REGULATORY SURVEY FOR THE CHRISTMAS BAY COASTAL PRESERVE

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INTRODUCTION

Purpose

The purpose of this study is to describe the array of regulatory programs which govern the management of the Christmas Bay Coastal Preserve. This inventory will serve as the basis for identifying appropriate regulatory actions to address the environmental management needs of the Preserve. The findings of this report, along with those of the Environmental Inventory, will also be utilized in conducting a management effectiveness assessment on key regulatory programs affecting the preserve.

This report and the companion document for Armand Bayou are also "pilot studies" for future Bay-wide projects. The research methodology employed for these studies will be reviewed in developing an approach to conduct a regulatory survey and a management effectiveness assessment for the entire Galveston Bay system.

This report details the legislative basis for regulatory controls and the interrelationship of federal, state and local agencies in their administration. The specific areas of concern to be documented by this inventory are the identification of gaps or inadequacies in regulatory control, duplications of regulatory coverage and opportunities for improved interagency coordination.

Scope

The regulatory programs surveyed for this report cover four broad areas of environmental management. These are: point sources of pollution; nonpoint sources of pollution; natural and living resources; and, public health. Under each of these categories, the regulation of specific types of activities in the study area has been analyzed.

Pertinent federal, state and local legislation is cited (complete legal references are contained in Appendix A), as are regulatory management responsibilities. The programmatic elements of management covered in this report are: policy-setting; permitting/regulation; enforcement; monitoring; and emergency response. The responsibility of the agencies

involved in these activities is described in the first four chapters of this report. Regulatory gaps, overlaps and interagency coordination issues are described in Chapter Five.

Study Area

Christmas Bay is a shallow 4,173-acre embayment in the southwestern portion of the Galveston Bay system. The Bay and surrounding lands are a unique natural preserve. The waters have been designated a nursery area by the Texas Parks and Wildlife Department, primarily because of their productive qualities which stem from one of the last remaining sea grass meadows in the Galveston Bay system. The lands to the northwest are contained within the Brazoria National Wildlife Refuge, a primary migratory bird habitat. The Bay also has high water quality, extensive oyster reefs, and is fringed by a salt marsh habitat.

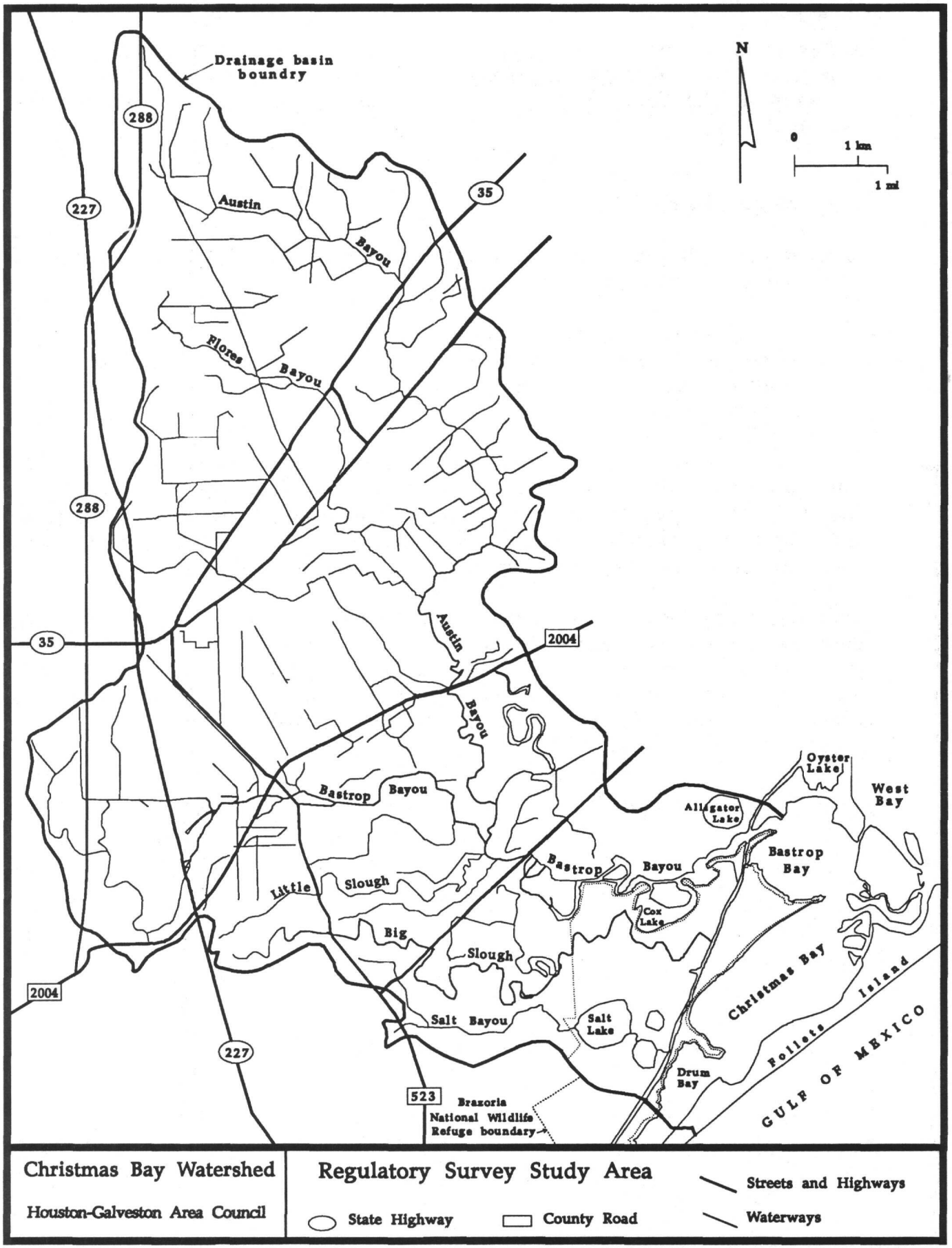
Much of the over 60,000-acre watershed remains largely under cultivation and is criss-crossed by farms and drainage canals (see map of study area on page 3). The main tributary to the Bay is Bastrop Bayou which is the receiving stream for Austin Bayou and Flores Bayou. Other activities within the watershed include oil and gas drilling, salt dome injection wells, and the Intracoastal Waterway. Cities within the watershed include Angleton, Danbury, Lake Jackson and Richwood, none of which are highly urbanized. There is also scattered development throughout the rural area along Bastrop Bayou.

Methodology

Regulatory program information was gathered by researching pertinent legislation, regulations, and previous Galveston Bay plans and studies. In addition to this research, a survey of federal, state, and local agencies which regulate activities in the Christmas Bay watershed was conducted. The survey instrument was designed to gather information on the legislative and regulatory bases of the agency's programs, as well as to identify gaps and overlaps.

Federal, state, and local agencies with regulatory authority in the areas of point and nonpoint source pollution, natural and living resource management, and public health, were inventoried and appropriate recipients for the survey forms were identified. In the case of large agencies with regulatory programs in some or all of the management areas, surveys were distributed to several departments within the agency.

A total of 39 surveys were mailed to regulatory agencies with jurisdiction in the Christmas Bay watershed. A follow-up interview was conducted with all of the entities surveyed, whether or not they responded. There were ten surveys distributed to federal agencies, thirteen to state agencies, and sixteen to local agencies. Several additional agencies not included in the original survey were also interviewed.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Christmas Bay
Salt
Lake
Drum
Bay
Follets
Island
GULF OF MEXICO
Christmas Bay Watershed
Houston-Galveston Area Council
Regulatory Survey Study Area
State Highway
County Road
Streets and Highways
Waterways

A copy of the survey form is given in Appendix B. Survey respondents are cited in Appendix C. Appendix E lists the addresses and phone numbers for all agencies mentioned in this report. The Bibliography lists selected publications consulted for the preparation of this report.

Report Organization

The regulatory programs surveyed in this report are described in additional detail under the following broad chapter headings:

- o point sources of pollution.
- o nonpoint sources of pollution.
- o natural and living resources.
- o public health.

Each of these chapters overviews existing and potential environmental impacts to the Christmas Bay watershed. Pertinent federal, state and local legislation and regulations are described, as are the management roles of the implementing agencies. Gaps, overlaps and interagency coordination issues were also identified through research, survey responses and interviews with agency staff. These are summarized in Chapter Five.

Many regulated activities in the watershed span several management categories. However, the management structure is described in the Chapter which was determined to best explain the regulatory activity. For a quick reference guide, a regulatory matrix has been prepared for each management type which outlines federal, state, and local agency roles. The matrices are presented in the Summary of Findings which follows.

SUMMARY OF FINDINGS

General

The Christmas Bay watershed has a complex regulatory structure. The management of activities with the potential to degrade or alter the environment is divided among nine federal and thirteen state agencies, as well as five local governments. (As mentioned earlier, Appendix E contains a complete listing of addresses and phone numbers for all agencies mentioned in this report. Appendix C provides a list of key contacts for those agencies.)

The regulatory framework governing a total of twenty-nine types of activities with potential impacts to the Christmas Bay watershed was inventoried. Regulatory programs are categorized under the broad categories of: point sources of pollution; nonpoint sources of pollutions; natural resource management; and public health protection. Most of the activities had at least some sort of regulatory framework in place. Exceptions, such as pollution from urban runoff, have regulations that are presently in the preparatory stage.

A basic regulatory framework for managing the Christmas Bay Coastal Preserve is in place. Most of the gaps identified were aspects of the regulations or in implementation. Improving interagency coordination will be critical for effective management of the preserve.

The following gaps, overlaps and opportunities for improved interagency coordination were identified in agency survey responses and through research of legislation, regulations and other reference materials.

GAPS, OVERLAPS AND INTERAGENCY COORDINATION

POINT SOURCES OF POLLUTION

Gaps

- Standards for wastewater discharge permits are based only on regulated constituent contents in effluent. The impact of unregulated constituents and the potential impact of greatly increased wastewater discharges is not addressed.
- There is no formal environmental policy for the Texas Water Commission. Hence, permit reviews are not as comprehensive as would be desirable.
- The cumulative impacts of existing and new wastewater discharges are not addressed in the permit review process.
- Oil and gas related wastewater disposal is regulated only for oil and grease, not other contaminants such as total suspended solids (TSS) and brine.
- Local governments have limited resources to monitor, enforce and prevent illegal discharges, especially in the extensive unincorporated portions of the watershed.

Overlaps and Interagency Coordination Issues

- o EPA and TWC overlap in permitting authority for wastewater discharges at the present time. Opinions differ as to whether this overlap is a management problem or an additional safeguard.
- o The monitoring and inspection efforts of enforcement agencies are not coordinated.
- o There is no structured interaction between the state and local governments to reconcile state agency water quality management objectives with local facility development plans.

NONPOINT SOURCES OF POLLUTION

Gaps

- o There essentially is no local government regulatory framework for NPS in place, though one will soon be required by federal and state regulations. Brazoria County, the likely NPDES stormwater permit holder for the Christmas Bay watershed, has limited regulatory authority under Texas law.
- o While regulated, illegal disposal of hazardous waste is difficult to enforce--particularly household hazardous waste.
- o There are no local guidelines in place to govern erosion control.
- o Existing NPS regulations involving agriculture focus only on feedlots.
- o Design of local storm sewer systems is generally geared towards flood control, not pollution abatement. The two objectives may be at cross purposes.
- o Not all activities which cause nonpoint source contamination of groundwater are directly regulated. TWC and TDH currently have an assistance program for the protection of municipal water wells, but they rely on voluntary participation by local governments.
- o Water pollution threats may exist from already closed landfill sites and unauthorized dump sites.
- o Recreational rental cabins on Bastrop Bay do not have sanitary facilities and waste disposal practices are not currently controlled.

Opportunities

- o There appear to be opportunities for local land use and development/construction ordinances to be used for NPS management. Examples include erosion control on construction projects and land use controls aimed at preventing contamination in water well recharge zones.

NATURAL AND LIVING RESOURCE MANAGEMENT

Gaps - Wetlands

- o The Section 404 program only covers dredge and fill disposal projects. Other activities such as draining and clearing of wetlands are not regulated under the Clean Water Act, but through a variety of other regulations and inter-agency agreements.

- o Many minor dredge and fill projects are authorized under general or nationwide permits without individual review.
- o Section 404 permits do not fully evaluate all environmental impacts of wetlands projects.
- o There is no comprehensive inventory or monitoring of the extent of wetlands in the Christmas Bay watershed.
- o Enforcement of wetlands violations has been limited.
- o Management of small wetlands parcels is difficult.

Gaps - General

- o There is generally insufficient monitoring of living resources in the watershed.
- o There is a general lack of funding for enforcement of natural resource protection regulations.
- o Wildlife and habitat protection regulations generally only cover endangered, threatened, game or commercially valuable species.
- o Nursery habitat provisions only cover commercial fisheries.
- o Texas has no comprehensive Coastal Zone Management program.
- o While land use controls are in place in most municipalities, the general plans and ordinances of these local governments do not specifically address the potential impacts of development on the Christmas Bay watershed.

Overlaps and Interagency Coordination Issues-Wetlands

- o Final authority for wetlands permitting and enforcement, which is shared by the Corps and EPA, needs additional clarification.
- o Concerns exist about the effectiveness of the multi-agency review process for wetlands permits.
- o No formal guidance has been given to regulatory agencies for implementing the President's stated "no-net-loss" policy.

Overlaps and Interagency Coordination Issues-General

- o Coordination of programs often suffers from differing orientations of participating agencies.

PUBLIC HEALTH

Gaps

- o Current procedures for identifying the risk of fish and shellfish contamination focus on general weather conditions and not on particular characteristics of individual water bodies.

REGULATORY MATRIX

The regulatory matrix provides an overview of the roles of the different federal, state and local agencies involved in managing the bay and watershed. Following the matrix is a key to the agency acronyms used. (It should be noted that, aside from their existing regulatory duties, many of these agencies are participating directly in the five-year GBNEP planning effort, with agency representatives serving on the program's various policy and advisory committees.) The regulatory roles have been divided into five categories. The definitions of each of those roles are listed below.

SET POLICY: This category includes those regulatory agencies with the authority to implement legislative acts and to develop regulations and issue directives for the interpretation of permits and standards.

PERMIT/REGULATE: This category includes those agencies with responsibility for review and issuance of permits, licenses and other approvals required by agency regulations. Generally, this refers to reviews which must take place before an activity can commence or be renewed. Some agencies have lead status, others have coordination or review status.

ENFORCE: Enforcement activities may include inspections for permit compliance, periodic inspections to ensure no violations of regulations occur, and investigations of complaints. Also included are corrective actions whereby the agency defines the extent of a problem, specifies procedures for correction or mitigation and monitors compliance.

MONITOR: Monitoring refers to collection of data sufficient to analyze for trends or to notice deviations from accepted standards. In addition to public regulatory agencies, research organizations or non-profit groups may monitor, but not all are included in this matrix.

EMERGENCY RESPONSE: This category includes the agencies which would typically be among the first to provide a specialized response in an emergency situation. This response may include defining the extent of the problem, identifying hazards, and implementing first actions to alleviate the problem. Local emergency crews, such as police and fire departments are also likely to respond.

POINT SOURCE POLLUTION

ACTIVITY	*SET POLICY*	*REGULATE/ PERMIT*	*ENFORCE*	*MONITOR*	*EMERGENCY RESPONSE*
MUNICIPAL WASTEWATER DISCHARGES	EPA TWC	EPA TWC	EPA TWC BCO	TWC	TWC
INDUSTRIAL STORMWATER DISCHARGES (Uncontaminated runoff)	EPA TWC	EPA TWC	EPA TWC	TWC	TWC
DISCHARGE FROM OIL AND GAS ACTIVITIES	EPA RRC	EPA RRC	RRC		EPA RRC
SURFACE WATER QUALITY STANDARDS	EPA TWC	TWC	TWC	TWC	TWC, TPWD

NONPOINT SOURCE POLLUTION

ACTIVITY	*SET POLICY*	*REGULATE/ PERMIT*	*ENFORCE*	*MONITOR*	*EMERGENCY RESPONSE*
URBAN RUNOFF/STORM DRAINAGE**	EPA TWC CITIES, DD, BCO	EPA TWC CITIES, DD, BCO	EPA TWC CITIES, DD, BCO		N/A
AGRICULTURAL RUNOFF	TDA, TWC	TDA, TWC	TDA, TWC		
INLAND EROSION AND SHORELINE EROSION	SCS, FEMA SWCB	FEMA SWCB	FEMA SWCB		N/A
GROUNDWATER CONTAMINATION	EPA TWC, TDH, RRC	EPA TWC, RRC	EPA TWC, RRC	TWC	EPA TWC, RRC BCO
HAZARDOUS WASTE DISPOSAL	EPA TWC, RRC	TWC, RRC	TWC, RRC		EPA TWC, RRC
SOLID WASTE DISPOSAL	EPA TWC, TDH	TWC, TDH	TWC, TDH	TDH	TDH
SEPTIC TANKS	TDH CITIES, BCO	TDH CITIES, BCO	TDH CITIES, BCO		TDH BCO
OIL AND GAS EXTRACTION	RRC, GLO	RRC, GLO	RRC, GLO	RRC, GLO	GLO, RRC, TWC
AIR EMISSIONS	EPA TACB	EPA TACB, TWC, TDH	TACB	TACB	TACB

** The Environmental Protection Agency recently issued regulations for municipal stormwater systems. The Texas Water Commission will ultimately be involved in the permitting and regulatory process, and local governments will be required to regulate discharges into their drainage systems and monitor their water quality.

RESOURCE MANAGEMENT

ACTIVITY	*SET POLICY*	*REGULATE/ PERMIT*	*ENFORCE*	*MONITOR*	*EMERGENCY RESPONSE*
WETLANDS (Includes habitat management and discharge of fill materials)	EPA, CORPS,FWS, SCS TPWD	CORPS, EPA, FWS, ASCS TWC, TPWD	CORPS, EPA, ASCS	FWS TPWD	N/A
SEA GRASSES	FWS TPWD	FWS TPWD, GLO	FWS TPWD	FWS TPWD	N/A
STREAM BED	CORPS TPWD, GLO	CORPS TPWD, GLO	CORPS TPWD, GLO	GLO	N/A
WATERFOWL MANAGEMENT	FWS TPWD	FWS TPWD	FWS TPWD	FWS TPWD	N/A
SPORT FISHING	TPWD	TPWD	TPWD	TPWD	N/A
COMMERCIAL HARVEST/ OYSTERS/CRABS	FWS TPWD	FWS TPWD, GLO	FWS TPWD	FWS TPWD, TDH	TPWD, TDH
ENDANGERED SPECIES	FWS, NMFS TPWD	FWS, NMFS TPWD	FWS TPWD	FWS TPWD	N/A
OTHER NATURAL AQUATIC RESOURCES & CHARACTERISTICS	FWS (BNWR**) TPWD, TWDB			FWS (BNWR) TPWD, TWDB	
SURFACE WATER EXTRACTION	TWC, TPWD	TWC	TWC, TPWD	TWC	N/A
GULF INTRACOASTAL WATERWAY (Dredging, disposal and possible widening)	CORPS	CORPS	CORPS		

[continues on next page]

ACTIVITY	*SET POLICY*	*REGULATE/ PERMIT*	*ENFORCE*	*MONITOR*	*EMERGENCY RESPONSE*
FLOODPLAIN MANAGEMENT	FEMA CITIES, DD, BCO	FEMA TWC CITIES, DD, BCO	FEMA CITIES, DD, BCO	FEMA	FEMA BCFC
SPILL RESPONSE	FWS, CG TWC, TPWD, GLO LEPC, BCO				FWS, CG TWC, TPWD, GLO LEPC, BCO
RECREATIONAL CABINS	GLO	GLO			
LAND USE AND DEVELOPMENT	ANG,LJK,RIC,BCO,DD	ANG,LJK,RIC,BCO,DD	ANG, LJK, RIC, DD	ANG, LJK, RIC	N/A

** BNWR indicates the Brazoria National Wildlife Refuge, under the management of the U.S. Fish and Wildlife Service. This management role applies only to those lands included in the 12,199-acre wildlife refuge.

PUBLIC HEALTH

ACTIVITY	*SET POLICY*	*REGULATE/ PERMIT*	*ENFORCE*	*MONITOR*	*EMERGENCY RESPONSE*
FISH CONTAMINATION	TDH, TPWD	N/A	TDH	TDH	TDH, TPWD
CONTACT RECREATION	TDH	TDH BCO	TDH BCO		TDH BCO

MATRIX ACRONYMS

FEDERAL

ASCS	Agricultural Stabilization and Conservation Service
CG	Coast Guard
CORPS	Army Corps of Engineers
DOT	Department of Transportation
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FWS	Fish & Wildlife Service
NMFS	National Marine Fisheries Service
SCS	Soil Conservation Service

STATE

DPS	Department of Public Safety
GLO	General Land Office
RRC	Railroad Commission
SDPHT	Department of Highways and Public Transportation
SWCB	Soil and Water Conservation Board
TACB	Air Control Board
TDA	Department of Agriculture
TDH	Department of Health
TPWD	Parks and Wildlife Department
TWC	Water Commission
TWDB	Water Development Board

LOCAL-Christmas Bay

ANG	Angleton
BCO	Brazoria County
BCFC	Brazoria County Flood Control
DAN	Danbury
DD	Drainage districts
LKJ	Lake Jackson
RIC	Richwood