinity, nutrients, and sediments required to support a productive estuary.
5. Reducing non-point source pollutant loads.

6. Obtaining information to develop and evaluate Estuary Program communication efforts.
7. Maintaining the capacity and integrity of municipal sanitary sewer collection systems to eliminate sewage bypasses and authorized overflows.
8. Minimizing the risk of waterborne illness resulting from contact recreation.
9. Supplying Galveston Bay Council members with the information and assessments they need to protect and manage the resources of the Galveston Bay ecosystem.

[Click here to view the Strategic Action Plan (2009)]

The Galveston Bay Estuary Program
*The Plan* has provided successful stewardship of the Galveston Bay Estuary for more than 20 years, with progress made across all 82 management initiatives. Still, changes in funding, population, and regulatory processes have created new issues and challenges for Galveston Bay.

The goal of this project is to revise *The Plan* to a more current version while maintaining the strengths of the original. The revised document, known as *The Galveston Bay Plan, 2nd Edition*, will identify new issues impacting the estuary and watershed that were not addressed by *The Plan* or SAP, and present them in an easily accessible format.

Once a draft of *The Galveston Bay Plan, 2nd Edition* is complete, it will be made available for public comment. To learn more about the revision, visit [www.GalvestonBayPlan.org](http://www.GalvestonBayPlan.org).

**For More Information:**
Sarah Bernhardt, Program Manager, Galveston Bay Estuary Program: 281–486–1240 | Sarah.Bernhardt@tceq.texas.gov

Kathy Janhsen, Houston–Galveston Area Council: Kathy.Janhsen@h-gac.com

**Partners:**
Plan Revision Tasks

- Facilitate Stakeholder Involvement
- Encourage Public Engagement
- Seek Public and Agency Comments
- Secure Council and Agency Approval
Plan Revision Document

Utilize Existing Documents

Identify New and Emerging Issues

Prioritize and Track Progress

Facilitate, Coordinate and Collaborate
Project Time Line

9/2016

Plan Revision Framework and Prioritization 9/2016-1/2017

Draft Plan Revision 1/2017-4/2017

Final Plan Revision 4/2017-10/2017

10/2017

Preproject Planning: Draft Crosswalk from GB Plan, SAP and Implementation Review

Public Engagement Plan

1st. Public Workshop 10/2016

Prioritization and Framework Development

2nd. Public Workshop 1/2017

Draft Plan Revision

3rd. Public Workshop 4/2017

Agency Draft Plan Review

Public Comment Period 6/2017

Address Comments

Plan Revision Agency Approval

GBC Approval 10/2017

GBC/Subcommittee

GBC Meeting

Subcommittee

GBC Meeting

Subcommittee

GBC Meeting

GBC Meeting
Website Component
Thank You!

Jeff Taebel
Director of C&E Planning
Jeff.taebel@h-gac.com
713.993.4560

Meredith Dang
Chief Regional Planner
Meredith.dang@h-gac.com
713.993.2443

Steven Johnston
Sr. Environmental Planner
steven.johnston@h-gac.com
832.681.2579
APPROACH PHILOSOPHY

- RECOGNIZE THE SUCCESSES
- FILL IN THE GAPS
- UNDERSTAND ITS ITERATIVE NATURE
APPROACH PHILOSOPHY

RECOGNIZE THE SUCCESSES

FILL IN THE GAPS

UNDERSTAND ITS ITERATIVE NATURE
APPROACH PHILOSOPHY

- Recognize the successes
- Fill in the gaps
- Understand its iterative nature
RECOGNIZE THE SUCCESSES

FILL IN THE GAPS

UNDERSTAND ITS ITERATIVE NATURE

APPROACH PHILOSOPHY
### COMPARING THE TWO PLANS

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Priority Issues</strong></td>
<td>17</td>
<td>13</td>
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<tr>
<td><strong>Action Plans</strong></td>
<td>10</td>
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<tr>
<td><strong>Actions</strong></td>
<td>82</td>
<td>38</td>
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</tbody>
</table>
# THE GALVESTON BAY PLAN, 2nd Edition

## PLAN PRIORITY 1: ENSURE SAFE HUMAN AND AQUATIC LIFE USE

**ACTION PLANS**

- **IMPROVE WATER QUALITY THROUGH NONPOINT SOURCE POLLUTION ABATEMENT (NPS)**
- **IMPROVE WATER QUALITY THROUGH POINT SOURCE POLLUTION ABATEMENT (PS)**
- **PROMOTE PUBLIC HEALTH AND AWARENESS (PHA)**

## PLAN PRIORITY 2: PROTECT AND SUSTAIN LIVING RESOURCES

**ACTION PLANS**

- **SUPPORT HABITAT CONSERVATION (HC)**
- **SUPPORT SPECIES CONSERVATION (SC)**
- **SUSTAIN FRESHWATER INFLOWS (FWI)**
## Structure of the 2nd Edition

1. **Plan Priorities**
   - 4

2. **Action Plan**
   - 10

3. **Priority Issues**
   - 13

4. **Goals**
   - 15

5. **Objectives**
   - 38

6. **Actions**
   - 38
ENSURE SAFE HUMAN AND AQUATIC LIFE USE

IMPROVE WATER QUALITY THROUGH NONPOINT SOURCE POLLUTION ABATEMENT (NPS)

PRIORITY ISSUE
NPS pollution causes impairments in the region’s waters.

GOAL
Reduce NPS source pollution.

OBJECTIVES
1. Develop and implement local WBPs with partners and stakeholders.
2. Develop and support a Back the Bay NPS education campaign.
3. Implement NPS BMP projects.
4. Host NPS workshops to enhance technical understanding and expand the use of BMPs.

ACTIONS
NPS-1
NPS-2
NPS-3
NPS-4
NPS-1

Support Watershed-based Plan Development and Implementation

Develop and implement local watershed-based plans (WBP) with local partners and stakeholders.

NPS pollution causes impairments to the region’s waters. To address this, the GBEP and its partners are identifying target area(s) to schedule implementation by developing prioritization measures, such as relationship of water body to water quality standard, size of water body, access to monitoring data, etc.

Action for the Lower Galveston Bay watershed

**MEASURE(S)**

- Within 2-5 years, support development and / or implementation of two WBPs (20% of goals met).
- Within 5-10 years, support development and / or implementation of three additional (five total) WBPs (50% of goals met).
- Within 10-plus years, support development and / or implementation of five additional (10 total) WBPs (100% of goals met).

**OUTPUTS**

- Within 2-5 years, implement WBP(s).
- Within 5-10 years, implement additional WBP(s) (2 out of 3).
- Within 10-plus years, implement additional WBP(s) (5 out of 10).

**IMPLEMENTATION COST**

- $0 - $200,000
- $200,000 - $1 Million
- $1 Million - $500 Million

**POTENTIAL IMPLEMENTERS**

- Water and Sediment Quality Subcommittee
- Future Watershed Partners
- Galveston Bay Foundation
- Houston Advanced Research Center
- Houston-Galveston Area Council
- Texas A&M AgriLife Extension Service
- Texas Commission on Environment
- Texas Parks and Wildlife Department
- Texas State Soil and Water Conservation Board

**REFERENCES**

- SAP Reference: Ecosystem and Human Health – WSQ: Goal 1 / Objective A
Project Kickoff & Workshop #1

FALL 2016

Subcommittee Meetings & Workshop #2

SPRING 2017

SUMMER 2017

Creation of The Plan, 2nd Ed DRAFT

SPRING 2018

Workshop #3

SUMMER 2018

Update The Plan, 2nd Ed DRAFT

FALL 2018

Present The Plan, 2nd Ed to GBC
OPEN HOUSE FOR PUBLIC COMMENT
March 5, 2018
4 – 7 p.m.

Texas A&M AgriLife Extension - Galveston
4102-B Main St
La Marque, TX 77568

ONLINE FORUM FOR PUBLIC COMMENT
Opens March 5, 2018 at 4 p.m.
Closes April 4, 2018 at 4 p.m.

www.GalvestonBayPlan.org/Comments
www.GalvestonBayPlan.org

E-mail Kathy.Janhsen@h-gac.com with questions.
The Galveston Bay Plan, 2nd Edition

The Comprehensive Conservation and Management Plan for the Galveston Bay Ecosystem

Galveston Bay Council Presentation
October 17, 2018
THE GALVESTON BAY PLAN, 2ND EDITION

PLAN PRIORITY 1: ENSURE SAFE HUMAN AND AQUATIC LIFE USE

- IMPROVE WATER QUALITY THROUGH NONPOINT SOURCE POLLUTION ABATEMENT (NPS)
- IMPROVE WATER QUALITY THROUGH POINT SOURCE POLLUTION ABATEMENT (PS)
- PROMOTE PUBLIC HEALTH AND AWARENESS (PHA)

PLAN PRIORITY 2: PROTECT AND SUSTAIN LIVING RESOURCES

- SUPPORT HABITAT CONSERVATION (HC)
- SUPPORT SPECIES CONSERVATION (SC)
- SUSTAIN FRESHWATER INFLOWS (FWI)
### PLAN PRIORITY 3: ENGAGE COMMUNITIES IN CONSERVATION

<table>
<thead>
<tr>
<th>ACTION PLANS</th>
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</thead>
<tbody>
<tr>
<td>STAKEHOLDER &amp; PARTNER OUTREACH (SPO)</td>
</tr>
<tr>
<td>PUBLIC EDUCATION AND AWARENESS (PEA)</td>
</tr>
</tbody>
</table>

### PLAN PRIORITY 4: INFORM SCIENCE-BASED DECISION MAKING

<table>
<thead>
<tr>
<th>ACTION PLANS</th>
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<tbody>
<tr>
<td>APPLIED RESEARCH AND MONITORING (RES)</td>
</tr>
<tr>
<td>INCREASE ACCESS TO GALVESTON BAY ECOSYSTEM INFORMATION (ACS)</td>
</tr>
</tbody>
</table>
CHANGES TO *GBP’18*

Greater Tie-In Between Actions and Plan Priorities
<table>
<thead>
<tr>
<th>ACTION PLANS AND CORRESPONDING ACTIONS</th>
<th>PLAN PRIORITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ensure Safe Human and Aquatic Life Use</td>
</tr>
<tr>
<td><strong>Action Plan: Improve Water Quality Through Nonpoint Source Pollution Abatement (NPS)</strong></td>
<td></td>
</tr>
<tr>
<td>NPS-1 Support Watershed-Based Plan Development and Implementation</td>
<td>x</td>
</tr>
<tr>
<td>NPS-2 Support Nonpoint Source Education and Outreach Campaigns</td>
<td>x</td>
</tr>
<tr>
<td>NPS-3 Implement NPS Best Management Practices</td>
<td>x</td>
</tr>
<tr>
<td>NPS-4 Host Nonpoint Source Workshops</td>
<td>x</td>
</tr>
<tr>
<td><strong>Action Plan: Improve Water Quality Through Point Source Pollution Abatement (PS)</strong></td>
<td></td>
</tr>
<tr>
<td>PS-1 Support Stormwater Education Programs</td>
<td>x</td>
</tr>
<tr>
<td>PS-2 Achieve Sanitary Sewer System Capacity and Integrity</td>
<td>x</td>
</tr>
<tr>
<td>PS-3 Increase Wastewater Treatment Facility Compliance</td>
<td>x</td>
</tr>
<tr>
<td><strong>Action Plan: Promote Public Health and Awareness (PHA)</strong></td>
<td></td>
</tr>
<tr>
<td>PHA-1 Improve Seafood Advisory Awareness</td>
<td>x</td>
</tr>
<tr>
<td>PHA-2 Improve Regional Contact Recreation Risk Awareness</td>
<td>x</td>
</tr>
<tr>
<td>PHA-3 Improve Contact Recreation Safety Through Watershed-Based Plans (WBPs)</td>
<td>x</td>
</tr>
<tr>
<td>PHA-4 Improve Shellfish Consumption Safety Through WBPs</td>
<td>x</td>
</tr>
<tr>
<td>PHA-5 Improve Finished Consumption Safety Through WBPs</td>
<td>x</td>
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<tr>
<td><strong>Action Plan: Support Habitat Conservation (HC)</strong></td>
<td></td>
</tr>
<tr>
<td>HC-1 Land Acquisition</td>
<td>x</td>
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<tr>
<td>HC-2 Habitat Restoration</td>
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<tr>
<td>HC-3 Habitat Enhancement</td>
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<tr>
<td><strong>Action Plan: Support Species Conservation (SC)</strong></td>
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<tr>
<td>SC-1 Native Species Management</td>
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<tr>
<td>SC-2 Invasive Species Control</td>
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</tr>
<tr>
<td><strong>Action Plan: Sustain Freshwater Inflows (FWI)</strong></td>
<td></td>
</tr>
<tr>
<td>FWI-1 Regional Planning for Freshwater Inflows</td>
<td>x</td>
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<tr>
<td>FWI-2 Freshwater Inflows Research and Management</td>
<td>x</td>
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<tr>
<td>FWI-3 Water Conservation and Education</td>
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</tr>
<tr>
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<td>PLAN PRIORITIES</td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
<td>Ensure Safe Human and Aquatic Life Use</td>
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<tr>
<td><strong>Action Plan: Preserve Galveston Bay Through Stakeholder and Partner Outreach (SPO)</strong></td>
<td></td>
</tr>
<tr>
<td>SPO-1 Stewardship Programs and Volunteer Opportunities</td>
<td>x</td>
</tr>
<tr>
<td>SPO-2 Workshops and Events</td>
<td></td>
</tr>
<tr>
<td>SPO-3 Support Regional Initiatives</td>
<td>x</td>
</tr>
<tr>
<td>SPO-4 Local Government Outreach</td>
<td>x</td>
</tr>
<tr>
<td><strong>Action Plan: Support Public Education and Awareness Initiatives (PEA)</strong></td>
<td></td>
</tr>
<tr>
<td>PEA-1 Key Issue Engagement</td>
<td>x</td>
</tr>
<tr>
<td>PEA-2 Adult Education</td>
<td></td>
</tr>
<tr>
<td>PEA-3 Kindergarten to 12th Grade (K-12) Education Efforts</td>
<td>x</td>
</tr>
<tr>
<td><strong>Action Plan: Collaborate with Research Institutions to Support Focus Area Applied Research and Monitoring (RES)</strong></td>
<td></td>
</tr>
<tr>
<td>RES-1 Conduct Biological Stressor Monitoring and Research</td>
<td>x</td>
</tr>
<tr>
<td>RES-2 Conduct Geochemical Stressor Monitoring and Research</td>
<td>x</td>
</tr>
<tr>
<td>RES-3 Conduct Physical Stressor Monitoring and Research</td>
<td>x</td>
</tr>
<tr>
<td>RES-4 Conduct Monitoring and Research to Address Limits to Contact Recreation</td>
<td>x</td>
</tr>
<tr>
<td>RES-5 Conduct Monitoring and Research to Address Limits to Seafood Consumption</td>
<td>x</td>
</tr>
<tr>
<td>RES-6 Evaluate Best Management Practice (BMP) Projects</td>
<td>x</td>
</tr>
<tr>
<td>RES-7 Conduct Research on Ecosystem Service and Economic Valuation of Bay Resources</td>
<td></td>
</tr>
<tr>
<td>RES-8 Complete Coastal Resiliency and Acclimation Studies</td>
<td></td>
</tr>
<tr>
<td><strong>Action Plan: Increase Access to Galveston Bay Ecosystem Information (ACS)</strong></td>
<td></td>
</tr>
<tr>
<td>ACS-1 Tracking Ecosystem Health Indicators</td>
<td>x</td>
</tr>
<tr>
<td>ACS-2 Access to Monitoring and Research Data</td>
<td>x</td>
</tr>
<tr>
<td>ACS-3 Track Galveston Bay Plan Implementation</td>
<td>x</td>
</tr>
</tbody>
</table>
### Changes to GBP’18

- **Greater Tie-In Between Actions and Plan Priorities**
- **Simplified, Consistent Plan Terminology**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCMP</td>
<td>Comprehensive Conservation and Management Plan</td>
</tr>
<tr>
<td>GBP’95</td>
<td>The Galveston Bay Plan</td>
</tr>
<tr>
<td>SAP</td>
<td>Strategic Action Plan</td>
</tr>
<tr>
<td>GBP’18</td>
<td>The Galveston Bay Plan, 2nd Edition</td>
</tr>
</tbody>
</table>
CHANGES TO GBP’18

- Greater Tie-In Between Actions and Plan Priorities
- Simplified, Consistent Plan Terminology
- Inclusion of New, Quantitative Measures for Actions
**Stewardship Programs and Volunteer Opportunities**

**Objective:** Develop new and support existing stewardship programs and volunteer opportunities for stakeholders.

**Priority Issue:** Individuals lack a sense of ownership and/or responsibility for the health of Galveston Bay.

**Description:** The GBEP and its partners are continuing to develop, support, and promote stewardship programs and volunteer opportunities for stakeholders, industry, and government. Opportunities include the GBEP subcommittee participation, project stakeholder meetings, events, and volunteer programs that allow participants to become ambassadors of Galveston Bay. Program types include, but are not limited to, conservation work, water quality management, invasive species management, and trash clean-up events.

**Implementation Location:** Lower Galveston Bay watershed.

---

**ACTIVITIES**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Timeframe and Output(s)</th>
<th>Implementation Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop list of existing stewardship and volunteer programs.</td>
<td>Within 2-5 years.</td>
<td>$0 - $200,000</td>
</tr>
<tr>
<td>Support and fund existing and new stewardship and volunteer programs.</td>
<td>Within 5-10 years, see a measurable increase in existing program participation (specific to programs already supported, such as Texas Stream Team and Trash Bash).</td>
<td>$0 - $200,000</td>
</tr>
<tr>
<td>Support and fund existing and new stewardship and volunteer programs.</td>
<td>Within 5-10 years, support five additional programs (or 50% goal met), per the stewardship plan.</td>
<td>$200,000 - $1 Million</td>
</tr>
<tr>
<td>Support and fund existing and new stewardship and volunteer programs.</td>
<td>Within 10-plus years, support five additional programs (or 100% goal met), per the stewardship plan.</td>
<td>$200,000 - $1 Million</td>
</tr>
</tbody>
</table>

**TIMEFRAME AND OUTPUT(S)**

Identifies activities and timeframes when important milestones will be accomplished.

---

**PERFORMANCE MEASURES**

1. Evaluation and plan to support stewardship and volunteer programs completed.
2. Evaluation and plan to reach underserved geographies and communities completed.
3. Number of existing programs supported by the stewardship plan.
4. Number of new programs created in underserved communities.
5. Evaluation of program success and number of people reached completed.

---

**REFERENCES**

GBP’95/ PFE-1, PFE-5 PFE-6
SAP Reference: Public Awareness: Goal 2 / Objective B

---

**ADDITIONAL PLAN PRIORITY REFERENCES**

Actions relevant to multiple Plan Priorities are indicated here by icon.

---

**PRIORITY ISSUE**

Stakeholder-identified issues of importance that will be addressed.

---

**REFERENCE**

Indicates related sections from GBP’95 and SAP.
CHANGES TO GBP’18

- Greater Tie-In Between Actions and Plan Priorities
- Simplified, Consistent Plan Terminology
- Inclusion of New, Quantitative Measures for Actions
- Comprehensive Review for Readability and Grammar
PROJECT TIMELINE

FALL 2016

Project Kickoff & Workshop #1

SUMMER 2017 – WINTER 2017

Subcommittee Meetings & Workshop #2

SPRING 2017

Creation of GBP’18 DRAFT

SUMMER 2018

Workshop #3

SPRING 2018

Update GBP’18

FALL 2018

TCEQ / EPA Review & Approval

WINTER 2018 – SPRING 2019

Present GBP’18 to GBC
GOAL
The goal of this Executive Summary is to summarize the broad strokes of GBP’18 to ensure readers can rapidly become acquainted with the material without having to read all 312 pages.

AUDIENCE(S)
The primary audience for this Executive Summary is assumed to be the TCEQ Commissioners, elected officials, and potential partners to the GBEP.

TIMELINE
Completion anticipated by or before December 19, 2018.
www.GalvestonBayPlan.org

E-mail Kathy.Janhsen@h-gac.com with questions.