

# **REGULATORY SURVEY FOR THE ARMAND BAYOU COASTAL PRESERVE**

Report Authors:  
Houston-Galveston Area Council  
Community and Environmental Planning Department

---

## **INTRODUCTION**

---

### **Purpose**

The purpose of this study is to describe the array of regulatory programs which govern the management of the Armand Bayou 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 Christmas Bay 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**

Armand Bayou is a tidal tributary of Galveston Bay, located on its western shore. While much of the land immediately surrounding the bayou is undevelopable flood plain, its watershed includes or is bordered by several major and diverse urban activity centers. These include the NASA Johnson Space Center, the Bayport petrochemical complex, the Clear Lake oilfield, and the City of Houston's Ellington Field airport.

The physical characteristics of Armand Bayou have changed substantially since the 1950's, largely as a result of land subsidence from groundwater extraction. Subsidence of 5 to 7 feet has changed Armand Bayou from a wetland-bordered freshwater stream to a brackish tidal lake, nearly devoid of wetlands.

During the early 1970's, Armand Bayou received funding from several federal agencies who, in conjunction with the Texas Parks and Wildlife Department, the City of Pasadena and Harris County, cooperated to create the Armand Bayou Nature Center and the associated Armand Bayou Park. Approximately 2,500 acres of land surrounding Armand Bayou are currently publicly owned.

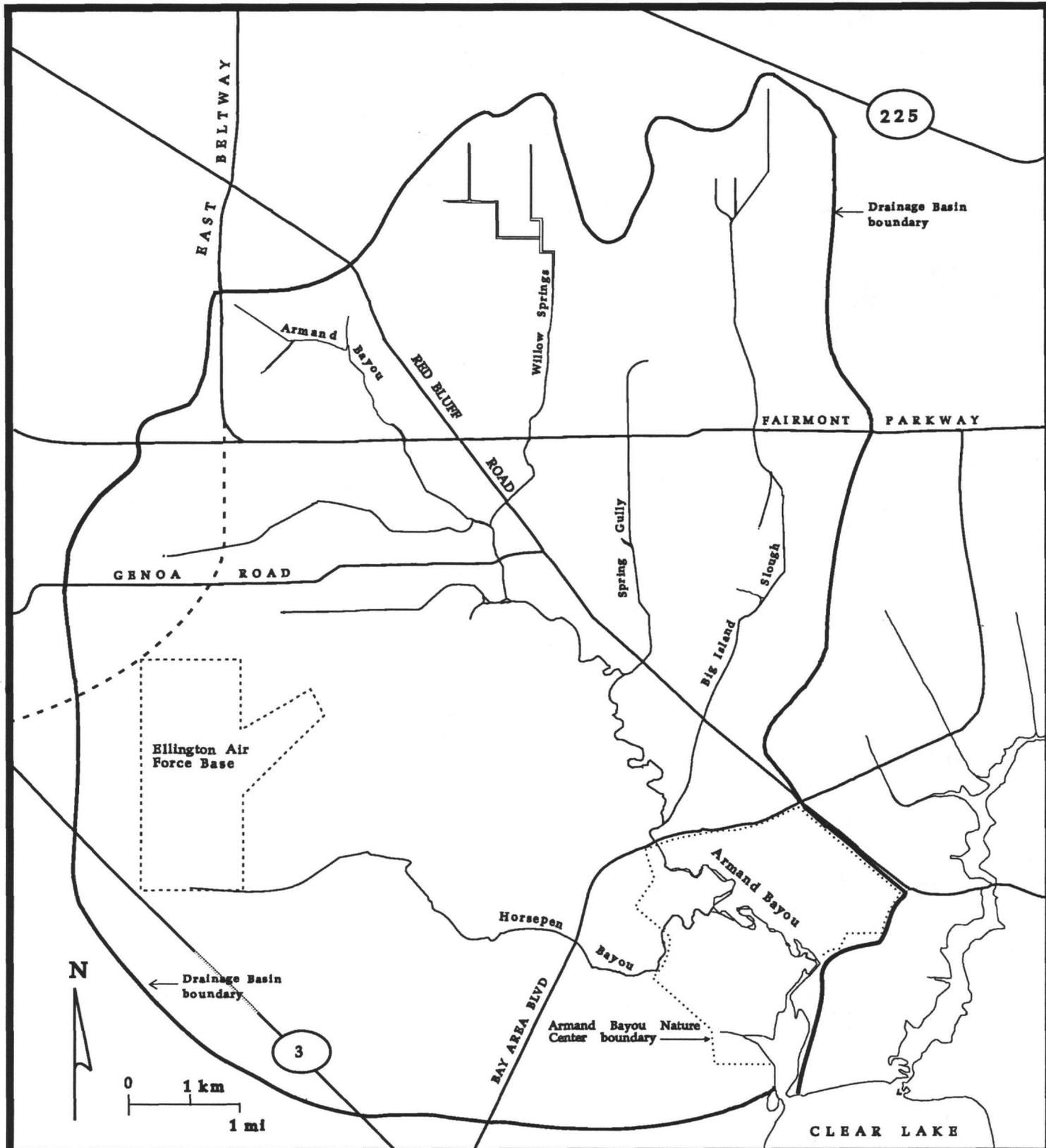
The water quality of Armand Bayou is poor. The bayou receives 6.2 million gallons per day of treated wastewater and the intensity of development surrounding the bayou has created concerns about nonpoint source water pollution.

The flora and fauna of the watershed are not well documented. As a result, its significance as a habitat is not clear. Nonetheless, its aesthetic and educational importance to the community has created strong public sentiment for preserving Armand Bayou from the impacts of future development.

The study area, shown in the map on page 3, covers the entire 40,647-acre watershed.

## **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 Armand Bayou 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.



Armand Bayou Watershed  
Houston-Galveston Area Council

Regulatory Survey Study Area

— Streets and Highways      - - - Proposed Highways      — Waterways

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 forty-two surveys were mailed to regulatory agencies with jurisdiction in the Armand Bayou watershed. A total of thirty-nine responses were received from this survey.

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 nineteen to local agencies. Several additional agencies not included in the original survey were also interviewed.

A copy of the survey form is given in Appendix B. Survey respondents are cited in Appendix C, along with their addresses and phone numbers. 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 Armand Bayou 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.