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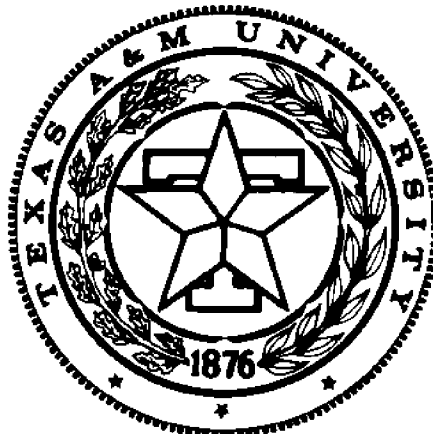
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**PUBLIC ADMINISTRATION RESEARCH
GROUP**

**ECONOMIC DEVELOPMENT AND LOCAL
GOVERNANCE OF GALVESTON BAY**

by

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Economic Development and Local Governance
of
Galveston Bay

I. INTRODUCTION

The Galveston Bay system is comprised of Galveston, Trinity, East and West Bays and related estuaries, and is the largest estuarine system on the Texas coast. In recent years, this system has become the latest focal point in the continuing battle over the uses and needs of various interests for fresh water, land, and other natural resources. Most of these battles have been fought in the state legislative arena, with subsequent public referenda, as indicated by Texas' attempts to pass statewide water constitutional amendments in 1969, 1975, 1981, 1983, and finally culminating in 1985 with the successful passage of the 1985 Omnibus Water Amendment.

Although the 1985 Water Plan provided the foundation for some possible solutions to many of the issues facing bays and estuaries, there still remains some unanswered questions regarding fresh water inflows, land use, and water quality. Many studies have been conducted dealing with these issues, but have primarily focused on the state and federal levels of government, and for good reason. Historically, Texas' fragmented system of government has divided control and jurisdiction of the many factors affecting bays and estuaries among no less than twelve state agencies (Texas Coastal Resources Management Program, 1973). However, not many studies draw attention to the multitudes of local governments which may provide not only some of the solutions to the problems, but may actually be contributing to the problems as well.

Local governments play a crucial role in our national system of governance, for it is at the local level that most relationships with the other governmental players converge. Because of the somewhat autonomous and very independent nature of local governments and the sheer number of the local governmental arrangements, the potential for conflict and the necessity for cooperation is the greatest (Glendening and Reeves, 1984). As of December 7, 1987, there were over 600 local governing entities within the four counties surrounding Galveston Bay alone, not including school districts (U.S. Department of Commerce, Bureau of the Census, Dec. 7, 1987). Thus, while the bay system is, and will always remain, an important natural resource and home to various industries of its own, the surrounding four

counties have also become a highly complex and demanding system inhabited by approximately 3.2 million people.

Therefore, the main purpose of this study is to focus attention on Galveston Bay area local governing entities, and those duties and actions which may affect and be affected by the Galveston Bay system. Specifically, we are interested in activities referred to as "economic development" and to activities primarily directed at enhancing or protecting the natural resources of the bay. How does economic development affect the bay system and, in turn, condition and restrict the need to protect bay resources? Do the institutional structures at the local level provide the kinds of information and opportunities needed for individuals and groups to make their preferences for the use of the bay's resources known and considered? What are the relationships between various local governing entities and economic development groups? Is economic development compatible with protecting the resources of the bay complex? What regulatory strategies or programs, if any, are employed by local governing entities which may have an impact upon bay pollution?

To answer these questions, it will be necessary to first expand upon our knowledge of the problem at hand, including recent major issues involving Galveston Bay, and our understanding of economic development in general. In part II, we will describe a few of the tools which localities may incorporate into their development strategies, followed by a brief description of how some localities organize and pursue economic development around the bay. In part III, we will discuss the various systems of local governance, including regulatory regions, and their possible affect on the Galveston Bay complex. (For a brief discussion of the historical development of the area, see appendix I.)

The Problem Perceived

While it is not usually the case to talk about the bay and its surrounding area as two separate systems, conflict in recent years over the various uses of the bay and proposed major projects or activities have tended to polarize various interests into warring camps. Pro-development interests tend to favor purposeful modifications of Galveston Bay's natural state in the pursuit of economic growth and to accommodate resultant population increases. Environmental interests, on the other hand, favor uses which tend to protect and enhance the overall ecosystem of the bay proper.

Two examples of these conflicts can be seen over plans to dredge the Houston Ship Channel and to construct the Wallisville Reservoir. In an effort to increase the

import/export business utilizing the Houston Ship Channel, the Army Corps of Engineers has proposed to widen and deepen the channel to the alleged detriment of the bay's fishing industries and wildlife habitats (Woods, Houston Post, June 1, 1986). The Wallisville Reservoir, immediately above the mouth of the Trinity River, is also opposed for the potential damage its construction would impose upon the Galveston Bay system. The reservoir is designed to supply the City of Houston with the fresh water it needs for future growth, to provide a salinity barrier for farmers, and to prevent land subsidence from overuse of groundwater. The building of the reservoir, however, would allegedly decrease the amount of freshwater inflows and nutrients critical to the health of the bay's ecosystem. (Houston Chronicle, June 14, 1987; Dawson, Houston Chronicle, June, 27, 1987).

Two pieces of recent legislation have also focused people's attention on the bays and estuaries of Texas and have also contributed to the polarization of various interests. In 1985, Texas passed its first comprehensive statewide water plan. During the formulation process of the bays and estuaries section of the plan, conflict developed over the rights and needs of the many users concerning fresh water inflows, conservation, and environmental goals. The participating actors took opposing positions under the banners of those favoring development and those referred to simply as environmentalists (Causey, October 1, 1987). In addition, the National Estuary Program (NEP) provisions of the Water Quality Act of 1987 also drew attention to the problems threatening Texas' bays and estuaries and Galveston Bay in particular. However, as Lauriston King predicts, it is quite likely that historical, institutional, and political constraints will limit Texas' involvement in issues of estuarine management (King, 1987).

Part of the reason for this limited involvement in estuarine management may be attributed to the historically pro-development attitude toward water resources in Texas. Reflective of this attitude is the requirement in the Texas Water Code that the executive director of the Texas Department of Water Resources (as of 1985, the Texas Water Development Board) formulate a comprehensive state plan for the orderly development and management of water resources in order that sufficient water will be available at a reasonable cost to further the economic development of the entire state (House Study Group Report no. 86, 1982). During the formulation of the unsuccessful 1983 Water Bill, many local and regional water agencies, as well as economic development, financial, and agricultural interests preferred and supported the Texas Department of Water Resources' proposal for increased spending on water development projects (House Study Group no. 87, 1983). This seemingly uncontrolled urge for water quantity versus quality or

conservation are some of the things that have concerned environmentalists about Texas' water resource policies in recent decades. This mandate, combined with the fact that domestic and municipal uses and industrial (processing) uses have been retained as the top two priorities for the allocation of water resources in the state's new Water Code, strongly reflect the maintenance of this pro-development attitude.

Economic development is not a new concern for many localities. As a matter of public policy, all levels of government have been involved in some form of economic development activity since their creation because the revenues they receive from taxes and other fees are influenced by the well being of their constituents and local businesses or industrial enterprises. However, the need for economic development activities is probably perceived to be the most acute at the local level. Historically, state and national governments have encouraged localities to pursue economic development activities through a variety of programs and financial aid. For many years, Texas' state government offered training, information, marketing, and financial aid programs to municipalities through its Economic Development Commission, as well as the Department of Community Affairs in the Governor's office. These agencies and others were reorganized into the Texas Department of Commerce in 1987. The federal government has also encouraged localities to increase and upgrade economic development activities through such programs as its Urban Development Action Grant Program, Community Development Block Grants, and other programs through such agencies as the Economic Development Administration, Farmers Home Administration, and Small Business Administration.

Recent circumstances have also increased localities perceived need to pursue enhanced economic development activities. As federal grants-in-aid have been reduced and the petroleum and agricultural economic sectors have been devastated by low prices and foreign market control, localities have looked increasingly at economic development as a means of alternative revenues. Thus, the intensity with which economic development is being pursued today can be seen by the increasing numbers of public and private

Until recently, local economic development was pursued in an attempt to achieve an optimum city size in order to produce services in the most efficient manner possible. The goal now, however, is to enhance the economic position of the city taken as a whole (Swanstrom, 1986). Because cities are limited as to what they can do, they typically pursue developmental policies with the hope of increasing their tax bases, number of jobs, and ultimately revenue. According to Peterson, developmental policies are those which enhance the

economic position of the community in its competition with others. (Peterson, 1981). Economic development has also been defined in a broader sense as the planning and implementation of activities designed to stimulate growth in the local economy (Weaver, 1986). It is the process of creating wealth through the mobilization of human, financial, capital, physical, and natural resources to generate marketable goods and services. The ultimate mission of the economic developer is to bring to an area (or retain within it) the fullest gainful employment and the new investment necessary to continue desirable economic growth (Basic Economic Development Course, College Park, Maryland, 1987).

Many of the conflicts concerning the Galveston Bay complex, as exhibited in our two previous examples of the ship channel enlargement and Wallisville reservoir projects, are concerned with activities which are designed to keep up with and encourage economic growth. While economic development and economic growth are two distinct processes (Flexang; Conroy), the two are invariably intertwined. Our two examples require development or structural changes to the existing infrastructure on the one hand, while hoping to achieve some sort of growth in the economy on the other. The very nature of economic development is to attract resources. Thus, many of the purposes or goals for pursuing economic development activities are to achieve a corresponding increase in some definition of the term growth. People often equate this increase in growth in vague terms such as an increase in the quality of life. Here, however, they may refer to such things as an increase in jobs or an increase in per capita income, among others. Albeit the accomplishment of these goals can have a positive effect on a community's economy, the potential negative side of economic development is that there may be some portions of the area economy that actually decline in the process. The losers in our case would tend to be those who often fall outside the jurisdictional, or decision-making, areas of the local government, most notably the Galveston Bay system and those businesses or industries which derive their existence directly from the bay (i.e., commercial or sport fishing, pleasure boating, recreation, tourism, etc.).

Summary

In summary, while there are many other factors which have contributed to this prevailing pro-development attitude in Texas, the ultimate problem as perceived by environmentalists has been the lopsided approach favoring development and economic growth. As mentioned by an employee of the Texas Parks and Wildlife Department, the pursuit of economic development has always been pro-active,

in contrast to the reactive approach taken toward the protection of natural resources and environment (interview with field personnel, TPWD, 1987). This proactive, pro-development approach is further emphasized when examining some of the economic development incentive tools, or powers, allocated to local governments by the state in recent years.

II. LOCAL ECONOMIC DEVELOPMENT

Introduction

As previously mentioned, economic development is not new for local governments. Numerous scholars have found that cities typically follow developmental policies as opposed to redistributive and allocational policies. In fact, one of the primary goals of cities is to maximize land values within their communities (Peterson, 1981). Over the years, cities in Texas have been able to solicit aid from the state in the form of legislation which enhances local efforts to pursue economic development activities.

Since 1979, the Texas legislature has enhanced local governments' arsenal of economic development tools. Four separate pieces of legislation have provided municipalities with the opportunity to provide incentives for development within certain areas of the community. As outlined by the Lyndon B. Johnson School of Public Affairs' Policy Research Project Report, no. 63, The Effects of State Government on Economic Development in Texas Cities, the four development tools include the establishment of industrial development corporations, tax abatement, tax increment financing, and enterprise zones.

Local Economic Development Tools

Industrial Development Corporations: The Industrial Development Corporation Act was passed in June 1979 by the Texas Legislature. It:

".....granted cities the authority to create nonprofit industrial development corporations (IDCs) which can issue tax-exempt revenue bonds (IRBs) to finance commercial and industrial projects. The intent of this legislation was to limit the IDC to the role of conduit for financing of projects which benefit the public purpose of the authorizing entity. The proceeds of IRBs issued by the corporation may be loaned directly to the user or may be used by the corporation to build or finance a project which will then be leased or sold to the user. The IDC may not own and operate a project" (Policy Research Project Report, no. 63, 1985).

Tax Abatement: The Property Redevelopment and Tax Abatement Act, passed in 1981 and later amended by Texas voters, became law in November of 1982 and granted local governments with taxing authority the power to abate ad valorem property taxes in certain instances. This act

allows a governing entity to designate an eligible area within its boundaries as a reinvestment zone and to enter into contractual agreements with the owners of taxable property in that zone to exempt all or part of the value of the property from taxation.

"This is done on the condition that the property owner make specified improvement or repairs to the property, in conformance with the comprehensive plan of the city. The designation period may not exceed fifteen years, at the end of which the property returns to the tax rolls at its full appraised value and at the full tax rate" (Policy Research Project Report, no. 63, 1985).

Tax Increment Financing: The Tax Increment Financing Act (TIF) of 1981 also became law in November, 1982. This act allows cities to finance certain public projects in targeted areas.

"To finance these projects, municipalities freeze property tax assessments for all overlapping districts at the value for the year in which the zone was designated a tax increment district (TID). The value of this assessment forms the tax increment base for the zone. Each taxing authority continues to collect revenues on the base amount. Any increase in the ad valorem tax then accrues to the municipality, and is earmarked for the tax increment fund. Money in the tax increment fund may be used for direct financing of renewal projects (the "pay as you go" method), or it may be used to service bond debt and interest. This amount is known as the captured appraised value. The bonds, which are tax exempt, are payable only out of the tax increment fund."

As of 1985, there were no financing projects under development, but several cities surrounding Galveston Bay have created tax increment districts. These cities are Houston, Galveston, and Bellaire (Policy Research Project Report, no. 63, 1985).

Enterprise Zones: The Texas Enterprise Zone Act was approved in May, 1983, and went into effect September 1, 1983. This act authorizes local governments to nominate qualified areas as enterprise zones, creates a state Enterprise Zone Board, allows state and local tax and regulation exemptions for businesses locating in the zones, and promotes neighborhood self-help associations.

"Under the Act, two types of zones, urban and rural, and two levels of zones, local (Level I) and state (Level II), were established. Authorization of the Level II zone, has not yet been approved by Congress. State participation in local zones is limited to authorizing lower city taxes and fees and lifting state regulations to increase local autonomy. Local governments can refund local sales and use taxes to retailers to purchase equipment, machinery, or materials for remodeling, rehabilitation, or construction within the zone. In addition, local governments can suspend zoning, licensing, or building codes, subject to restrictions set by statute. [These zones] qualify for tax increment financing and tax abatement, and businesses qualify for industrial development bonds. Enterprise zones also double as foreign trade zones, where businesses can assemble, store, process, and display goods from abroad without paying tariffs" (Policy Research Project Report, no. 63, 1985).

According to the Project Report, enterprise zones are much more comprehensive than either of the tax incentive programs. Moreover, it is not clear that tax incentives alone actually have any effect on firm's location decisions. It also appears that, of the four tools examined, "industrial development corporations have the most to offer a community in terms of net taxes generated and employment" (Policy Research Project Report, no. 63, 1985).

Pursuit of Local Economic Development: Varying Organizational Structures

Texas communities have utilized many different organizational structures in the pursuit of economic development. According to Robert Weaver, the structures found in Texas can be classified into six models based on (1) the way in which they were initiated, (2) the community sector exercising primary control, and (3) their modes of operation (See table IV, Weaver, 1986). While these models allow us to classify the basic structure of development a comprehensive view of the complex linkages that exist between the public and private players. When we talk about the community sector exercising primary control, these linkages become even more important. It is the local governing entity that possesses the power to utilize and implement the development tools mentioned earlier, and it is these same entities which are ultimately responsible for

providing the changes and improvements to the local infrastructure necessary for development to occur.

The distinctions between Weaver's models is a matter of degree. (For a brief description of these models, see Appendix II) Each organization encountered in our investigation of a purposive, or selected, sample of bay area cities and economic development entities incorporated aspects of each model. A number of interviews also uncovered not just one organizational entity, but several operating in given communities. In an attempt to understand the organizational structures, linkages, and programs employed by bay area communities in the pursuit of economic development, we will highlight key activities in several communities.

Houston: The largest city in the Bay area, Houston, possesses many of the characteristics contained in each of Weaver's models. Through several interviews with an employee of the Houston Economic Development Council's Research Department and Mr. Roger Hord of the Houston Chamber of Commerce, we were able to piece together a brief description of some of the organizations which exist in the Houston area.

The Houston Chamber of Commerce (HCC) was created in 1840 and has performed economic development functions for many years. In 1982, however, the Houston Economic Development Council (HEDC) was formed as an independent entity. According to the 1987 HCC President, Mr. Gerald Griffin, "HEDC was formed in response to hard times and was made a separate entity, at least in part, to send a signal to the outside world and to the inside Houston business community that this was not business as usual--that it was a new thrust, a new intensity" (Sallee, Houston Chronicle, 1-15-87).

The connection between the HCC and the HEDC is somewhat complex. Since the creation of the HEDC, conflicts have arisen over alleged attempts by a former president of HEDC to broaden the HEDC's agenda into areas traditionally performed by the HCC (Sallee, Houston Chronicle, 1-15-87). According to our interviews conducted in late 1987, it appears that some of these conflicts have been resolved. While HEDC is a separate 501c nonprofit corporation and possesses its own legal identity, it functions as a subsidiary of the HCC. HEDC's policy board is basically a subset of the HCC's board of directors. However, technically, decisions made by the HEDC board do not require the approval of the HCC's board (or executive board). To keep the two organizations functioning smoothly at arm's length has been the duty of a special joint coordinating committee. HEDC has thus become the marketing arm of the HCC. The HCC's main function is to provide the necessary

environment conducive for local development to occur. (Interviews with Roger Hord, Director of Regional Systems, Houston Chamber of Commerce and an employee of the HEDC research department, November, 1987).

Funding for each organization is also different and thus requires that both organizations remain separate entities. It was noted by Mr. Hord, as well as Mr. Griffin, that the HCC relies primarily on membership dues for revenue, while HEDC solicits funds from HCC member firms, as well as the general business community. HEDC also contracts with the City of Houston to provide economic development activities for the community. This provides approximately one quarter of HEDC's revenue (Roger Hord, 1987; Sallee, Houston Chronicle, 1987). In 1986, for example, the Houston City Council agreed to provide \$1.25 million a year in matching funds to HEDC. Reflective of HEDC's area approach to economic development, Harris County Commissioner's Court also approved a \$500,000 allocation and the Port of Houston agreed to give \$150,000 over two years (Crown, Houston Chronicle, 4-2-86).

Also reflective of a regional orientation is the fact that approximately seven county governments are represented in HEDC and its marketing data incorporates the general area surrounding Galveston Bay. HEDC works closely with other development organizations around the bay, such as those in the Clear Lake area, in attempting to attract resources and businesses focusing on NASA. HEDC has also helped Texas City and the various organizations in that area to attract Mitsubishi's copper smelting plant (Roger Hord, 1987).

The linkages between HEDC and HCC, as well as local governing entities, can be seen through HEDC's financial support and the memberships of various local officials on the HEDC board. The mayor of Houston and the Harris County Judge, as well as several other public officials from other counties, participate as members of the HEDC executive board. These officials, however, are not members of the HCC board (Roger Hord, 1987; HEDC research employee, 1987).

In addition to the many activities performed by HEDC and HCC, the City of Houston also maintains a planning and economic development department. This department functions primarily as a one-stop permitting office and handles other governmental programs, such as grant solicitation and implementation. There is some interaction between this department and the private economic development organizations through the mayor's office. However, this department is not actively involved in promotion activities (Roger Hord, 1987).

The Harris County-Houston Ship Channel Navigation District, more commonly called the Port of Houston Authority, also conducts economic development activities. Created in 1927 by a special act of the Texas legislature,

the Port Authority is allowed by statute to use five percent of its annual operating revenues for promotion and development activities (Benedict, Houston Chronicle, Dec., 1986; Interview with Jack Horn, Nov. 1987; Report of the Harris County Home Rule Commission, 1957). While considered to be a state agency by some, the seven member Port Authority governing board is appointed by the Harris County Commissioners Court (2), City of Houston (2), City of Pasadena (1), and other cities along the Ship Channel (1), with Harris County and Houston jointly appointing the remaining member (and chair) of the board (Article in the Houston Chronicle, Jan., 1987; and a later undated article). The Port, and the industries utilizing it, account for approximately one-third of Houston's economic vitality (Kennedy, Houston Post, Aug., 1986).

Seabrook: While the city of Seabrook, a bay community southeast of Houston, is a relative newcomer to organized economic development efforts, the city has aggressively applied its approach to its comprehensive plan. In an effort to effectively control growth within its city limits, the city has annexed territory extending out into the bay and has implemented strong zoning ordinances to restrict offensive industry location and pollution. This approach has enabled Seabrook to capitalize on the tourist and boating industry by being able to control the construction of piers and boathouses. The Clear Lake area, which includes Seabrook, is currently the third largest boating center in the nation behind San Diego and Miami with approximately 5000 vessels (Lanny Lambert, City Manager of Seabrook, Nov. 1987). Another article places the estimate of pleasure boats in the Clear Lake-Seabrook-Kemah basin at between 7,000 and 8,000, with 500 more added each year (Myler, Houston Chronicle, June 8, 1986). Seabrook's neighbor to the south, Kemah, is also capitalizing on this claim by aggressively developing its waterfront with an \$8 million marina (Kreps, Houston Chronicle, Sept. 6, 1987).

Seabrook has viewed its participation in economic development as an obligation mandated by its charter, which requires the utilization of long range comprehensive planning. In conjunction with this plan, steps have been taken to become more responsive to development by reducing capital recovery fees. "A new restaurant that once might have been charged \$15,000 on water-use projections now would be billed only \$1,500" (Lanny Lambert in Houston Chronicle, Sept. 6, 1987).

Participation by the city was further viewed as necessary since there was no active local chamber of commerce. While the Clear Lake Chamber of Commerce represents nine cities within the area, it was felt that this organization was not promoting Seabrook's interests.

In September, 1986, Seabrook's city council established an economic development council to begin identifying those industries which would benefit and compliment the city's plan. The primary industries targeted are recreation and tourism. A number of new marinas are currently being considered and constructed. Growth is also expected to occur because of the NASA decision to build the new space station, with some 4000 new area jobs projected (Interview with Lanny Lambert, CM, Seabrook, Nov. 1987).

While many residents have concluded that development is necessary for them to continue their existence in Seabrook, many disagree. Due to the large influx of new people since the opening of NASA, many people feel that the "laid-back, comfortable life" in Seabrook is changing for the worse (Kreps, Houston Chronicle, Sept. 6, 1987).

Baytown: The City of Baytown, located on the northwest shores of the bay, became formally interested in economic development with the formation of its Strategic Planning Committee as a component of its city council in 1986. In 1987, the committee developed the "Baytown 2000" report, which proposed ten projects to further citizens' visions of what they would like their city to become. The starting point and first project to be implemented calls for improving the city's image. Accordingly, \$70,000 of the city's 1987-88 budget was allocated for brush and heavy trash collections; \$50,000 for removal of delapidated structures; \$15,000 for mowing vacant lots; \$15,000 for litter removal; and \$10,000 for a public relations effort to boost the city's image. Future plans call for construction of a tourist center and five major public building projects. These projects include a \$3.5 million luxury marina, a \$2 million 18-hole municipal golf course, a regional airport for business jets, a special events center, and a Goose Creek river walk (Horswell, Houston Chronicle, Sept. 6, 1987).

Shortly after an A&M engineering research study in 1978 which indicated the feasibility of a marina, the Army Corps of Engineers cited potential environmental obstacles (partly related to dredging), which put the project on hold. Believing that these obstacles could be overcome, however, a formal permit application has been made by the city to the Galveston District of the U.S. Corp of Engineers. The project plan calls for the dredging of a quarter-mile long strip so that bigger boats, such as larger pleasure craft and cabin cruisers, can reach the Houston Ship Channel and gain access to Galveston Bay. The environmental obstacles which must be overcome also involve critical wildlife habitats which exist in the area. According to Mike Shields, director of the new Baytown economic development foundation, the U.S. Fish and Wildlife Service has expressed

its opposition to the project. In order for the project to progress, \$30,000 has been allocated by the city to conduct an archaeological study and other procedures necessary to secure the permit (Horswell, Houston Chronicle, 1987).

According to the Houston Chronicle, progress has also been made on the regional airport project. This progress is being pushed by a coalition of supporters from Baytown and Chambers and Liberty counties. These three governmental entities have formed the Grand Parkway Aviation Committee. Baytown has already allocated \$10,000, or ten percent of the cost, for a feasibility study (Horswell, Houston Chronicle, 1987).

The city council's strategic planning committee has recently relinquished many of its duties to a newly created Baytown Economic Development Foundation. The city, however, still maintains its primary control over the entity, with council members sitting on its board of directors, designating its chairmen, and appointing private citizens to the board. Support for the organization comes from the city by utilizing matching funds, and from the county, private corporations (such as Exxon, the community's largest employer), and other community groups (Interview with Mike Shields, Director of the Economic Development Foundation, Nov. 1987).

Nassau Bay: According to an employee of the City of Nassau Bay, southeast of Houston, pursuit of economic development is currently being handled by the local area's chamber of commerce. While tourism is important to the city, limited public access to Clear Lake (most lakeshore property is privately owned) and the absence of local regulatory controls prevent the city from significantly impacting area development (Interview with an employee of Nassau Bay, Nov. 1987).

Galveston: In an interview with an employee of the city's planning department, we found that, like Houston, the City of Galveston is involved in economic development in a myriad of fragmented ways. The city helps support activities of the local chamber of commerce, as well as a new business development center. Start-up funds for the business center were provided by the chamber and Galveston College, which maintains an office within chamber headquarters (city employee, 1987).

The city also provides staffing for ten reinvestment zones, or tax increment financing districts, within the city. These zones were established to help develop vacant land within the city and to redevelop certain downtown areas. Several of these zones which have been able to attract development projects during the past several years, but the decline in the economy has affected a few of the

other zones. One area that has been successful is the well known Galveston on the Strand, situated at the edge of downtown. Part of this redevelopment has also occurred due to the work of private citizens and the Downtown Revitalization Committee, another part of the development system (city employee, 1987).

According to our interviewee, there is the need for a more centralized effort in economic development in Galveston. Each development group stresses different areas. Maintaining a balance between the various groups is achieved by the fact that the city has representatives who serve in positions in all groups. There are many formal connections. As an example, our interviewee serves on the Downtown Revitalization Committee (city employee, 1987).

Most of the economic development effort has focused upon attracting new, small businesses and working with already established businesses in the area of government procurement. However, when it became known that the U.S. Navy was looking for a home port for the battleship Wisconsin, a major state-level effort was made to attract it to Galveston. In addition, public and private entities in the Galveston area put together a "\$9.9-million package of locally financed infrastructure improvements, including construction of road, sewer, and gas lines," as well as several million dollars in low interest housing loans, industrial development bonds, and other incentives. On July 2, 1985, the Navy announced that two guided-missile frigates and three minesweepers were scheduled to be based in Galveston at Fort Point (House Study Group, Special Legislative Report. no. 124, 1986). Local governmental officials and area development interests were subsequently disappointed when a special military facility closing commission approved a plan to cease construction of the project.

In addition to the development groups already mentioned, a regional effort was established in 1985 by landowners, business people, and other interested citizens in Brazoria and Galveston counties. Known as the Galveston-Alvin-Pearland Corridor Association (GAP), the organization has concentrated its efforts on attracting industries that would enhance Texas' agricultural interests: mainly in food processing. According to its founder, Tom Bowman, GAP has met little opposition from officials in Galveston and Brazoria counties. In an effort to develop 23,000 acres near Hitchcock, GAP officials were able to convince county commissioners from both counties to create two agricultural development corporations which can offer low-interest, tax-free financing (Mark Toohey, Houston Chronicle, April 20, 1986; Antosh, Houston Chronicle, March 13, 1986).

GAP's efforts in economic development do not stop with just attracting food processing companies. Airport and shipping terminals which would give the region and state international distribution capabilities are also on the drawing board. Coupled with these activities is the proposed Grand Parkway, a new causeway and high-elevation highway from the west end of Galveston Island to the south side of Houston. The plan has the support of Texas Agriculture Commissioner Jim Hightower, as well as officials of the City of Galveston. According to our interviewee with the City of Galveston, the new causeway and highway would shorten commuting time from Houston to the west end of Galveston and would provide an alternative evacuation route in the event of a hurricane (Mark Toohy, Houston Chronicle, 4-20-86; city employee, 1987).

Because of the complex and large scale nature of the activities pursued by GAP, a spinoff organization was created to help develop the transportation network needed to fulfill the goals of the parent organization. This organization, known as the Galveston-Alvin-Pearland Transportation Corporation, was created through special state legislation which amended the Texas Transportation Act. This organization was formed to assist the State Department of Highways and Public Transportation in a feasibility study of the proposed Grand Parkway. The organization is thus provided formal authority and direct linkages with the Highway Department. Any activities the corporation pursues must be undertaken with the approval of the State Department of Highways. Other linkages with governmental and private entities exist through contributions for the highway study of \$25,000 each from Galveston and Brazoria counties and \$150,000 from the Galveston-based Moody Foundation (anonymous interview with employee of GAP Transportation Corporation, Nov. 1987).

LaMarque and Texas City: Within the last three years, the City of LaMarque located in the southern region of the west banks of Galveston Bay has also become actively involved in the pursuit of economic development with the formation of an economic development commission housed within the city's administration. Promotion of the city and the tourism industry is conducted by contracts with the local chamber of commerce. The city has confirmed its decision to participate in development activities by dedicating a 4x hotel/motel tax to the chamber for use in promotional activities. The use of this type of tax by cities was authorized in the early 1980's (Interview with Gary Jackson, City Manager, LaMarque, Nov. 1987).

Closely connected with the City of LaMarque's economic development efforts is the Greater Texas City-LaMarque Economic Development Committee (Texas City is LaMarque's

southern neighbor). Created in 1985 as a private regional activity of the local chamber of commerce, this organization seeks to increase jobs and improve the quality of life for area citizens. While there is no financial support from the various local governing entities, local mayors do participate as individual members of the chamber. Ralph Holms, committee chair and local manager of the Texas-New Mexico Power Company, described the organization's relationship with the various cities, Galveston county, Houston-Galveston Area Council of Governments, and the state as very supportive (Interview with Ralph Holms, Chairman, Nov. 1987).

Dickinson: As of November, 1987, the City of Dickinson, located to the south of Houston, is not actively involved in the pursuit of economic development. However, promotional and economic development activities are being considered by a recently formed chamber of commerce (Anonymous interview with employee of the City of Dickinson, Nov. 1987).

County Economic Development: Up to this point, we have examined economic development activities in the Galveston Bay area as pursued by cities and private development organizations. While some of the linkages and support for these organizations has come from the various counties surrounding the bay, we must note that the counties themselves are becoming organized to pursue economic development activities as part of a regional plan by the Houston-Galveston Area Council of Governments (H-GAC).

In 1979, H-GAC and its member cities and counties created the Regional Economic Development Coordinating Committee for the Gulf Coast Region. The thrust of this action was to establish economic development committees at the county level for each of its 13 county members. The fulfillment of this goal would provide each county with the opportunity to be designated as a redevelopment district by the federal Economic Development Administration (EDA). This designation would qualify those counties for grants from the EDA for special economic development programs (Interview with Richard Wiltz, H-GAC employee, September, 1987).

In order to be designated as a redevelopment district, each county has to submit a five year plan of action. According to Richard Wiltz, an employee of H-GAC and chair of the coordinating committee, this plan of action is not a planning document, but a very comprehensive and specific strategy for economic development. This strategy includes goals and objectives, as well as designations of who will perform certain functions and when they will be performed. The Economic Development Administration must then approve the plan before a county can be designated as a redevelopment area. In late 1987, Chambers county was one

of the last counties around the bay attempting to receive this designation (Wiltz, Interview, September 4, 1987).

Private Economic Development: Pursuit of economic development has long been an activity of the private sector. As early as 1962, it was noted by the Texas Research League that:

"a resource of major import but little recognized, is the wealth of private industrial development that exists in Texas' banks, railroads, utilities, chambers of commerce and industrial site location firms. It is believed that Texas leads all other states in this resource, and has a larger private industrial development program than all her neighboring states combined. Confidential estimates place the annual expenditure at more than \$10 million" (TRL, 1962).

Historically, Texas' utilities have formed the foundation of private and local efforts directed at economic development. Many utilities maintain area research and development departments which compile up-to-date economic and social data to perform analyses which can indicate industrial site locations for the communities in which they serve. A local network has also been established across a utility's service region via the various local managers within their organization. Many of these managers provide some of the local leadership in other economic development organizations as exhibited by Ralph Holms, chair of the Greater Texas City-LaMarque Economic Development Committee and local manager of Texas-New Mexico Power Company (TRL, 1971).

While interviews with these private utilities and businesses were not conducted for this report, the reasons for their involvement are fairly straight forward. From an earlier report by this author, these industries pursue development activities not only for the corporate benefits of increased services and revenues that occur with new industries, but also for the good will and publicity generated from such activity (Causey, May, 1987). According to a former deputy director of the Texas Economic Development Commission, the "economic development philosophy (anonymous interview with past TEDC deputy director, 1987).

Summary

In summary, economic development is pursued in a number of different ways by both public and private entities. The tools available for this pursuit is growing as more and more cities seek to enhance their development capabilities. In

the few cities included in our analysis, the efforts expended in pursuit of economic development are extensive. In addition, the cities surrounding the Galveston Bay complex do not limit these activities to within their own boundaries. As we have seen, economic development is often pursued regionally through cooperative efforts between cities and counties, private sector entities, and in many cases, with the aid of the state and federal governments.

In comparison, the extent to which local governments pursue effective environmental policies appears to be very small. In the next section, we will examine some of the efforts related to enhancing water quality, the authority available to local governments to implement such policies, and the problems which may exist in the process.

III. LOCAL GOVERNANCE OF GALVESTON BAY

Introduction

As we have mentioned earlier, the Galveston Bay area has become a highly complex system inhabited by approximately 3.2 million people. To a large extent, how these people utilize and protect the resources of the bay depend in many ways upon the various local and interlocal governmental arrangements in the area. As Peter Rowe explains, "environmental laws do not solve environmental problems; they merely map out strategies for solving them. In most instances, however, federal laws are carried out (or not) at the local level in specific day-to-day episodes where decisions are made or altered in accordance with the strategies set out in law" (Rowe, 1978).

In the previous sections, we have discussed the powers and activities of private organizations and local governments as they pertain to economic development. In this section, we will address those "other" duties, activities, and powers which local governments possess and perform which may affect the resources of the Galveston Bay area and, more specifically, water quality. Important to our assessment of these remaining program, or policy, areas is the underlying question of how these governments view their role in protecting the natural resources of the bay and how this role is implemented.

According to the U.S. Department of Commerce, Census of Governments in December, 1987, there were 618 local governments within the four counties surrounding Galveston Bay (not including school districts). These governments include 4 counties; 71 cities; and 543 special districts. Table II on page 21 indicates that this is a 33.4% increase in local governments since 1982. This increase is primarily due to a 40% increase in special districts within Harris County alone. While some of these local governments, such as 15 rural fire prevention districts and 7 hospital districts, do not have any noticeable effect on Galveston Bay, 596 other local governments do have the authority to perform activities which can have direct and indirect effects on the bay. Table III on page 27 outlines the various types of local governments in the four counties surrounding Galveston Bay.

General Purpose Governments

Counties and cities comprise the general purpose local governments in Texas. Each of these units of government have been authorized to conduct various water programs. However, legal constraints on environmental management

Table II

LOCAL GOVERNMENTS:
1982 and 1987

COUNTY	Pop. 1980	Municipal Govts.	Special Distts. 1982 + counties	Total 1982	Pop. Est. 1985	Municipal Govts. 1987	Special Distts. 1987 + counties	Total 1987
Brazoria	9587	23	19	43	188200	23	24	48
Chambers	8538	5	2	8	19400	5	3	9
Galveston	15940	12	21	34	213400	14	26	41
Harris	29547	28	349	378	2794700	29	490	520
Total	23612	68	391	463	3215700	71	543	618

Percent increase from 1982 to 1987
 Special Districts 38.8x
 Municipalities 4.4x
 Overall total 33.4x

Source: Colled from the 1982 Census of Governments and from a compser printout from the Dept. of Commerce, Census of Governmes, December, 1987.

between the two governmental units vary greatly (Rowe, 1978).

Counties:

Counties possess only very restricted powers. They are granted specific statutory powers, but have limited general legislative authority compared to their municipal counterparts. Thus, counties are primarily administrative units of the state with authority specifically defined by the State constitution and by legislative statute. Counties have no ordinance making authority. County revenue sources are also rigidly controlled by state law, with the ad valorem tax (maximum rates prescribed by the state) providing counties their main source of income (Texas Advisory Commission on Intergovernmental Relations, 1973; Rowe, 1978).

Historically, Texas counties were authorized to clear and improve streams for navigation and to make drainage and flood control improvements. However, constitutional provisions requiring a special assessment tax to finance these improvements limited county government's ability to perform these activities. These special assessment taxes invariably failed to gain the approval of voters. In 1904, the state legislature amended the constitution to permit the creation of special districts and, since that time, many of the county's duties in the area of water improvements have been assumed by these special purpose districts (Thompson, 1960, 15). For our purposes, these special purpose governments will be discussed later. However, given its close relationship to one bay area county, a special district must be discussed here.

The Harris County Flood Control District was established under the conservation and reclamation district law to provide drainage, flood control, and reclamation services. It is not considered a separate government because it is governed by the county commissioners of Harris County (Census of Governments, 1982).

Like some of the other special districts in the state, the Harris County Flood Control District can issue bonds after local referenda approval to finance programs under its jurisdiction. In 1983, a bond issue passed to help the Harris County Flood Control District continue with a flood control plan which would improve drainage between Clear Lake and Galveston Bay. The \$80 million project was subsequently joined by the Army Corps of Engineers and Galveston County in a new cost-sharing partnership, where local authorities take responsibility for part of the project's cost and maintenance (Kimball, Houston Post, 1986).

Active participation by counties in water pollution programs appears to be very limited. Except for Harris

County, no other county (to our knowledge) in the Bay region has implemented any organized form of pollution control. As explained by a Conservation Foundation study in 1972, however, even Harris County's program was limited by legal constraints (Conservation Foundation, 1972).

In other program areas, counties still retain the authority to cooperate with the federal government in navigation and flood control programs. In addition, Article 969b and article 2351 of the Texas constitution authorize counties to contract with any city or town for the purpose of supplying water. They may also sell and deliver water from subterranean sources to any public or municipal corporation (Thompson, 1960, 16).

Counties in Texas do not possess the authority to utilize zoning regulations and land use controls. However, the state has granted counties the authority to adopt limited subdivision regulations. These regulations only pertain to roads, the width of streets, and drainage systems (Policy Research Project Report, 63, 1985).

Municipalities:

A city's primary concern in water issues is in the construction and maintenance of public facilities and in the provision of public utilities. These duties include the provision for planning, constructing and operating water and sewer systems, and, like counties, storm water control and drainage. Many cities finance their basic infrastructure needs through the sale of municipal bonds which have been approved in local popular elections (Texas Advisory Commission on Intergovernmental Relations, 1973; Thompson, 1960).

While the provision of basic infrastructure and its operational effectiveness is important to the water quality and environment of Galveston Bay, the legislative or regulatory authority which Texas cities possess is more pertinent to the main subject examined in this paper. This authority is generally referred to as a city's police power. This power allows a community to protect the health, safety, and welfare of its citizens from various externalities inherent in offensive land uses (Pugh, 1987; Rowe, et.al., 1978). The activities, or tools, with which we are concerned involve a city's ordinance making authority generally, and its nuisance law and land use regulations in particular.

Nuisance law refers to a method of controlling land use activities of a property owner which constitute a substantial and unreasonable interference with the use and enjoyment of another's property. In such cases, private individuals and public entities (cities) may sue for injunctive relief. Only private citizens, however, may sue

for both injunctive relief and damages. The major problem with nuisance law is the requirement that action can only be taken after the nuisance has already occurred. Nuisance law is thus reactive and not proactive (Pugh, 1987). In 1984, the City of Houston began to utilize a provision that can be classified under this general heading. In trying to regulate adverse actions of wastewater treatment plants within the city's extraterritorial jurisdiction, the city's Health Director, Dr. James Haughton, revealed a provision in EPA regulations that allows health inspectors to file suit as "citizens" (Carreau, Houston Post, Jan. 27, 1984).

Another tool which cities may use to protect natural resources are zoning ordinances. Cities are the only governmental entities in Texas authorized to have zoning ordinances. These ordinances are also claimed to be legally valid under a city's police power. Zoning regulations are applied at the most general level of development and perhaps have the greatest potential for protection of the natural environment. However, in many cities, zoning techniques may be applied based purely on social considerations without any consideration to the protection of natural resources or the environment. Zoning typically is aimed at spatially separating residential, commercial, and industrial land uses within a community (Rowe, et.al., 1978; Pugh, 1987; Bish, 1982).

Of those cities interviewed for this study, only Galveston, Nassau Bay, Texas City, and Seabrook utilize zoning ordinances to control land use activities. Nassau Bay and Seabrook have both claimed that their zoning ordinances are very strong as opposed to moderately strong, weak, or non-existent. Galveston's ordinances were rated moderately strong. Each of the city's representatives interviewed viewed the use of zoning as a means of controlling offensive industrial location (interviews with the Planning Director of Galveston, City Manager of Seabrook, and the City Secretary of Nassau Bay, and Ralph Holmes, 1987).

Other cities were also asked about the use of zoning. La Marque has voted upon the proposition, but the issue has failed (City Manager of La Marque, 1987). Likewise, the people of Anahuac on the northeastern shores of the bay complex have also decided to oppose it (City Administrator of Anahuac, 1987). While the City of Dickinson does not have zoning at this time, its respondent feels that zoning should be implemented (Secretary to the City Administrator, 1987). Houston, the largest city in the Bay area, also does not have a zoning ordinance. According to Roger Hord of the Houston Chamber of Commerce, economic development marketing efforts have emphasized the absence of zoning to prospective businesses and industries as a sign of "freedom" from government entanglements and regulations (Hord, 1987).

One other tool which Texas cities may use to protect the natural resources within their jurisdiction is a city's general ordinance making ability. While the city of Houston does not embrace the use of zoning ordinances, Houston does have several local ordinances which help to eliminate several sources of pollution to its streams and bayous that feed into Galveston Bay. One such ordinance, approved in November of 1984 and implemented in February of 1985, "controls the disposal of grease trap wastes from the city's 10,000 restaurants and fast food shops, wastes from septic tanks, and sewage sludge from utility district plants." It is believed that this ordinance will save the city approximately \$10-12 million dollars that is budgeted annually to clean out grease-clogged sewer lines. Originally, the maximum penalty for violation of the ordinance was \$200. Now, the maximum fine is \$1000 a day, with a \$500 a day minimum (Scarlett, Houston Post, December 20, 1985).

Another ordinance pertains to those businesses that discharge industrial wastewater into the city sewage treatment system. On June 17, 1986, notices were sent to several electroplating firms that their city water supply would be turned off if they failed to comply with pretreatment regulations. Discharges of the industrial wastewater in question contain heavy metals, acid, cyanide and organic solvents which can be toxic to marine life and harmful to human health. Other businesses which have been effected by these regulations include radiator shops and other auto repair facilities, laundries and washeterias, and food processing plants. The enforcement of these ordinances is necessary if the city is to achieve full compliance with the U.S. Environmental Protection Service's order on Houston's pretreatment program. The city would face substantial penalties itself if appropriate action were not taken (Scarlett, Houston Post, June 17, 1986).

Other control mechanisms include development codes (or subdivision regulations) and building codes. Subdivision regulations apply to a given type of development and utilize specific site and structure controls. This type of control is typically used to avoid negative social impacts upon public infrastructure investment. Building codes usually refer to certain safety aspects of specific structures (Rowe, et.al., 1978).

Special Purpose Governments

As mentioned earlier, special districts have accounted for the largest increase in local governments in the four counties surrounding Galveston Bay since 1982. There are many reasons why this increase in special districts may have occurred. One reason often cited is that it is a necessary

response in meeting additional requirements for government (Rowe, et.al., 1978). Woodworth Thrombley explains that, in many instances, the appropriate geographical area appropriate for certain functions may be larger or smaller than any existing governmental unit. Also, many local governments are not financially capable of performing added services. Thrombley adds that "political expediency and the desire to isolate a governmental function from the alleged machinations of local politics" have also lead to the creation of some special districts (Thrombley, 1959). The imposition of tax limitations and specific lack of authority to provide certain basic public services are other factors which may cause local governments to turn to special districts as a solution to their problems (Hess, 1986). For whatever the reasons, the area surrounding Galveston Bay easily contains one of the largest concentrations of special purpose governments in Texas.

Types and function: Many different types of special districts exist in Texas and they have been created in different ways. Thrombley has identified some 21 different districts which may be created under the general laws of Texas. Water districts may be created under the general laws of Texas or by special act of the legislature. Thirteen types of water districts which may be created under the general laws of the state are:

"Water Control & Improvement	Water Power Control
Water Improvement	Water Supply
Water Control & Preservation	Fresh Water Supply
Underground Water	Drainage
Conservation	Navigation
Municipal Water	Conservation &
Irrigation	Reclamation"
Levee Improvement	(Thrombley, 1978)

In addition, river authorities, regional water improvement districts, water recreation districts, navigation and port districts, sanitation authorities, water and soil conservation districts and authorities, and municipal and industrial authorities are created solely by the state legislature (Thrombley, 1978).

Table III outlines the various types of special districts found in the four counties surrounding Galveston Bay. The various types of districts were obtained by manually counting each district by name from a computer printout furnished by the U.S. Department of Commerce, Census of Governments, December, 1987. The exact type of district according to the statute under which it was created was not determined, since not enough time was available to ascertain the exact origin of each of the 543 districts.

Table III

Local Governments: Total

	Brazoria	Chasbers	Galveston	Harris	Total
County					
Cities	1	1	1	1	4
Special Districts	23	5	14	29	71
Total	24	3	26	491	544
	48	9	41	521	619
Special Districts: Types (by name)					
Water					
Water control & improvement	1		4	26	31
Water improvement drainage	1			4	5
levee improvement	5		5	1	11
navigation				3	3
freshwater supply	1	1	1	1	4
municipal water (MUD)	1		1	10	12
water supply	9	1	12	411	433
conservation & reclamation				2	2
flood control	1	1			2
other	1		1	4	6
Soil conservation					0
Hospital	1			1	2
Housing authority	3			4	7
Urban renewal authority			2	5	7
Rural fire prevention					0
Waste disposal				15	15
Subsidence				1	1
Transportation				1	1
Other				1	1
Total	24	3	26	491	544
					0

Note: Harris County Flood Control District is a subunit of Harris County and is not included in this total. None of the River Authorities are included in this total.

Compiled from U.S. Dept. of Commerce, Census of Governments computer printout--December 7, 1987.

Thus, we will only provide a general discussion of special districts and for our purposes here, we will concentrate only on water districts.

As outlined in the State Constitution, the Texas Water Code permits county commissioners courts to establish the following types of water districts serving a single county (functions provided):

- "Fresh water supply districts--water supply and fire protection;
- underground water conservation districts--conservation and development of water supply;
- water control and improvement districts--water supply, sewerage systems, irrigation, flood control, drainage, electric light and power, and navigation;
- water improvement districts--irrigation and water supply;
- water supply districts--water supply and conservation, and electric light and power (Census of Governments, 1982).

In addition, "the Texas Water Code permits the Texas Water Commission to establish the following types of water districts serving two or more counties:

- municipal utility water districts--water supply, sewerage systems, and flood control;
- underground water conservation districts (multicounty)-- conservation and development of water supply;
- water control and improvement districts-- water supply, sewerage systems, irrigation, flood control, drainage, electric light and power, and navigation;
- water improvement districts-- irrigation and water supply" (Census of Governments, 1982).

As shown above, special districts are created to perform particular functions or services. Few are regulatory in nature. An exception would be the Harris-Galveston Coastal Subsidence District (HGCSO). This district was created by the 64th Legislature to regulate the withdrawal of groundwater within Harris and Galveston Counties to eliminate ground subsidence (HGCSO, District Plan, 1985).

According to the Census of Government's classification by function (Table IV provides a comparison of the various special districts found in Harris County by type of district by name and by function as designated by the Census of Governments type by function), there are 101 districts involved in flood control; but by type, there are none. Only the Harris County Flood Control District was created

TABLE IV
HARRIS COUNTY SPECIAL DISTRICTS
Function & Type

County	1	
Cities	29	1
Special Districts	490	29
		490
total	520	520

Special Districts	TYPE (by name)	FUNCTION		
		SINGLE FUNCTION DISTRICTS		
	Water control & improvement	26	Fire protection	15
	water improvement	4	Hospitals	4
	drainage	1	Housing and community development	6
	levee improvement	3	Drainage	1
	navigation	1	Flood control	101
	freshwater supply	10	Irrigation	1
	municipal water (MUD)	410	Sewerage	3
	water supply	2	Water transport & terminals	2
	river authority	0	Soil & water conservation	1
	watershed	0	Water utility	44
	underground water	0	Others	3
	conservation & reclamation	0	Transit utility	1
	water power control	0		
	sanitation	0	MULTIPLE FUNCTION DISTRICTS	
	improvement	0	Sewerage	207
	flood control	0	Others	101
	other	4		
Soil conservation	1			
Hospital	4			
Housing authority	5			
Urban renewal authority				
Rural fire prevention	15			
Noxious weed control				
Waste disposal	1			
Subsidence	1			
Transportation	1			
other	1			
		total 490		490

NOTE: Harris County Flood Control District is a subunit of Harris County and is not included in this total.
River Authorities are not included in this total.

solely for the purpose of flood control and this district is not considered a special district by the Census of Governments. As mentioned earlier, this district is considered to be a subunit of Harris County since it is governed by the Harris County Commissioner's Court. Many of the 101 special districts are actually municipal utility districts (MUD's) which have the authority to provide water supply, sewerage systems, and flood control. As a city annexes these districts, the provision for water supply and sewerage systems may become the responsibility of the city. The only function left for the MUDs to perform is flood control. In many cases, it is possible that these districts become dormant and are never removed from the public records.

Creation: In general, each district is established on petition of the landowners (within the affected geographical area) to the appropriate governing entity; either the county or the Texas Water Commission (Thrombley, 1978; Census of Governments, 1982). Those districts which fall into the extraterritorial jurisdiction (ETJ) of a particular city must also have the consent of that city. As an example, Houston requires that all ETJ construction adhere to its standards. This requirement "has imposed little hardship on developers, ... who build a subdivision with the anticipation that it will be annexed to the city within a few years" (Perrenod, 1981). Approval of the district's creation is then obtained through a local referendum. Each district is governed by an elected board ranging from three to five members (Thrombley, 1978; Census of Governments, 1982). It is important to note that in some situations, as few as three or four voters may establish a district and authorize millions of dollars in bonded indebtedness (Perrenod, 1981).

In addition to the many different types of special districts, a district may be established under a number of different statutes. Each statute varies in the amount of authority that each district may have. As an example, water improvement, drainage, and levee improvement districts may be established under the various statutes for each particular district; or they may be established under the statutes governing conservation and reclamation districts. As Thrombley explains, indebtedness under the former statutes is limited, while under the conservation statutes, there is no legal limit to its indebtedness or its taxing authority (Thrombley, 1978).

Other Special Districts & Local Governments: Up to this point, we have examined special districts in general terms. We have not mentioned any names, except a few, because there are simply too many to cover in this paper. It would not be appropriate, however, to conclude our discussion of special

districts without mentioning the Gulf Coast Waste Disposal Authority (GCWDA), one of the few districts located in the Bay area that was created for the purpose of providing for environmental pollution control.

The GCWDA was created in 1969 by Senate Bill No. 255 of the 61st legislature in accordance with the state conservation and reclamation law to serve as "an instrumentality for developing and effectuating for Chambers, Galveston, and Harris Counties a regional water quality management program including provision of waste disposal systems and regulation of disposal of wastes" (Article 7621d-2, Vernon's Texas Civil Statutes). In addition, GCWDA has the power to pursue its activities in contiguous counties giving it, in effect, an eight-county service area. The GCWDA cooperates with both municipalities and private enterprises to create and implement environmental improvement and pollution control programs throughout the three counties. Its board is comprised of nine members, three from each principal county. The governor, county commissioners courts and a group composed of the mayors in each county appoint one member each to the Authority Board. Although GCWDA was granted a large range of powers, including a regulatory function, it has never utilized them in full. Soon after its creation, the Authority Board "determined that its policy would be that of an implementing agency rather than a regulatory body and exercised its unique powers to own and operate waste treatment facilities" (Information furnished by GCWDA upon request, November, 1987). This is possibly due to the fact that "in an election held November 3, 1970, property taxpaying voters within the district failed to approve an ad valorem tax for maintenance of the Authority" (GCWDA Audit Report, 1972). For more information on the GCWDA, see Appendix .

Another governmental entity that should be mentioned is the Houston-Galveston Area Council of Governments (H-GAC). We have already mentioned this organization as providing the necessary guidance for counties in economic development. Other areas in which H-GAC is involved include community and environmental planning, and data accumulation and dissemination.

H-GAC's primary concern in environmental planning is with water quality. Section 208 of the Federal Water Pollution Control Act Amendments of 1972 provides for areawide water quality planning and management in local regions. EPA is prohibited from awarding construction grants without a certified plan by affected local governments, the state, and the EPA. Federal mandates requiring that implementation must follow area planning links the various local governments to the federal

government via the regional councils (Texas Advisory Commission on Intergovernmental Relations, Dec. 1975).

H-GAC's duties include such activities as facilities planning and projecting waste loads based on population. H-GAC's involvement in this area has helped it to develop the first solid waste plan approved by the Texas Health Department. H-GAC's work in water quality was designed to emulate the Texas Water Commission's (TWC) water quality model. Because of this connection, it has asked to be included as a participant in any management studies. H-GAC already participates in the TWC's permitting system through the Texas Review and Comment procedure (Masterson & Taebal, H-GAC, August 19, 1987).

In addition to studies already completed in the Clear Lake area concerning non-point sources of pollution, H-GAC is anticipating increasing its role even more because of the latest National Estuary Program (NEP) regulations passed under the new Water Quality Act. In anticipation, H-GAC has established the Natural Resources Advisory Committee. This committee is used as a public participation forum (Masterson & Taebal, H-GAC, August 19, 1987).

Another important function that H-GAC performs for environmental planning, and is equally shared with its economic development functions, is coordination. Regional councils provide their member governments with the opportunity to focus on questions of growth and land use over large geographical areas.

Special Districts in Summary: There are a number of advantages that special districts have over other governmental units. As emphasized by numerous scholars, special districts are easily created, can encompass several existing governmental jurisdictions without destroying their integrity, can circumvent limitations placed upon other local entities, and can be designed to accomplish a multitude of services and functions.

A potential disadvantage, however, is functional disintegration and the many coordination and performance problems created for the other general purpose local governing entities. The single-function approach to solving governmental problems is denying any one local unit of general purpose government the ability to deal with problems in a comprehensive integrated fashion. The protection of our natural resources requires and emphasizes consideration of interdependancies (Rowe, et. al., 1978). This may not be the only disadvantage of special districts, but for our purposes, it is probably the most important.

IV. CONCLUSIONS

In this paper, we have divided Galveston Bay and its surrounding area into two separate systems which were characterized by conflict between economic development and environmental protection (water quality). This was done in order to simplify our discussion of a very complex system of economic and political interactions found in our study area. Local governments, however, perform both economic development and environmental services; but the manner in which they are pursued is completely different.

As described above, economic development is not a passive activity. It is becoming increasingly organized and very proactive. In contrast, however, environmental protection at the local level is very reactive. This response is possibly due to the active role the federal and state governments have assumed in legislating environmental regulations, leaving local governments in only a reactive position. Thus, local governments have not typically taken the lead in environmental endeavors (Rowe, et.al., 1978). In some cases, they have even been significant contributors to bay pollution.

There are several constraints on local governments which may also preclude them from providing efficient environmental management. Some entities lack the necessary legal authority to provide any regulatory functions. Some can provide only a single-function analysis of a problem which may call for a more comprehensive and functionally interdependent solution. Also, many local governments lack the necessary fiscal and human resources necessary to carry out large scale cooperative, environmental efforts. Finally, "the failure of local government to embark upon an aggressive role in environmental management often reflects local political preference" (Rowe, et.al., 1978).

The irony of the situation is that those services provided by local governments to ensure water quality are also counted as economic development activities and essential to economic growth. Indeed, cities, counties, and special districts provide the infrastructure necessary for development to occur. Water districts in particular, were determined to have more impact on economic development than counties in a Policy Research Project Report by the LBJ School of Public Affairs (no. 63, 1985).

In conclusion, then, we must ask those questions with which we began this analysis. How does economic development affect the bay? As shown, economic development is a very progressive activity. It is a very competitive action which promotes the use of certain resources for one activity over the use of those same resources for other activities. It necessarily is accompanied by a certain amount of spillover,

or unintended consequences. Many of those interviewed have agreed that certain types of economic development activities can have a negative effect on the bay.

Do the institutional structures at the local level provide the kinds of information and opportunities necessary for individuals and groups to make their preferences known and considered? The fear that this opportunity does not exist has been presented by those favoring the environment. This feeling is based on the fear that "local decisions will be self-interested, narrow in viewpoint, and more subject to the influence of prodevelopment interests than would other levels of government." Their response has been to favor an increase in the federal and state regulatory functions (Rowe, et.al, 1978). This viewpoint may not be too far off base. An employee of the Houston-Galveston Area Council of Governments responded to the question of who or what local governing entities were trying to balance economic development interests with environmental issues by saying there is no balance. "Everything is in favor of development" (Masterson & Taebel, interview, 1987).

What are the relationships between various local governing entities and economic development groups? As we have seen, the linkages between the various development organizations and local governments are quite extensive. Whether these relationships will overpower the ability of local governments to equally weigh environmental concerns is questionable.

Is economic development compatible with protecting the resources of the bay complex? As shown by some city responses to uncontrolled growth problems, development activities do not have to be incompatible. Also, explained Ken Kramer, representative of the Sierra Club, the two functions do not necessarily have to be incompatible. Certain types of economic development and growth are compatible with and dependent on the bay and estuaries. The Sierra Club and Audubon Society have joined forces with groups interested in promoting tourism, as well as the commercial and sport fishing industries. The problem now, however, is that there are no resources, institutional frameworks, or attitudes to balance the two activities (Kramer interview, November, 1987).

Appendix

Appendix I

Development of the Galveston Bay Area

Early settlers came to the Galveston Bay region because of the natural resources that the estuarine system could provide. Despite some unfavorable climatic conditions, mosquitos, and tight soils, settlers found a land with an abundance of fish and wildlife. The protected waters of the Bay by Galveston Island also provided a natural and logical site for a harbor with access to the Bolivar roads and the Gulf. Thus, Galveston became the cultural and social center, as well as the major port, for the State of Texas (TWQB, 1969).

While the natural resources of the Bay area provided settlers with some of the basics necessary for survival, early uses of the Bay focused primarily on transportation. Up until the 1830's, very little in the way of port development took place. In 1836, the Menard grant provided the opportunity for the city to make advancements in its port development by creating the Galveston City Company. The policy of this company was to give as much waterfront property to citizens as they could develop. From 1817 to 1832, the population of Galveston grew to around 300 people. By 1840, Galveston had become an established port with a population of 4000. The effects of the Galveston City Company's policies were not fully realized, however, until shortly after the Civil War. Due to the blockade of southern ports by the Union, many of Texas' raw products, especially cotton, had been stored during the war. When the blockade was lifted, Galveston's trade began to thrive and by 1880, Galveston's population had grown to over 22,000 (TWQB, 1969; Galveston Chamber of Commerce, 1925).

The importance of the area located around Buffalo Bayou, which was later to become known as the city of Houston, was slow to develop. While Nathaniel Lynch established Lynchburg in 1822 at the confluence of Buffalo Bayou and the San Jacinto River and John Richardson Harris established Harrisburg in 1826 at the junction of Buffalo Bayou and Bray's Bayou, most of the agricultural development was taking place further west in the rich soils of the Brazos River bottom. Failure to take the Brazos for transportation of crops such as cotton and sugar cane provided entrepreneurs, such as Nicholas Clopper, the opportunity to further develop Galveston Bay's importance in water borne trade and commerce (Sibly, 1968).

Because Buffalo Bayou ran in an east-west direction, the heart of the Brazos agricultural region lay only twenty miles from Harrisburg. In 1826, Clopper purchased half a

league of land on the north side of Buffalo Bayou near Harrisburg and later that year a strip of land that separated San Jacinto and Galveston Bays which would later become Morgan's point. In 1827, Nicholas Clopper and several other individuals organized the Texas Trading Company which forged the trade routes that others would eventually take in the development of the Houston area (Sibly, 1968).

One of the factors contributing to the growth of the Galveston Bay area was the subsequent addition of overland transportation via the railroads. In 1853, the first 20 miles of rail were placed along Buffalo Bayou and were later extended to Galveston. At one time, it was Galveston's dream to become the major port facility on the Gulf of Mexico with railroad lines radiating throughout the United States. In the end, however, the railroads were constructed in an east-west direction with one of the major lines passing through the Houston area in 1873. The primary industry in the area was still agriculturally based and while Galveston had reached a population of over 22,000 in 1880, Houston had only grown to a little over 16,000. Even up until 1900, more than 60 percent of the population of over 180,000 in the region remained rural (TWQB, 1969).

It was not until the discovery of oil in the Galveston Bay area in 1902 that urbanization began to take place. With the addition of a refinery at Texas City in 1908 and the opening of the Houston Ship Channel in 1915, the region's economy began to diversify and the population began to grow in isolated areas around the bay. The only cities in the region with more than 5,000 population in 1940 were Houston, Galveston, Baytown, Texas City, and West University Place (TWQB, 1969).

According to a socio-economic study of the Galveston Bay Area in 1969, the following factors also affected the land use in the bay area and contributed to its growth in the early 1900's:

- "1904 - Galveston Seawall started
- 1908 - Texas Company organized
- 1912 - Sulphur discovered in Brazoria County
- 1917 - Humble Oil & Refining Company chartered; Gulf Oil came to Houston
- 1918 - Sinclair started first refinery on the ship channel
- 1934 - Intracoastal Canal completed into the area" (TWQB, 1969)

Acceleration of urban land use and increased diversification of the area's economy began during the 1940's. The onset of World War II provided the stimulus for one of the most important contributing factors for this

growth: the petro-chemical industry. While much of the growth in this industry took place all along the Houston Ship Channel, most located near Texas City giving that area "perhaps the largest single concentration of heavy industry in the State" (TWQB, 1969).

Another factor affecting the development and growth of the Bay area has been attributed to NASA. "In 1940, it is estimated that the population in the area within five or six miles of NASA was less than 5,000. In 1965, this area had an estimated population of 65,000" (TWQB, 1969).

From this point on, I will not go into any detail in trying to explain the further development of the bay region other than to mention one or two basic trends.

Demographic information from the U.S. Bureau of the Census shows that in 1985, the population in the bay area had grown to approximately 2.3 million people. This large in-migration may be partially attributed to a dramatic increase from 1972 to 1982 in mining (primarily petrochemical) activities. These activities also include oil refining and production. Increases in manufacturing activities between 1972 and 1982 also account for this large increase in population. Following these trends, service industries, retail and wholesale operations also increased.

Appendix II

Below is a brief description of each model as explained by Robert Weaver in his book Local Economic Development in Texas, 1986.

The Public-Assisted Model: Sometimes referred to as the traditional organizational structure for economic development, this model is still found in almost half of all Texas cities. In this model, the city may provide some form of financial support to a private organization, typically the chamber of commerce or an affiliated subunit. The primary activities involve attempts to attract new business and industry to the area and usually contains a convention and tourism component. Primary control for the program rests with the private organization and local government tends to remain passive except when asked to become involved in specific projects. Experience, expertise, and the viability of the program remains within the private sector but is enhanced with the amount of support given by the local government. The disadvantages of this model for the local government is that its goals may not be represented within the program and opportunities to target activities to special community problems may not arise.

The Public Propriety Model: This model depicts those structures within local governments designed during the 1960's to implement the federally funded urban renewal and successor programs. These organizational structures were encouraged based on the assumption that government could stimulate economic growth within a community just by providing suitable sites for development. Because of the poor results obtained by many local efforts, these programs have been acknowledged as "fatally flawed" due to the lack of private sector involvement.

The Private Proprietary Model: This model is characterized by economic development activities carried on solely by private sector organizations. These organizations have a fairly limited scope and remain truly private in all respects of the word. The advantage of this particular model is that the private organization retains complete control of the program. The disadvantage of this organizational form for the public sector is again that of not being allowed to pursue its goals and target activities to special problems. Another disadvantage will be explained in the next model, the private political model.

Appendix II

The Private Political Model: This model is very similar to the private proprietary model. The only difference is that once the program is implemented, the private organization politically pressures the local government into adopting and financing part or all of the project.

The Private-Initiated Partnership Model: Traditionally, the private sector has been more active in developing the expertise and pursuit of economic development than local government. As such, the private sector initiates a partnership with localities which have become more interested in undertaking a more active role in economic development activities. Many of these governments desire to mold development activities in such a manner as to adhere to community goals. In forming this partnership, local governments will often create staff positions to work with private efforts. This active interest in economic development requires the local government to justify public support of special-interest activities.

The Public-Initiated Partnership Model: According to Weaver, this model usually arises where there has been a tradition of involvement in public proprietary efforts. In order to stimulate private interest and involvement, local governments may wish to incorporate private citizens or organizations into the policy decision areas or they may go so far as to create a new public/private organization, such as a Local Development Corporation. Control of the organization usually remains with the city through the appropriations process.

APPENDIX II

**Characteristics of Local Economic Development
Organizational Models**

Organizational Type	Degree of City Control	Public Investment Required	Appropriate Goals
Public Proprietary	Highest	Highest	urban/slum clearance infrastructure improvements growth management historic preservation
Public-Initiated Partnership	High	High	urban/neighborhood redevelopment mixed public/private projects historic preservation growth management
Private-Initiated Partnership	Moderate	Moderate	downtown/commercial revitalization tax increment/special assessment districts tax exempt financing tax abatement
Private Political	Low-Moderate	Low-High	tax exempt financing major community facilities health & human service improvements
Public-Assisted Private	Low	Low-Moderate	convention/tourism attracting new business/industry expanding existing business/industry
Private Proprietary	Lowest	Lowest	targeted commercial development retail/service growth individual property improvement

Source: Weaver, Robert. 1986. Local Economic Development in Texas.

APPENDIX III

GULF COAST WASTE DISPOSAL AUTHORITY

RESOURCES AND CAPABILITIES

DESCRIPTION

The Gulf Coast Waste Disposal Authority (Authority) is a three-county unit of local government engaged in waste disposal activities. The Authority boundaries encompass Harris, Galveston and Chambers Counties. In addition, it has the power to pursue its activities in contiguous counties giving it, in effect, an eight-county service area. The Authority was created by the Texas Legislature in 1969.

GOVERNING BODY AND STAFF

The Authority Board is comprised of nine members, three from each principal county. From each county, one member each is appointed by the Governor, Commissioners Court and a consortium composed of the mayors of each city in the county. The Board appoints a general manager, who has the statutory responsibility and authority to employ and supervise all employees, retain and direct all consultants, administer its financial affairs and implement policies set by the Board. The Authority currently has approximately 185 employees, one-fourth of whom hold technical or professional degrees. The staff includes engineers, chemists, accountants, administrators, operations/maintenance people, and clerical support. Outside legal and financial advisors are also retained.

POWERS AND FUNCTIONS

The Authority is authorized by statute to build, acquire, own and operate waste treatment facilities and related appurtenances. It has the power of eminent domain, taxation, regulation, rate setting, and other activities commonly vested in governmental units. To accomplish its objectives, the Authority can receive gifts and grants and issue its bonds to finance waste disposal projects. It has the power to contract with both public agencies and private parties for periods up to 50 years. The Authority is a self-supporting, nonprofit organization.

Reprinted from information provided by the Gulf Coast Waste Disposal Authority.

APPENDIX III

ACTIVITIES

The Authority owns and operates four industrial wastewater treatment facilities which dispose of liquid wastes from more than 40 plants. These centralized facilities are located along the Houston Ship Channel, in the Bayport Industrial District, and in the Texas City area.

The Authority also operates 22 municipal wastewater treatment plants and seven water treatment plants which serve approximately 44 water districts/cities. One-third of these plants are slated to become large, regional waste treatment facilities.

An area of increasing activity involves the handling and disposal of solid wastes from industrial and municipal generators. The Authority operates two mobile filter presses which are available for on-site, municipal and industrial sludge dewatering. In late 1979, the Authority opened its first Class I industrial waste disposal facility near Texas City. Ninety percent of the capacity of that installation is committed to the four corporate participants. Ten percent of the capacity is retained by the Authority for its own use for public purposes. The Authority is also pursuing projects aimed at regional approaches to resource recovery from municipal solid wastes; and projects to provide municipal sludge disposal.

Another major activity centers on pollution control financing. Over the past 14 years, the Authority has issued bonds totalling more than \$800 million for air, water, and solid waste disposal facilities. In many of these fundings, the Authority has entered into supplemental service agreements for operational assistance, facilities inspection, laboratory analysis, and compliance evaluation.

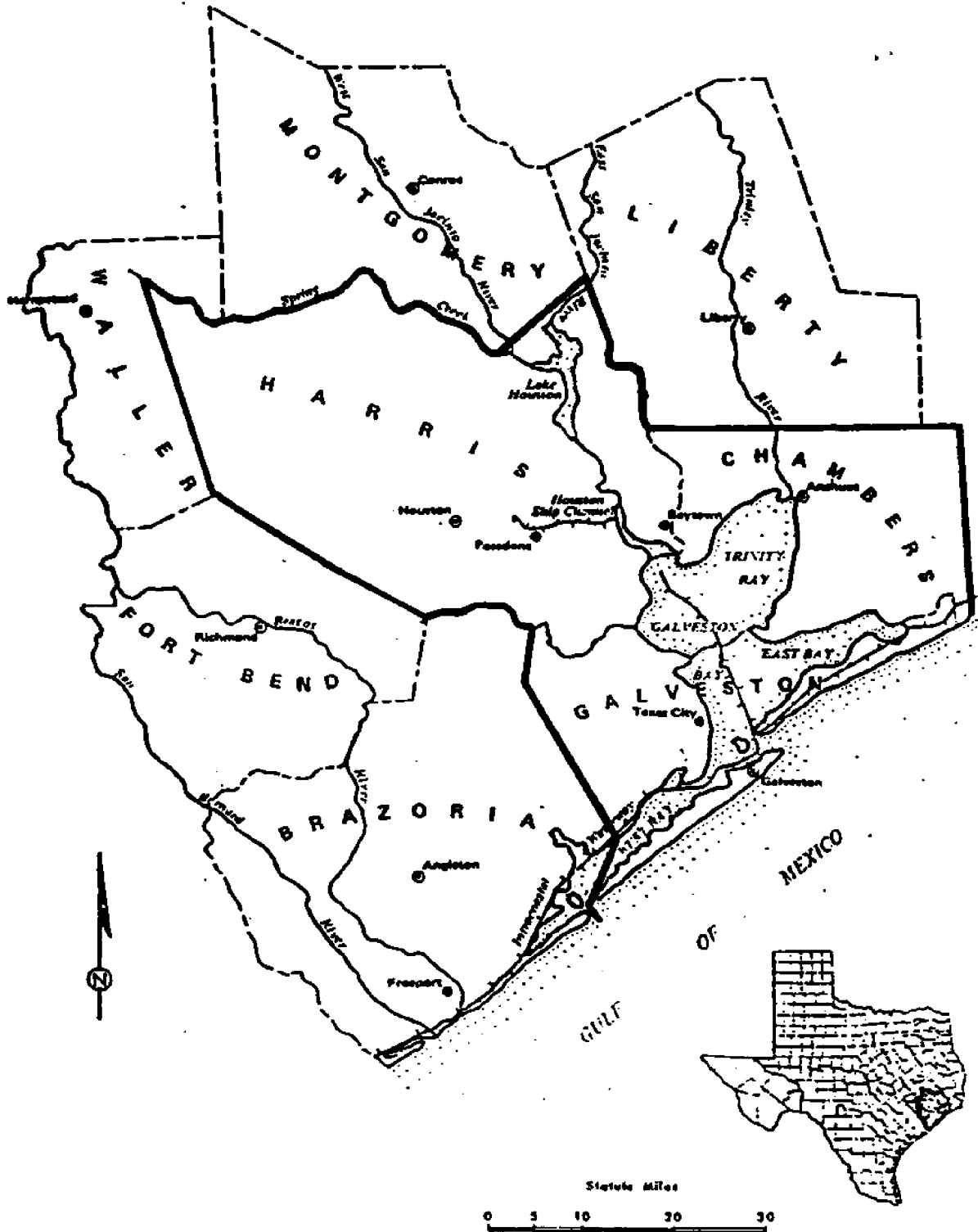
Other, on-going activities of the Authority include involvement in area-wide planning, research and development, and educational support.

FOR FURTHER INFORMATION

Write 910 Bay Area Boulevard
 Houston, Texas 77058
or call 713/488-4115

APPENDIX III

GULF COAST WASTE DISPOSAL AUTHORITY
GALVESTON BAY AREA



APPENDIX III

ENTITIES WHO HAVE HAD POLLUTION CONTROL FACILITIES FINANCED
BY THE GULF COAST WASTE DISPOSAL AUTHORITY

CITIES

Cedar Bayou Park (Utility District)

Columbus

Galveston

Houston

La Marque

League City

COMPANIES

Air Products and Chemicals

American Hoechst

Amoco Oil

Amoco Chemicals

Armco Steel

Atlantic Richfield

Champion International

Charter Oil

Crown Central

Diamond Shamrock

Exxon Corporation

FMC Corporation

General American Transportation

Houston Lighting & Power

ICI Americas

Monsanto

Olin

Pennwalt

Quaker Oats

Rohm & Haas

Shell Oil

Tenneco

Union Carbide

United States Steel

APPENDIX III

**FACILITIES WHICH HAVE BEEN FINANCED
BY THE GULF COAST WASTE DISPOSAL AUTHORITY**

Water Quality

Activated Sludge Treatment
Ballast Handling Facilities
Carbon Adsorption Columns
Caustic Disposal Systems
Collectors, Sewers
 -Bleed Gathering Systems
 -Clean/Contaminated Sewers
 -Transfer Pipelines
Cooling Towers (Effluent)
Corrugated Plate Separators
Dissolved Air Flotation Units
Grit Chambers
Equalization Basins, Tanks
Filters (Pretreatment, Tertiary)
Flow Measuring Devices
Injection Well
Ion Exchange Unit (Chromate Removal)
Labs, Analyzers
Oil Traps
Oil-Water Separators
pH, Nutrient Control
Sanitary Sewerage Systems
Sour Water Strippers
Spill Basins
Stormwater Treatment
 -Culverts, Curbs, Dikes
 -Pumps, Piping
 -Retention Basins

APPENDIX III

**FACILITIES WHICH HAVE BEEN FINANCED
BY THE GULF COAST WASTE DISPOSAL AUTHORITY**

Sludge/Solid Waste Disposal

Digesters

Filters

-Belt

-Pressure

-Vacuum

Incinerators

Landfarms

Mobile Sludge Dewatering Unit*

MudCat Sludge Dredge*

Preconditioning Systems

Thickeners

Landfill

*GCWDA Enterprise Facilities

**Environmental Improvement
(\$1,000,000 Limit Per Issue)**

CO Boiler

Waste Heat Boiler

Floating Roof Tanks

Other Pollutant Preventive Devices, certified by appropriate State agency

Facilities include associated piping, structural supports, utilities, and controls.

APPENDIX III

**FACILITIES WHICH HAVE BEEN FINANCED
BY THE GULF COAST WASTE DISPOSAL AUTHORITY**

Air Quality

Amine Regenerators

Bag Filters

Canopy Hoods, Ducts, Blowers

Carbon Adsorption Units

Cyclone Separators

Electrostatic Precipitators

Evaporators

Flue Gas Coolers

Fugitive Dust Controls

Scrubbers

Stack Sampling Equipment

Tail Gas Incineration, Clean-up

Vapor, Vent Controls

-Collection, Knock-out Systems

-Chillers

-Filters

-Incinerators

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