

Texas State Wetland Program Summary Template



*John Bunkers Sands Wetlands, Texas
Photo Credit: TCEQ*

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Section A. Quick View

Description of State's Wetlands

Most Texas wetlands are palustrine; estuarine wetlands are next in area. Lacustrine, riverine, and marine wetlands are ecologically significant but cover a smaller area. The most extensive wetlands are the bottom-land hardwood forests and swamps (forested and scrub-shrub wetlands) of East Texas; the marshes (emergent wetlands), swamps, and tidal flats (unconsolidated-shore wetlands) of the Gulf of Mexico coast; the playa lakes of the High Plains; and the small, shallow, inland depressional basins called potholes found in coastal areas.

State Definition of Wetlands

The State of Texas has adopted a wetland definition similar to the Corps and EPA definition. Wetlands, as defined by the Texas Water Code, §11.502 and for purposes of §401 water quality certification and CMP (GLO, 1995), are: an area (including a swamp, marsh, bog, prairie pothole, or similar area) having a predominance of hydric soils that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances supports the growth and regeneration of hydrophytic vegetation. Also, §11.506 of the Texas Water Code states that "if the state definition conflicts with the federal definition in any manner, the federal definition prevails." The State depends on the Corps and qualified consultants for wetland delineations.

Historic Wetland Loss/Gain

Original Wetland Acreage	Remaining Wetland Acreage	Acreage Lost	% Lost
15,999,700	7,612,412	8,387,288	52%

Primary State Wetlands Webpage

Texas Parks and Wildlife Wetlands Page:

<http://tpwd.texas.gov/landwater/water/habitats/wetland/>

Texas Commission on Environmental Quality 401 Certification Page

<https://www.tceq.texas.gov/permitting/401certification/>

State Wetland Program Plan

Texas does not currently have a formal state wetland program plan.

No Net Loss/Net Gain Goal

Rules of both the CMP (31 Texas Administrative Code (TAC) §501.14(h)(1)(A)) and §401 water quality certification have no net loss goals.

State Resources for Wetland Work

State Name	Core element #1: Regulation	Core Element #2: Monitoring and Assessment	Core Element #3: Wetland Water Quality Standards	Core Element #4: Voluntary Wetland Restoration
Agency	TCEQ	Unknown	Unknown	Unknown
Source(s)	Unknown (Through 106 Grant)	Unknown	Unknown	Unknown
Amount	Unknown	Unknown	Unknown	Unknown
FTE	Parts of 7 FTE	Unknown	Unknown	Unknown

State Permitting Fees

State Permitting Fee	State Name
Yes/No	NO
Amount (range)	N/A
Agency	N/A

Innovative Features

- The state has a memorandum of understanding (MOU) with the Army Corps of Engineers that explicitly document procedures for state 401 certifications.
- The state uses a tiered 401 certification regulatory approach that relies on best management practices (BMPs).

Models and Templates

None.

Section B. Regulation

How are Wetlands Regulated in Texas?

On the regulatory side, the Texas Commission on Environmental Quality (TCEQ) conducts §401 water quality certification for most activities. The state has a memorandum of understanding with the Corps regarding how to conduct a §401 certification, including specific procedures. TCEQ uses a tiered system for §404 certification review based on project size and the amount of jurisdictional waters of the U.S. affected. These thresholds trigger different responses from full review to waived procedures.

- Tier I applies to small projects that affect less than three acres of “waters in the state” or less than 1,500 linear feet of streams. For Tier I, TCEQ requires the incorporation of certain best management practices to address water quality concerns and requires no additional §401 review.
- A Tier II project is any project that is not eligible for Tier I processing, including: projects that impact rare or ecologically significant wetlands; projects that are submitted after the fact; and projects that otherwise qualify for Tier I, but for which the Corps has not received a complete, signed Tier I checklist before issuance of its permit decision document. Tier II projects are subject to individual §401 certification review.

For oil and gas activities, the Railroad Commission of Texas (RRC) administers the §401 water quality certification program. The Railroad Commission (RRC) has sole authority for the prevention and abatement of pollution of surface waters associated with oil and gas exploration, development, and production operations, including pipeline transportation of crude oil and natural gas. The Texas Railroad Commission and the TCEQ have separate permits, rules and procedures for 401 certification. The Railroad Commission also issues mining permits but TCEQ is responsible for 401 certification.

The Texas General Land Office (TGLO) oversees management of coastal wetlands as provided for under the Texas Natural Resource Code. TGLO has developed a Coastal Management Program (CMP) and a Coastal Zone Management Plan with other state agencies for any area within the Coastal Zone.

The Texas Parks and Wildlife Department (TPWD) acquires, manages, and protects wildlife and its habitat, which may include wetland areas. The agency also coordinated the development of a state wetlands conservation plan.

The Texas Forest Service advises private landowners on various issues, including those relating to wetlands.

Wetland Delineation

Delineation Guidance	Yes	No	Detail
Use State’s Own Method		X	
Use Corps’ 87 Manual and Regional Supplement	X		
Other (Please describe)			

Note: The State depends on the Corps and qualified consultants for wetland delineations. Additionally, §11.506 of the Texas Water Code states that "if the state definition conflicts with the federal definition in any manner, the federal definition prevails."

Evaluation Methodology

Each Texas Army Corps of Engineers District has its own tools. For example, the Ft. Worth District uses TEXRAM, while the Galveston district uses an HGM methodology and others.

Exempted Activities

Same as federal.

Special Provisions for Agriculture and Forestry

State wetland definition excludes irrigated acreage used for farmland and man-made wetlands less than an acre.

Penalties and Enforcement

The TCEQ has joint enforcement options with the Corps to maximize resources. Pursuant to §§26.019, 26.121(c), and 7.051-7.053 of the Texas Water Code and Chapter 337, the TCEQ may issue orders, assess administrative penalties, and take other necessary action if a person violates the state water quality standards or other applicable state water quality requirements.

Permit Tracking

TCEQ has a database in access for 41 certifications currently being reviewed and past applications.

State General Permit (statewide vs. regional coverage)

Permit Coverage	Yes	No	Detail (Type of Permit)
Regional General Permit		X	
Statewide General Permit		X	

Assumption of 404 Powers

Assumption Status	Yes	No	Detail
Assumed		X	
Working Toward Assumption		X	
Explored Assumption		X	Only informally

Joint permitting

Public notices issued by the Corps are joint public notices between the TCEQ and the Corps.

Special Area Management Plans and Advanced Identification Plans

None.

Buffer Protections

The Corps protects buffers as built into each District assessment tool. For example, there are default buffers in TEXRAM and HGM/WET. The Corps requires these buffers. The state does not have additional buffer protections beyond what the Corps requires.

Mitigation Policy

The U.S. Army Corps of Engineers oversees most wetland mitigation under the §401/404 program; however, TCEQ, TGLO, and TPWD review and comment on permits and required mitigation. Texas law also specifies provisions for the establishment and operation of wetland mitigation banks. Although the state oversees mitigation, the state does have the ability to recommend additional mitigation requirements through the 401 certification process.

Mitigation Database

TCEQ has an access database that includes all wetland 401 certifications. The Corps tracks mitigation through the RIBITS database.

Section C. Monitoring and Assessment

Agency Responsible for Wetland Monitoring and Assessment

The TCEQ does not have an independent wetland monitoring program; however, wetlands are monitored as part of Texas' Water Quality Management Program, which requires water quality monitoring to be conducted on a watershed basis. State law directs that "[w]ater management functions shall be oriented on a watershed basis in consideration of the priorities identified by river authorities and basin steering committees." Regulations establish watershed-based water quality monitoring and assessment procedures designed to support management decisions and allow for the involvement of citizens, local governments, and other entities. This includes monitoring stations located in shallow bays and estuaries and in the backwaters of lakes that have wetland characteristics. Wetland sites are also included in some special studies.

Mapping/Inventory

This section will be updated by the state; contact the state for the latest information on mapping

- The U.S. Fish and Wildlife Service (FWS) has used November and December 1992 and February and March 1993 color infrared aerial photography to update National Wetland Inventory (NWI) maps (scale 1:24,000) for coastal Texas.
- Previous inventories were conducted using 1950's, 1978/1979, and 1989 photography. Wetlands have been delineated and classified according to Cowardin et al. (1979) on 496 U.S. Geological Survey 7.5-minute maps covering 21 coastal counties.
- The TPWD and Rice University have also classified and monitored wetlands in the Laguna Madre, Corpus Christi Bay, Galveston Bay, and Sabine Lake areas, using satellite thematic mapper imagery and applying the NOAA CoastWatch Change Analysis Program protocol (Thomas and Ferguson, 1990). The TPWD has used a wide range of data--including data on fisheries, waterfowl, and wetland habitats--to identify and assess sensitive wetlands.
- The University of Texas, Bureau of Economic Geology (BEG) (White, 1983-1989) interpreted and delineated wetlands along the entire coast using color-infrared, 1:66,000-scale positive

transparencies taken primarily in 1979 by NASA. Emphasis is placed on vegetative communities and flood frequency. The BEG has also interpreted and mapped Texas barrier island wetlands and aquatic habitats on recent and historical aerial photographs, using and revising existing historical data where necessary (White et al., 2002).

State Wetland Mapping Public Portal

None

Wetland Classification and Assessment

TCEQ assessment methodologies (not specific to wetlands) evaluate the physical, chemical, and biological characteristics of aquatic systems with reference to human health concerns, ecological condition, and designated uses. Data feed into 303(d)/305(b) reporting for the state.

Statewide Wetland Monitoring Plan

The state does not have a statewide *wetland* monitoring plan, but wetlands are included in the statewide water quality monitoring plan.

Overall Wetland Gain and Loss Tracking System

None

Wetland Monitoring and Assessment Characteristics

Level	None	Level 1	Level 2	Level 3
Texas	X			

Type	None	IBI	Conditional	Functional
Texas	X			Working on developing

Frequency	None	Project Specific	Ongoing
Texas	X		

Participation in National Wetland Condition Assessment

NWCA Study Type	Yes	No
National Study	X	
State Intensification Study		X

Section D. Water Quality Standards

Wetland and Water Quality Standards

Type	None	Use Existing WQ Standards	In Process	Adopted	Future Direction
Wetland-specific Designated Uses		X (stated to explicitly apply to wetlands)			
Narrative criteria in the standards to protect designated wetland uses		X (WQ standards identify wetland WQ functions to be protected)			
Numeric criteria in the standards based on wetland type and location to protect the designated uses		X			
Anti-degradation policy includes wetlands		X (formally applies to wetlands)			

Description:

- The State of Texas has not developed wetland-specific water quality criteria, but does explicitly recognize the applicability of its surface water quality standards to wetlands.
- The state’s anti-degradation policy also applies to wetlands, stating “...the anti-degradation policy and public coordination is implemented through the evaluation of alternatives and mitigation under Federal Clean Water Act, §404(b)(1).
- State review of alternatives, mitigation, and requirements to protect water quality may also be conducted for federal permits which are subject to state certification, as authorized by Federal Clean Water Act, §401 and conducted in accordance with [the state’s water quality certification rules].
- All narrative and applicable numeric water quality criteria apply to wetlands. Narrative surface water quality standards identify wetland water quality functions to be protected. “Wetland water quality functions” are defined as “[a]ttributes of wetlands that protect and maintain the quality of water in the state, which include storm water storage and retention and the moderation of extreme water level fluctuations; shoreline protection against erosion through the dissipation of wave energy and water velocity, and anchoring of sediments; habitat for aquatic life; and removal, transformation, and retention of nutrients and toxic substances.”

Section E. Voluntary Wetland Restoration

Although the state does not have a formal statewide voluntary restoration program, several staff agencies play key roles in restoration activities and support across the state:

- TCEQ is not involved in restoration; however, TCEQ manages the Galveston Bay Estuary Program, which includes some restoration work, primarily under grants from EPA.
- Texas Parks and Wildlife (TPWD) provides technical support and outreach materials on restoration opportunities and available programs for landowners interested in conservation. TPWD has also established an online wetland registry under grants from the EPA. The Wetlands Project Site Registry links landowners with those who need or want to restore wetlands.
- The *Texas Wetlands Conservation Plan* for state-owned coastal wetlands was drafted in 1994 and finalized 1997. The plan focuses on voluntary, non-regulatory approaches to conservation of wetlands in the state by providing financial, technical, and educational incentives to private landowners to encourage stewardship (http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_pl_r2000_0005.pdf).

Types of Wetland Restoration Work Funded by the State:

Type of Work	YES	NO	Description
Fund Wetland Restoration (may include easement agreements)		X	
Private Land Restoration		X	Management of the Galveston Bay Estuary Program – but restoration funded by federal grants, not state funds
Public Land Restoration		X	
Technical Assistance		X	
Tax Incentives		X	
Other		X	

Voluntary Wetland Restoration Program Components

Wetland Restoration Efforts	Nothing in the Works	Planning	In Progress	Mature/ Complete
Program has a set of restoration goals	N/A			
Coordinate with relevant agencies that outline restoration/protection goals and strategies and timeframes	N/A			
Developed multi-agency body to coordinate restoration/protection efforts	N/A			
Set restoration goals based on agency objectives and available information	N/A			

Goals for Restoration Projects

Goal	Yes	No	Description
No Net Loss	N/A		
Reverse Loss/Net Gain	N/A		
Nonpoint Source Pollution (NPS)/WQ	N/A		
Total Maximum Daily Load (TMDLs)	N/A		
Habitat	N/A		
Coastal Protection	N/A		Galveston Bay Estuary restoration work funded by federal grants
Floodwater Protection	N/A		
Groundwater	N/A		
Other (please describe)	N/A		

Landowner Guides and Handbooks to Assist with Voluntary Wetland Restoration Efforts

Education and outreach are focused on landowners. TPWD provides technical support and outreach materials, such as newsletters, guides, videos, and web resources, on restoration opportunities and available programs for landowners interested in conservation.

Section F. Innovative and/or Highly Effective Education and Outreach

None.

Section G. Climate Change and Wetlands

No information available.

Section H. Integration

Entity/Program Area	Yes/No	Description of the Connection	Contact for Follow-up
NPDES/Stormwater	YES	Comment letters to the Corps on a project specific-basis may bring up stormwater issues related to 401 certifications	
303(d)	Unknown		
305(b) reporting on wetlands	Unknown		
Total Maximum Daily Load (TMDLs)	NO		
Climate Change/ Resiliency	NO		
Land Use /Watershed planning	Unknown	May be included in state-supported watershed planning	
Flood/Hazard Mitigation	YES	Participate in the Corps' public notice project for flooding projects	
Coastal Work	YES	Close ties with coastal work	

		of the Galveston Bay NEP	
Wildlife Action Plan	NO		
Statewide Comprehensive Outdoor Recreation Plan (SCORP)	NO		
Other (Specify)	NO		

State Wetland Program Continuum

Continuum Stage	Core Element 1: Regulation	Core Element 2: Monitoring & Assessment	Core Element 3: Wetland Water Quality Standards	Core Element 4: Voluntary Restoration
Mature Stage	401 Certification Only			
Initial Implementation Stage				
Development Stage				
Early Stage				
	High ↑ Low	X (wetlands formally included as part of statewide WQM)	X (wetlands formally included as part of statewide WQS)	X (lots of state involvement, no state program)

Section I. Contact Information

- List of State Wetland Program Contact and Other Relevant Contacts

Section J. Useful Websites

State Government Programs

1. Parks & Wildlife
 - a) Wetlands
 - i. Wetland Conservation and Management for the Texas Central Coast
<http://www.tpwd.state.tx.us/landwater/water/habitats/wetland/>
 - ii. Texas Wetlands Conservation Plan
<http://www.tpwd.state.tx.us/huntwild/wild/wetlands/central-coast/>
 - iii. Texas Wetlands Conservation Plan
http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_pl_r2000_0005.pdf
 - iv. Habitat Management for Mottled Ducks
<http://www.tpwd.state.tx.us/huntwild/wild/wetlands/central-coast/mottledduck.phtml>
 - v. Private Lands and Habitat Program
<http://www.tpwd.state.tx.us/landwater/land/private/>

- v. Central Coast Wetlands Ecosystem Project
http://www.tpwd.state.tx.us/huntwild/wild/wetlands/central-coast/media/central_coast_wmas.pdf
- vi. Management Assistance Programs for Landowners
 - Texas Prairie Wetlands Project
<http://www.tpwd.state.tx.us/huntwild/wild/wetlands/central-coast/assistance.phtml>
 - Wetlands Assistance Guide For Landowners
http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_r0400_0020_11_00.pdf
- a) Freshwater Inflows & Estuaries
http://www.tpwd.state.tx.us/landwater/water/conservation/freshwater_inflow/index.phtml
 - i. Texas' State Methodology
http://www.tpwd.state.tx.us/landwater/water/conservation/freshwater_inflow/texas_approach/index.phtml
 - ii. Coastal Studies
http://www.tpwd.state.tx.us/landwater/water/conservation/coastal_studies/index.phtml
 - iii. River Studies
<http://www.tpwd.state.tx.us/landwater/water/conservation/fwresources/>
 - iv. Texas Gulf Ecological Management Sites
<http://www.tpwd.state.tx.us/landwater/water/conservation/txgems/>
 - v. Bays & Estuaries
<http://www.tpwd.state.tx.us/landwater/water/habitats/bays/>
- b) Water Quality
http://www.tpwd.state.tx.us/landwater/water/environconcerns/water_quality/
- 2. Department of Transportation
Wetland Preservation/Bank
<http://www.txdot.gov/inside-txdot/division/environmental/programs/wetlands.html>
- 3. Texas General Land Office
The Land Office protects Texas coastal wetlands, including salt and freshwater marshes, bottomland hardwoods and swamps, and palustrine scrub-shrubs, through regulatory and non-regulatory programs.
<http://www.glo.texas.gov/what-we-do/caring-for-the-coast/environmental-protection/protecting-wetlands/index.html>

Federal Government Programs

1. USDA Natural Resources Conservation Service
Wetlands Reserve Program

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/tx/programs/easements/wetlands/>

Other Organization Wetland Programs

1. Texas A&M Agrilife Extension
Texas Coastal Watershed Program
<http://tcwp.tamu.edu/wetland-restoration/>
2. The University of Texas at Austin: Marine Science Institute
Wetlands Education Center
<http://www.utmsi.utexas.edu/outreach/wetlands-education-center.html>
3. Texas State University at San Marcos: The Meadows Center for Water and the Environment
Aquarena Center
<http://www.aquarena.txstate.edu/Wetlands.html>
4. Eddie V. Gray Wetlands Education and Recreation Center
<http://www.baytown.org/content/wetlands-educational-programs>
5. Trinity Waters
<http://trinitywaters.org/>
6. Galveston Bay Estuary Program
<http://www.gbep.state.tx.us/>
 - a) The Galveston Bay Plan
<http://gbic.tamug.edu/theplan.html>
7. University of Houston Coastal Center
<http://www.eih.uh.edu/>
8. Armand Bayou Nature Center
 - a) Stewardship Programs
<http://www.abnc.org/stewardship-programs.html>