



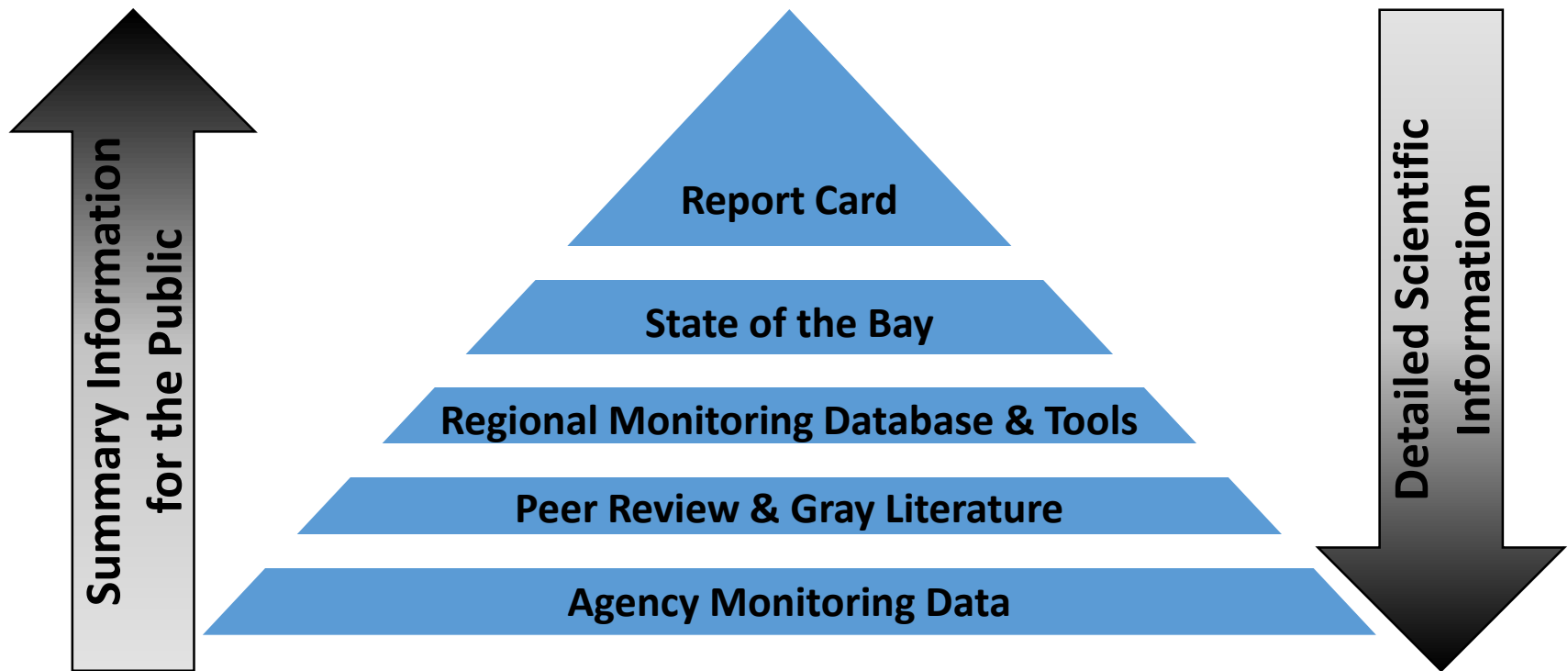
HARC

The State of the Bay 4th Edition

StateofGalvBay.org

Lisa Gonzalez and Erin Kinney

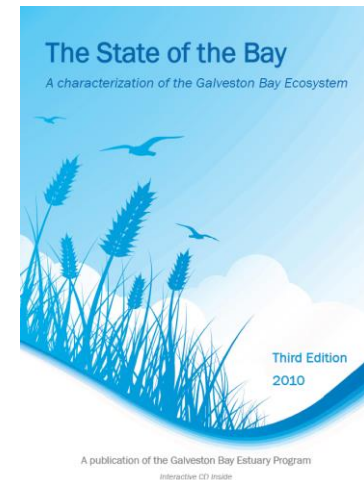
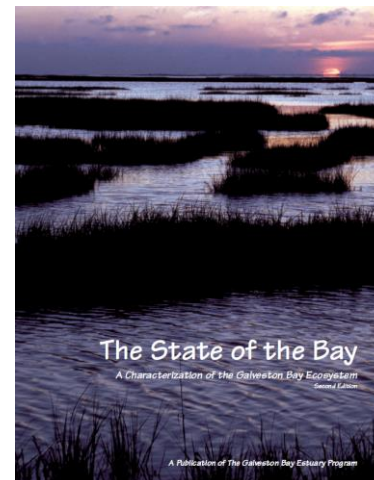
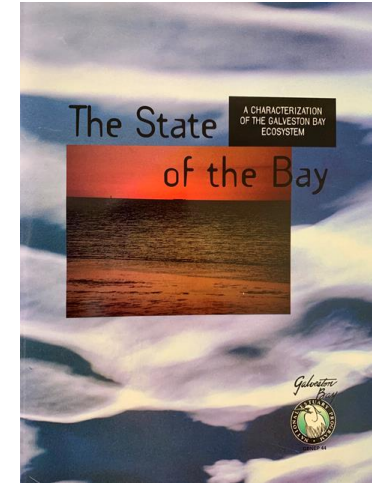
Part of a Bay Information Framework



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

Background

- Three prior editions (1994, 2002, 2010)
- An assessment of conditions in the ecosystem, activities occurring in the watershed, and priority issues facing the Bay and surrounding watershed
- Tool to assist resource managers, researchers and the broader community to inform management actions in support of conservation of Galveston Bay and its surrounding watershed



4th Edition Content

- Greater connectivity to Galveston Bay Plan
- Prior edition content with updated data and expanded sections
 - Freshwater Inflows
 - Invasive Species
- Updated data and information through December 2017
- New technology platforms

Plan Priority	Ensure Safe Human and Aquatic Life Use
Action Plan	Improve Water Quality Through Nonpoint Source Pollution Abatement
Priority Issue	Nonpoint source pollution causes impairment in the region's waters
Goal	Reduce NPS pollution
Action Plan	Improve Water Quality Through Point Source Pollution Abatement
Priority Issue	Regulated wastewater and municipal separate storm sewer systems (MS4) can contribute to the region's impaired waters
Goal	Decrease Stormwater PS pollution through outreach programs
Goal	Decrease WWTFs and sanitary sewer system pollution
Action Plan	Promote Public Health Awareness
Priority Issue	Waterborne pathogens, and toxins found in fish tissue, pose a human health risk due to contact recreation exposure or fish and shellfish consumption
Goal	Increase public awareness of current public health risks
Goal	Reduce public health risk through implementation of WBPs

Plan Priority	Engage Communities
Action Plan	Preserve Galveston Bay through stakeholder and partner outreach
Priority Issue	Individuals do not feel involved in the protection and preservation of Galveston Bay
Priority Issue	Local governments do not feel connected to the health and / or protection and preservation of Galveston Bay
Goal	Increase a sense of responsibility in the health of Galveston Bay
Goal	Support stakeholder and partner involvement in GBEP program policy, management, and implementation
Action Plan	Public education and awareness
Priority Issue	An absence of continued, enhanced and estuary-focused education limits long-term, lasting success in environmental stewardship
Priority Issue	An absence of continued, enhanced, and estuary-focused K-12 education limits long-term, lasting success in environmental stewardship
Goal	Ensure the public receives the knowledge necessary to preserve Galveston Bay

Plan Priority	Protect and Sustain Living Resources
Action Plan	Support Habitat Conservation
Priority Issue	Vital Galveston Bay habitats have been lost or reduced in value by a range of human activities, threatening the Bay's future productivity
Priority Issue	Some Bay shorelines are subject to high rates of erosion and loss of stabilizing vegetation due to past subsidence, rise in sea level, and current human impacts
Priority Issue	Enhance existing habitats to increase overall function and productivity
Goal	Conserve, restore, and enhance vital habitats in the lower portion of the Galveston Bay Watershed
Action Plan	Support Species Conservation
Priority Issue	Certain species of marine organisms and birds are showing a declining population trend
Priority Issue	Invasive species threaten native species, habitats, and ecological relationships
Goal	Sustain and restore native species populations
Action Plan	Sustain freshwater inflows
Priority Issue	Without adequate quantities of freshwater, optimal productivity and ecosystem services in Galveston Bay cannot be maintained
Goal	Ensure adequate quantities of freshwater reach Galveston Bay

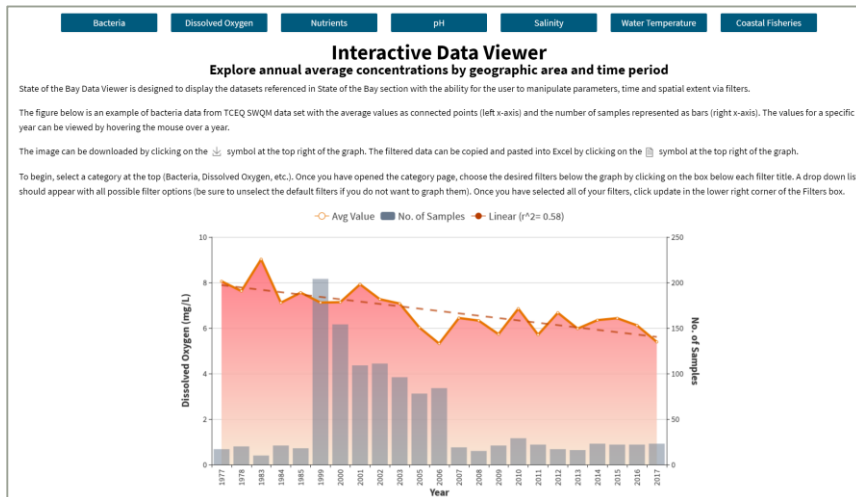
Plan Priority	Inform Science-Based Decision Making
Action Plan	Applied research and monitoring
Priority Issue	A lack of available applied research and monitoring data can prevent understanding of Galveston Bay ecosystem components, addressing limits to human uses, and implementing estuary preservation initiatives
Goal	Increase understanding of the Galveston Bay ecosystem
Goal	Increase understanding of the factors that limit safe human use
Goal	Better assist sustainability initiatives in Galveston Bay
Action Plan	Increase access to Galveston Bay ecosystem information
Priority Issue	A lack of information and data gaps can impair the ability of resource managers, decision-makers, and the public to assess Bay health and make appropriate decisions
Priority Issue	Galveston Bay monitoring and research data is not always easy to access
Priority Issue	It is necessary to establish a monitoring program that quantifies the success of its programmatic and environmental aspects
Goal	Increase understanding of and opportunities to access monitoring and research information

Tools: Data, Maps & Stories

GBEP Project Database

Project Database				
Year Awarded Please select Year Awarded	Contract Number Please select Contract Number	Program Area Please select Program Area	Watershed & Subbay Please select Watershed & Subbay	
Search Type to search project title, contractor, and partner			Funds <input type="checkbox"/> Leveraged Funds	
131 projects found				
Contract No.	Project Name	Awarded	Info	
582-05-65088	Kid's Day @ Bay Day	2005	ⓘ	
582-05-65091	Christmas Bay North Shoreline Wetland and Water Quality Protection Project	2005	ⓘ	
582-05-65101/65102	Ecosystem Research: Ecopath Workshop	2005	ⓘ	
582-05-65105	Galveston Bay Plan Implementation Strategic Planning Workshop	2005	ⓘ	
582-5-65074	Urban Watershed Protection	2005	ⓘ	
582-5-65075	Failing Septic System Initiative	2005	ⓘ	
582-5-65092	A Field Guide to Invasive Species (Plants)	2005	ⓘ	
582-5-65096	Galveston Bay Seafood Safety Project: Phase II	2005	ⓘ	
582-5-65097	Bay Barometer Illustration Design	2005	ⓘ	

Data Viewer



Map Gallery

Search Map Gallery

Coastal Waterbirds
Brown pelican nesting sites (NOAA ESI 2013) and Galveston Bay Estuary Program funded habitat and shoreline restoration projects.

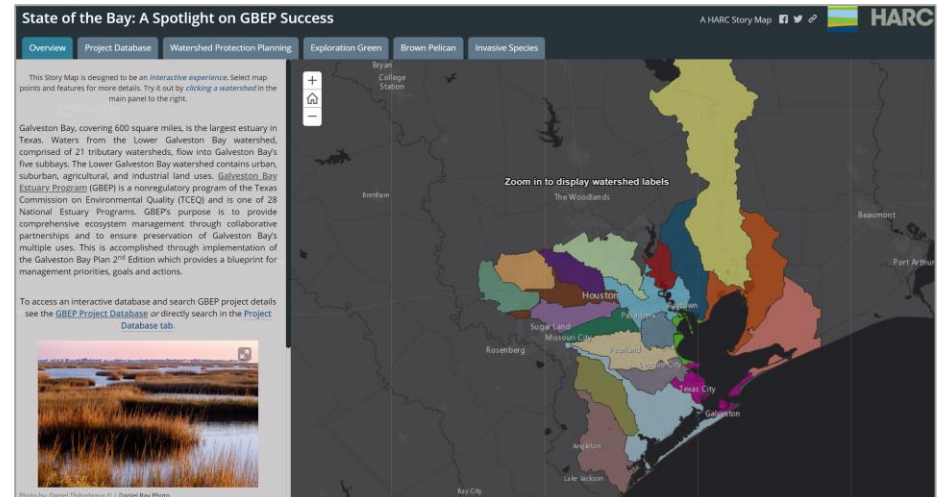
Contact Recreation and Oyster Water Impairments
Contact recreation and oyster water impaired stream segments of the Lower Galveston Bay watershed (2014 TIR).

Development in the Lower Galveston Bay Watershed
Four classifications of developed land cover in the Lower Galveston Bay watershed based on NOAA C-CAP 2016.

Drinking Water Reservoirs
The four primary reservoirs that have been created for drinking water supply on major tributaries of the Galveston Bay System in Region H.

Galveston Bay System
The Galveston Bay system is comprised of tributary watersheds and subbays of the Lower Galveston Bay watershed.

Story Map – Spotlight on Success



The Process



- Reviews (380+ individual edits and suggestions) were provided by 18 members of GBEP subcommittees in addition to GBEP and TCEQ staff.
- **Thank you** to all reviewers who contributed their time and expertise. All comments strengthened the final product!

StateofGalvBay.org



STATE OF THE BAY A Characterization of the Galveston Bay Ecosystem

[Welcome](#) [Overview](#) [Water, Sediment, and Health](#) [Living Resources](#) [Data, Maps, and Stories](#)

Welcome to State of the Bay

The State of the Bay, 4th Edition (State of the Bay) is sponsored by Texas Commission on Environmental Quality's (TCEQ) Galveston Bay Estuary Program (GBEP) as a resource for historical context and up-to-date analysis of the conditions in and around Galveston Bay. The State of the Bay includes analysis based on datasets available through December 2017. In some cases, included datasets may be older due to quality assurance review processes and/or data availability at the time of analysis. It is reviewed and created through the collaboration and support of stakeholders and partners who are the experts in their fields working on, in and around Galveston Bay (Figure 1). The goal of the State of the Bay is to summarize information that will facilitate and improve management of Galveston Bay through the Galveston Bay Plan.





The State of the Bay website is a reference for scientists, managers, and decision makers that combines a legacy of scientific monitoring and analysis with current data analysis, visualization tools, maps, success stories, and a database of GBEP supported projects. Each section includes an in-depth discussion of current trends and historical context and is color coded to illustrate how the information supports the four priorities of the 2018 Galveston Bay Plan, GBEP's comprehensive conservation and management plan. State of the Bay color key:

Ensure Safe Human and Aquatic Life Use
Engage Communities

Protect and Sustain Living Resources
Inform Science-Based Decision Making

Maps and select graph figures featured in the text of each section are available in an interactive Map Gallery and Data Visualization Tool. Success Stories that highlight actions supported by GBEP are focused on in the *State of the Bay: A Spotlight on GBEP Success Story Map*. A searchable Project Database (GBEP Projects) contains details of projects funded by GBEP from 2005 to 2020. A Bibliography for the State of the Bay is also provided.

How to use this website:

- Use the drop down menus at the top to navigate to each section.
- Every section has a navigable outline on the right column. Click on a subsection to jump to it.
- Major subsections have a "quick link" icon . Click to copy and share a link directly to the subsection.
- This icon  on the bottom right of each page will bring you back to the top of the page.
- Figures and graphs can be enlarged and viewed in a new browser window by clicking on the image.
- Select maps can be viewed in the Map Gallery by clicking on Interactive Map  under map figures.
- Select graphs can be viewed in the Data Viewer by clicking on Interactive Data Viewer  under graph figures.

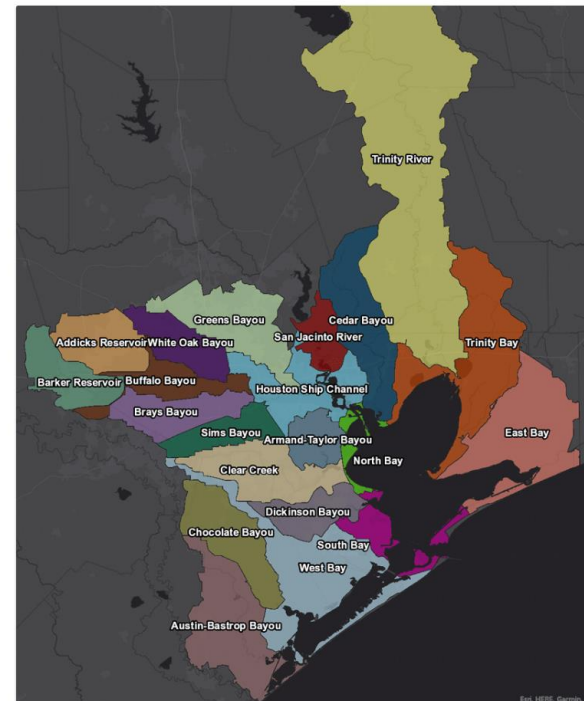


Figure 1. Galveston Bay and its watershed are part of the Galveston Bay System, which is defined in the State of the Bay as including Galveston Bay (and its subbays) and the Lower Galveston Bay Watershed. Image credit: HARC.

[Interactive Map](#) 

The State of the Bay was supported by GBEP and its subcommittees. Funding for the State of the Bay was provided by TCEQ.

Suggested citation HARC (Ed.) 2020. State of the Bay: A Characterization of the Galveston Bay Ecosystem (4th Edition). Texas Commission on Environmental Quality, Houston, Texas.

Conclusions

- Analysis and Data Viewer reflect data through December 2017.
- Edited text and addition of new tools and graphics.
- Website traffic tracked via Google Analytics.
- Supporting data will be updated in future project: Regional Monitoring Database (RMD).
- We look forward to working with TCEQ, GBEP and stakeholders to develop the RMD to compliment the SOTB.
- Please visit and share stateofgalvbay.org !!



Thank You!



For More Information, Contact:
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an independent research
hub helping people thrive
and nature flourish.