

THE GULF INTRACOASTAL WATERWAY  
IN TEXAS

PRESENTED IN RESPONSE TO  
THE TEXAS COASTAL WATERWAY ACT OF 1975  
AND  
SUBMITTED TO THE SEVENTY-FOURTH SESSION  
OF THE TEXAS LEGISLATURE

PREPARED BY THE  
TEXAS DEPARTMENT OF TRANSPORTATION



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Governor George W. Bush

Lieutenant Governor Bob Bullock

Speaker of the House of Representatives Pete Laney

Members of the Seventy-fourth Legislature

Prior to 1975, the need existed for a single local nonfederal sponsor of the Gulf Intracoastal Waterway in Texas. The Texas Coastal Waterway Act of 1975 filled that need by appointing the State Highway and Public Transportation Commission, now the Texas Transportation Commission to act as agent for the State of Texas as the nonfederal sponsor for the Gulf Intracoastal Waterway in Texas.

The act also instructed the commission to continually evaluate the Gulf Intracoastal Waterway as it relates to Texas, including an assessment of the importance of the waterway, an identification of principal problems and significant modifications to the waterway, and specific recommendations for legislative action, if any.

The mandated evaluation has been conducted and a report prepared; it represents information based on available data and reflects the current status of waterway-related matters, as well as the possible future of those matters. It also reiterates the desire of the commission to foster the importance of shallow-draft navigation in Texas, while simultaneously fostering the protection and enhancement of the coastal environment.

The report is hereby submitted to the Seventy-fourth Legislature in accordance with the Texas Coastal Waterway Act of 1975.

Sincerely,

Wm. G. Burnett, P. E.  
Executive Director

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## **EXECUTIVE SUMMARY**

## EXECUTIVE SUMMARY

The Texas Department of Transportation's (TxDOT) primary area of concentration for the Gulf Intracoastal Waterway (GIWW) during fiscal years 1993-1994 has been the Laguna Madre. Efforts to acquire a total of 750 upland acres in the Baffin Bay area of the upper Laguna Madre were impeded by opposition from the landowners, who cited concerns over the environmental acceptability of the four proposed sites. The acquisition of these sites was suspended on February 24, 1994 by the Texas Transportation Commission pending the completion and review of the U.S. Army Corps of Engineers' (Corps) Section 216 feasibility study (see Appendix B) for the Corpus Christi Bay to Port Isabel reach.

Dredging operations planned for March 1994 were temporarily deferred in the lower Laguna Madre area due to concerns about the environmental impacts of open-water disposal. TxDOT, the Corps, state and federal resource agencies, and other special interest groups worked together to develop affordable and environmentally acceptable interim disposal options for the GIWW's deferred maintenance project from Port Isabel to Arroyo Colorado. However, several environmental interest groups continued to oppose the Corps' final plan. When activities for the GIWW's Port Isabel to Arroyo Colorado maintenance project resumed in August 1994 after the temporary moratorium, the environmental groups filed a lawsuit attempting to halt the open-water disposal practices. After a week-long hearing, the judge's ruling allowed the maintenance project to continue as planned and contracted.

During fiscal years 1993-1994, the Corps continued to conduct Section 216 Studies along the Texas GIWW. A study addressing the Sargent Beach area

concluded in 1992, recommending the construction of an eight-mile, combination concrete-block revetment and concrete sheetpile wall to protect the area from the erosional forces of the Gulf of Mexico. Construction of the project is scheduled to begin in 1995.

The Section 216 Studies addressing three other GIWW reaches, which are currently underway and at various stages of the reconnaissance or feasibility phases, include the following: the Aransas National Wildlife Refuge area, the Corpus Christi Bay to Port Isabel reach, and the High Island to Brazos River reach. The feasibility report addressing the Aransas National Wildlife Refuge area is scheduled for finalization in 1995; the Corpus Christi Bay to Port Isabel draft reconnaissance report was submitted for review to the Corps' Washington, D.C. headquarters in July 1994; and the reconnaissance study addressing the High Island to Brazos River reach is scheduled for completion and review in 1995. There are three remaining GIWW reaches which are scheduled to begin between 1995 and 1997; however, each Section 216 Study, which is subject to congressional action, must compete with other activities nationwide for limited financial resources.

To further carry out its mandate as nonfederal sponsor of the waterway, TxDOT supported several other studies in the last two years, including an investigation of the effects that a closure of the GIWW would have on other modes of transportation, a Corps-conducted Section 1135 (see Appendix B) Seagrass Study in the lower Laguna Madre, a study to develop a planning process for Texas' inland waterway and port system, and a proposed erosion protection study at Christmas Bay. TxDOT has also reviewed the need for a short-term dredged material disposal plan.

The Corps, through coordinated efforts with TxDOT and resource agencies, is placing more emphasis on beneficial uses of the material dredged from the waterway. Ten broad categories of beneficial uses include the following: habitat development; beach nourishment; aquaculture; parks and recreation; agriculture; forestry and horticulture; strip mine reclamation, solid waste management, shoreline stabilization and erosion control; construction and industrial use; material transfer (fill, dikes, levees, parking lots, roads); and multiple purposes, i.e., the combination of categories on a dredging project. As this list indicates, dredged material can be regarded as a resource rather than an undesirable by-product of waterway maintenance. Notable beneficial use projects incorporated in maintenance dredging projects which were accomplished or proposed along the Texas Gulf Intracoastal Waterway are as follows:

1. The Aransas National Wildlife Refuge beneficial use project used dredged material to create marsh habitat suitable for the endangered whooping cranes within two of the GIWW's disposal areas.
2. The Sundown Island beneficial use project renourished the island with dredged material and thereby protected a bird rookery island experiencing erosion.
3. The Halls Lake/West Bay beneficial use project rebuilt an emergent barrier island with dredged material to retard erosion and protect the waterway; it also served as a test project to determine the efficiency of various erosion control materials and levee construction techniques.
4. Similar to the Sundown Island project, the Long Reef beneficial use project used GIWW dredged material to renourish bird rookery islands.
5. A potential beneficial use project at Rollover Bay would use GIWW dredged material to nourish the beach near Rollover Pass, which is experiencing an erosional problem.

During fiscal years 1993-1994, TxDOT completed the acquisition process (see Appendix A) for two upland dredged material placement sites in Matagorda County. Although the Texas Transportation Commission authorized the acquisition of these two sites several years ago, in 1988, lengthy title clearance and condemnation proceedings delayed the fee title acquisition. Easements on these sites, as well as a third Aransas County site acquired in fiscal year 1992, should be conveyed to the Corps in fiscal year 1995. Acquisition of a Galveston County site should also be completed in fiscal year 1995. Each of these sites will provide a minimum of thirty years' upland storage capacity.

The Mexican state of Tamaulipas is actively pursuing the extension of the GIWW into Mexico; TxDOT's International Relations Office and Multimodal Operations Office will be available for this and other challenges involving the North American Free Trade Agreement (NAFTA).

To support the state's nonfederal sponsorship of the GIWW in Texas and facilitate planning, maintenance, preservation, research, and improvement of the waterway, the following are recommended for consideration by the Texas Legislature:

The state continue to recognize and promote the Gulf Intracoastal Waterway as an integral and valuable part of the state's multimodal transportation system.

The state provide the authority for the participation and funding to support the Gulf Intracoastal Waterway's projects using dredged material for beneficial purposes.

The state advocate the continuation of the U.S. Army Corps of Engineers' Section 216 Studies, which will address the physical and/or economical changes of the Gulf Intracoastal Waterway in Texas.



# **PREFACE**

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## PREFACE

Prior to 1975, the Gulf Intracoastal Waterway (GIWW) in Texas had no single local nonfederal sponsor. Various navigation districts, river authorities, and port authorities located along the GIWW attempted to coordinate local management efforts with those of the federal sponsor, the United States Army Corps of Engineers (Corps).

In 1975, the state legislature passed the Texas Coastal Waterway Act. This act authorized the State of Texas to act as local nonfederal sponsor for the GIWW in Texas and designated the State Highway and Public Transportation Commission, now the Texas Transportation Commission, to act as agent for the state in fulfilling the responsibilities of the nonfederal sponsor. (See Appendix C.)

The nonfederal sponsor works closely with the Corps to provide local cooperation and input into federal projects. Local sponsorship requirements may vary as different projects are authorized by the United States Congress. It is usually the responsibility of the nonfederal sponsor to provide all land needed for construction and maintenance of a project at no cost to the federal government. Many projects also require that the local sponsor make any necessary alterations to pipelines, cables, and other utilities which may be located in the project area. The local sponsor also may be required to construct and/or maintain containment facilities for dredged material. Whatever the particular requirements may be of the local nonfederal sponsor, it is a general requirement that the federal government be held free from any damage that might result from construction and maintenance of the project. In the case of state sponsorship, this requirement can be fulfilled only to the extent permitted by state law.

In addition to serving as the nonfederal sponsor of the GIWW, the Texas Coastal Waterway Act mandated the Texas Transportation Commission to carry out the coastal policy of the State of Texas. (See Appendix C.) The state has declared its support of the shallow-draft navigation of the state's coastal waterway in an environmentally sound fashion and will strive to prevent the waste of both publicly and privately owned natural resources while preventing or minimizing adverse impacts to the environment. The state has also pledged itself to maintaining, preserving, and enhancing wildlife and fisheries. Much of the state's coastal policy emphasizes the importance of protecting the environment, while at the same time supporting navigation functions.

To carry out the mandate and to further discharge the duties of the nonfederal sponsor, the commission was instructed to continually evaluate the GIWW as it relates to Texas. Such an evaluation involves the consideration of both tangible and intangible values. If the state is to prevent the waste of its coastal resources and minimize adverse environmental impacts while simultaneously fostering an efficient system of navigation, it is first necessary to identify existing conditions and needs. This report, the tenth in the series as required by the act, is submitted to the Seventy-fourth Legislature to assist in achieving the full potential of the GIWW while protecting coastal resources.

## **Chapter One**

# **THE TEXAS WATERWAY STORY**

# THE TEXAS WATERWAY STORY

## *Introduction*

The Gulf Intracoastal Waterway (GIWW) parallels the Gulf of Mexico's coastline from Brownsville, at the southernmost tip of Texas, to St. Marks, Florida. This man-made channel, authorized by the United States Congress, is maintained by the U. S. Army Corps of Engineers (Corps) at a bottom width of one hundred twenty-five feet and a minimum depth of twelve feet. Because it is less than twenty-five feet deep, the waterway is defined as a shallow-draft canal. Nevertheless, it capably carries a large variety and a great number of vessels and tons. The GIWW is an integral part of the total inland transportation system of the United States, which also includes the Atlantic Coast, Mississippi River and Antilles, Great Lakes, Pacific Coast, Alaskan, and Hawaiian waterway systems. The GIWW is a vital link in the transportation network that moves many of the commodities called for by this nation, as well as foreign markets.

## *Development of the Gulf Intracoastal Waterway in Texas*

The first beginnings of an inland waterway transportation system in Texas came in 1850, just five years after Texas was admitted to the Union. Local business interests, who pioneered inland navigation in Texas, connected portions of the state's coastline by dredging links between the natural bays, lakes, rivers, and bayous. The construction of Texas' first navigable segment of the GIWW, the Galveston and Brazos Canal, was completed around 1853. This canal's depth ranged from three to six feet and connected West Galveston Bay and the Brazos River.

The first federal step toward construction of a continuous marine transportation system west of the Mississippi River was the Rivers and Harbors Act of 1873. This act appropriated funds for a survey to "connect the inland waters along the margin of the Gulf of Mexico from Donaldsonville, Louisiana, to the Rio Grande River in Texas by cuts and canals."<sup>1</sup>

The expansion of the inland system throughout the coastline of Texas was not accomplished in one effort. A series of congressional acts passed between 1925 and 1942 allowed the gradual extension of the waterway (see Appendix B). By 1941, the GIWW in Texas extended from the Sabine River to Corpus Christi and was 100 feet wide by 9 feet deep. Improvement of the canal to its current status was authorized by legislation passed in 1942; construction was completed by 1949. The result was an extended route from the Sabine River to Brownsville, Texas, with the new dimensions of 125 feet wide by 12 feet deep. Figure 1 depicts the GIWW in Texas.

### *The Path of the Waterway*

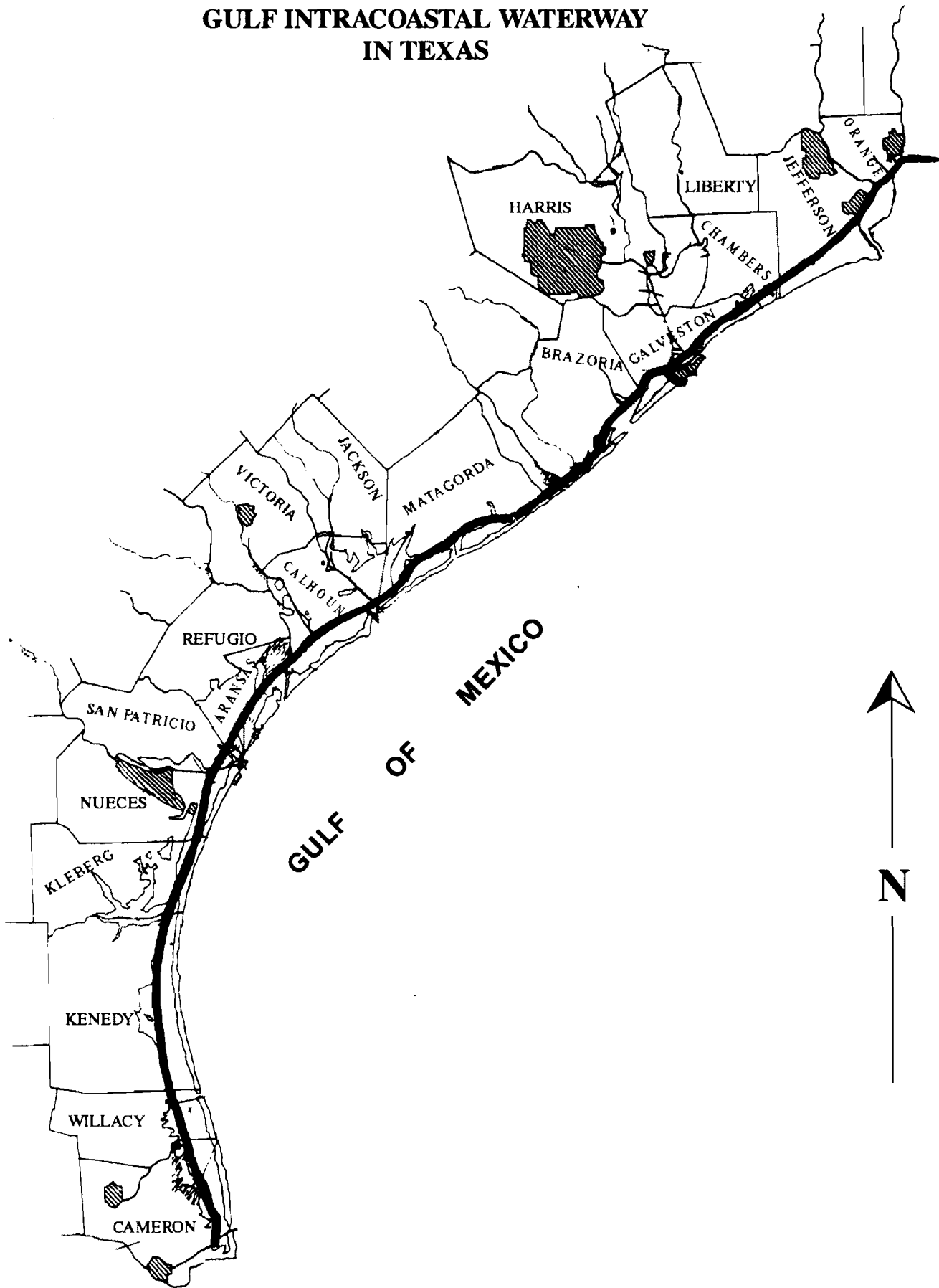
The length of the GIWW in Texas is 423 miles<sup>2</sup> and a variety of sights are encountered along the way. Dunes, flats, fishing cabins, bays, rivers and streams, farm and ranch lands, wetlands, wildlife and marine life, parks, refuges, and historic landmarks: all can be seen from the canal. Other frequently seen features along the waterway include industrial, recreational, and residential developments.

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<sup>1</sup>Rivers and Harbors Act of 1873, "House Document 1491, 62nd Congress," Volume 1.

<sup>2</sup>Mileage of the Gulf Intracoastal Waterway in Texas, as reported by the Galveston District, U.S. Army Corps of Engineers.

**MAIN CHANNEL  
GULF INTRACOASTAL WATERWAY  
IN TEXAS**



**FIGURE 1**



The path of the waterway is etched through many shallow bays that lie on the landward side of the natural barrier islands which protect most of the Texas coastline. This inward course gives the waterway its inland classification. Many creeks and streams empty into the GIWW, but only two major rivers flow directly into it on their way to the Gulf of Mexico. These rivers, the Colorado and the Brazos, have currents strong enough to require protective flood control gates for the waterway during high-water stages.

The route of the GIWW leads through some of the most biologically productive, yet sensitive, areas of the Texas coast. These wetland areas are widely recognized as the nurseries for many species of finfish and shellfish, so valuable to the commercial and recreational industries. The environmentally delicate wetlands are also the nesting or feeding grounds for vast numbers of waterfowl, mammals, and reptiles. Native wetland vegetation is an important ecological contribution to the coastal system, providing sustenance for the animal inhabitants and retarding erosion by holding onto the unstable soil that is common among coastal regions. Much has been learned in recent years about the importance of maintaining a balanced relationship between the delicate nature of wetlands and the effects on them from water management projects. As a result, there are many state and federal regulations administered to protect the fragile wetlands and the coastal environment.

### ***A Busy Transportation Artery***

One of the initial functions of the GIWW was to provide protected inland transportation of goods and troops during World War II. It has since evolved into a multipurpose waterway with a wide assortment of users. Today, many individuals largely associate the GIWW with recreation. Sport fishing and boating

are very popular along the Texas coast, and many recreational facilities have been established on or near the waterway. However, it is the commercial trade link that the waterway provides, and the subsequent economic prosperity for the Texas coastal region and the state as a whole, that accounts for much of the waterway's value.

Many industries have concentrated in the coastal region of Texas to capitalize on the economic benefits of water transportation efficiency. Thousands of jobs are directly and indirectly linked to the waterway, and almost 75% of all goods shipped in Texas are moved by water.<sup>3</sup> In fact, in 1992, Texas was second nationally only to Louisiana in the amount of goods shipped by water.<sup>4</sup> The transfer of goods by water is second only to pipelines in cost efficiency, but is not limited by specialization as pipelines are.<sup>5</sup> Commercial trade between Texas ports and other port centers of the United States, as well as foreign trade markets, is greatly facilitated by the GIWW. The waterway is directly linked with Texas' twelve deep-draft port channels, and it greatly increases the level of access and level of service to many tributaries and private channels. The deep-draft port channels in Texas are Sabine Pass Harbor, Port Arthur Canal, Beaumont, Orange, Galveston Ship Channel, Houston Ship Channel, Texas City Channel, Freeport Ship Channel, Matagorda Ship Channel, Corpus Christi Ship Channel, Port Isabel Ship Channel, and Brownsville Ship Channel.

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<sup>3</sup>Sea Grant Program, Texas A & M University. Primary Economic Impact of the Gulf Intracoastal Waterway in Texas. College Station, Texas, 1974, p. 128.

<sup>4</sup>U. S. Army Corps of Engineers. MV-CG Region Freight Traffic Tables CY 1992 - Advanced Information. Part 2, 1992.

<sup>5</sup>State Department of Highways and Public Transportation, The Gulf Intracoastal Waterway in Texas, 1976. p. 8.

The GIWW is most effectively used by barge traffic, and according to the latest available waterborne commerce statistics compiled by the Corps, an annual average of 72.5 million tons of goods has been barged along the Texas GIWW between 1982 and 1992. Petroleum products, chemicals, and crude petroleum accounted for approximately 86% of the 1992 tonnage moved on the waterway. Other bulk materials such as minerals, metals, grains, shell, and miscellaneous materials accounted for the remaining annual percentage.

Commercial fishing boats and boats associated with the oil and gas drilling industry in the Gulf of Mexico utilize the waterway, as well as recreational boaters. Not only is the GIWW used as a reliable transportation corridor between coastal regions, but it is also used for skiing, fishing, and sightseeing. For smaller and less seaworthy vessels, the waterway offers protected passage from the stormy Gulf of Mexico, and moorings are located periodically along the canal for those who may need them. Larger vessels use the waterway because it has sufficient depth for their deeper draft hulls.

Recreational use of the waterway was researched in 1980. By conducting a random survey of recreational boat owners in Texas, it was determined that 2.4 million recreational boat trips originated in Texas coastal waters annually.<sup>6</sup> The survey also revealed that 1.9 million, or 79% of the total 2.4 million recreational trips, utilized the GIWW. (These trip figures are used to describe the total number of trips made by each boat. If one boat is put into coastal waters ten times in a year, it would equal ten trips annually.) Over 65% of the recreationists surveyed reportedly used the GIWW as a major thoroughfare between coastal

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<sup>6</sup>State Department of Highways and Public Transportation, The Gulf Intracoastal Waterway in Texas, 1982.

bays, and most of the trip lengths on the waterway were between 5 and 50 miles each.

### ***Overview of 1992***

In 1992, 76.7 million short tons (one short ton equals 2,000 pounds) of goods moved on the Texas Gulf Intracoastal Waterway. The estimated value of those goods, transported in a safe, efficient, and economic manner, amounted to 22.2 billion dollars.<sup>7</sup> Texas handled 68% of the 1992 total short tons moved on the waterway between Brownsville, Texas and St. Marks, Florida. The Corps compiles tonnage statistics<sup>8</sup> and also provides estimates for evaluating the commercial impact of the waterway. Revised estimates for the average number of tons per barge show that it would require approximately 35,674 barges to move the 76.7 million tons in Texas during 1992. If the same volume of goods were moved via railroad transportation, approximately 535,110 railroad carloads would have been required. If moved via truck transportation on the state highway system, it would have required 2,140,440 semitrailer truckloads, resulting in considerable wear and tear on the roadway surfaces.<sup>9</sup> Safe transportation of

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<sup>7</sup>Texas Transportation Institute, Policy and Management Division, Texas A & M University System, College Station, Texas. 1992 values determined by updating a 1982 Data Resources, Inc. Study for the U. S. Army Corps of Engineers. (See Bibliography.)

<sup>8</sup>U. S. Army Corps of Engineers. Waterborne Commerce of the United States. Part 5, 1992, and MV-CG Region Freight Traffic Tables, CY 1992 - Advanced Information. Part 2, 1992.

<sup>9</sup>Average estimated number of tons per barge (2,150) was provided by the Galveston District Corps of Engineers, Economic and Social Analysis Branch. 1990. Translations from barges to railroad cars and semitrailer trucks given by Kelly, Brigadier General Patrick, U. S. Army Corps of Engineers. Speech. Presented at the meeting of the American military engineers in Houston, Texas, September 22, 1988.

barged materials, many of which are hazardous, is recorded in Table 2-23 of the U. S. Office of Technology Assessment's 1986 report, "Transportation of Hazardous Materials." For the period from 1976 to 1984, the total number of documented, hazardous spills in Texas included 48 by air transportation, 2,854 by truck; 1,265 by rail; 6 by water transportation; and 18 by other modes.

In addition to facilitating commercial goods movements and serving recreational boaters, the GIWW also provides access to the prime fishing areas for the commercial industry and sport fishing boats. This group produced a 1992 catch of 85.8 *million pounds* of shrimp, oysters, crabs, and finfish amounting to an ex-vessel value (value received at wholesaler's dock) exceeding 157.5 *million dollars*.<sup>10</sup>

### ***Conclusion***

The early settlers of Texas colonized natural water routes because they knew that a close proximity to water transportation would bring many advantages. Since the dredging of Texas' first segment, the waterway's service, value, and subsequent effect on economic prosperity have grown significantly. The GIWW, which is extensively used by a wide variety of people, imparts many benefits both directly and indirectly to the state and the nation, thereby accounting for the wisdom of protecting and maintaining this important transportation mode.

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<sup>10</sup>Texas Parks and Wildlife Department, Trends in Texas Commercial Fishery Landings, 1977-1993.

**Chapter Two**  
**THE LAGUNA MADRE**

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# THE LAGUNA MADRE

The Laguna Madre is a long, partially enclosed body of saltwater which reaches from Corpus Christi, Texas south along the coastline to the Mexican border. It is one of only three biologically productive hypersaline lagoons in the world. Although its average depth is only three to five feet, the Laguna Madre is nevertheless one of the most productive fisheries along the Texas coast. Recognized for its abundant flora and fauna, the Laguna Madre holds a special attraction for those who appreciate its many natural features.

The Gulf Intracoastal Waterway (GIWW) extends south through the Laguna Madre to Port Isabel, where it intersects the Brownsville Ship Channel. To facilitate the GIWW's original construction from Corpus Christi to Port Isabel, the state of Texas granted right of way easements for both the channel and disposal areas for placement of the project's dredged material. Many of the designated disposal areas used in maintenance of the waterway lie in the open waters of the Laguna Madre. Some of the disposal areas are emergent (that is, they extend above the waterline); others are completely submerged.

The GIWW in South Texas is an important transportation link used by commercial, recreational, and shipping interests. It connects this southern region of the state not only with other gulf states, but also with the Mississippi River and tributary systems. In addition, increased inland waterway commerce is expected as a result of the North American Free Trade Agreement (NAFTA).

The Laguna Madre and the GIWW are of significant importance to many diverse groups, for equally diverse reasons. Environmental groups have expressed concerns over the impact of open-water dredged material disposal within the unique and prolific Laguna Madre, to the extent of coordinating efforts toward the



possible closure of the GIWW there. Transportation interests have responded by emphasizing the importance of the GIWW to the regional economy and its benefits to the environment. While it is a challenge for the GIWW and the Laguna Madre to coexist, it is important that concerned interests strive through teamwork to achieve this goal.

This chapter is a condensed chronology of the events involving the Laguna Madre and the GIWW during 1993-1994. These events have claimed much attention, stressing the need to address waterway issues in new and innovative ways. Dedicated efforts are currently underway to explore new methods to maintain the navigation channel through the lagoon, while simultaneously fostering the protection and enhancement of the coastal environment.

### *Upper Laguna Madre*

In May 1993, the Texas Department of Transportation (TxDOT) accelerated efforts to acquire 750 acres near Baffin Bay, in the upper Laguna Madre area. (See Figure 2.) This acreage, located in Kleberg and Kenedy Counties, would provide four upland disposal sites with sufficient capacity for at least thirty years of routine GIWW maintenance; longer, if the sites were recycled. These upland alternatives to traditional open-bay disposal sites were approved by the U.S. Army Corps of Engineers (Corps) through an Environmental Assessment and Finding of No Significant Impact (EA-FONSI).

In July 1993, the Corps initiated the twelve-month reconnaissance phase of a Section 216 Study (see Appendix B). Authorized by the Federal Flood Control Act of 1970, this study would evaluate the GIWW's physical and/or economic changes for the reach between Corpus Christi Bay and Port Isabel, Texas. If the reconnaissance study determined significant changes, as well as

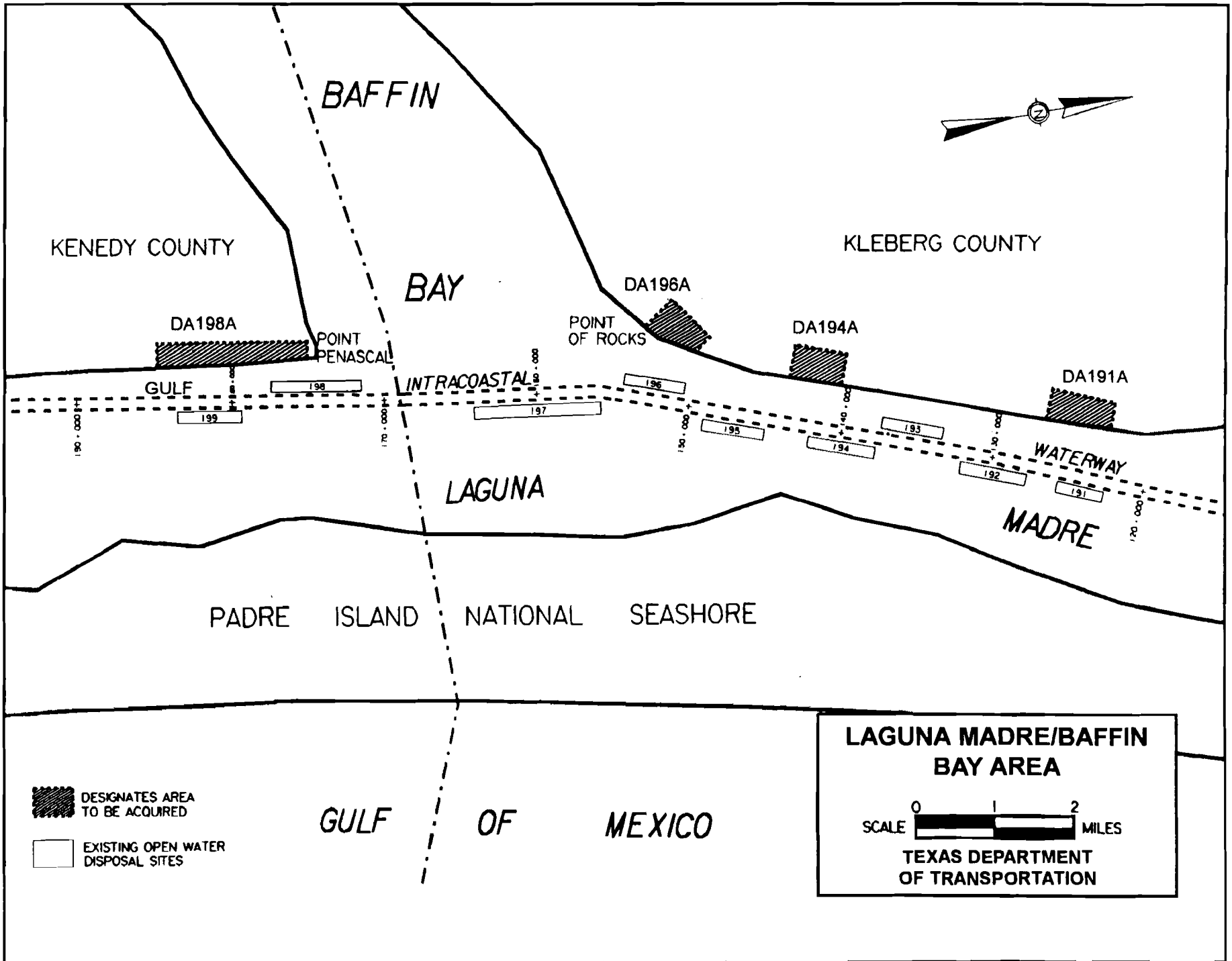


FIGURE 2

identified a federal interest in proceeding with further evaluations, the study process would proceed to the four-year feasibility phase. A feasibility study would consist of detailed engineering, economic, and environmental studies to find the most cost-effective solution for the identified problems while protecting the environment. In addition, the feasibility study would include the preparation of an environmental document and long-term disposal plan for the GIWW's Corpus Christi Bay to Port Isabel reach.

In August 1993, the Kleberg County landowner of the three upland sites proposed for acquisition wrote the Secretary of the Interior and the Secretary of Commerce, alleging violation of the Endangered Species Act. Also set forth in that letter was the landowner's intent to commence a civil suit to prohibit any use of the properties for disposal operations.

In September, a law firm acting on behalf of both the Kleberg and Kenedy County landowners presented a 'White Paper' to the Corps and furnished a copy to TxDOT as well. The 'White Paper' challenged the Corps' EA/FONSI for the use of the four upland sites as GIWW dredged material disposal areas. In addition, the paper challenged the consideration of other alternative disposal solutions for the Baffin Bay region.

One of the landowners issued a press release in October 1993, urging the Corps to prepare an Environmental Impact Statement (EIS) and that TxDOT suspend all plans to condemn the four sites for disposal use. While it was unnecessary for TxDOT to suspend condemnation plans, as the agency had not initiated condemnation proceedings, the negotiating phase of acquisition was postponed. TxDOT then transmitted copies of the 'White Paper' to members of the Gulf Intracoastal Waterway Advisory Committee (GIWAC) (see Table 1) and

its task force representatives. (The GIWAC task force is composed of representatives from GIWAC, federal resource agencies, and the Corps.)

TABLE 1

GULF INTRACOASTAL WATERWAY ADVISORY COMMITTEE  
MEMBER AGENCIES  
FISCAL YEARS 1993-1994

Texas Department of Transportation (chair)
Texas Parks and Wildlife Department
Texas General Land Office
Texas Natural Resource Conservation Commission
Texas Department of Commerce
Texas Historical Commission
Texas Antiquities Committee
Office of the Governor

In November 1993, the Texas Parks and Wildlife Department wrote TxDOT, expressing a strong desire to avoid litigation on the issue. Furthermore, the parks and wildlife agency recommended waiting for the results of the Corps' Section 216 Study of the Corpus Christi Bay to Port Isabel reach. To reaffirm the environmental acceptability of the four sites as prudent alternatives to open-water disposal, TxDOT supported an evaluation of the White Paper's issues and began to organize a GIWW environmental team to do so.

TxDOT and the Corps received correspondence on behalf of the landowners, stating that their request for an EIS of the planned sites be combined

with the Corps' EIS which would be prepared during the feasibility stage of the Corps' Section 216 Study of the Corpus Christi Bay to Port Isabel reach. Meanwhile, TxDOT responded to a senatorial inquiry about the planned acquisitions with information that the acquisition had been postponed until the White Paper's issues were analyzed. TxDOT and the Corps began to coordinate an action plan to respond to the White Paper's issues.

In December 1993, the Corps forwarded their action plan to the law firm which was acting on behalf of the Kenedy and Kleberg County landowners. The law firm responded that the action plan was inadequate and reaffirmed the need for an EIS. The firm stated that the landowners would allow access to their property for a re-examination of the planned disposal sites.

In January 1994, TxDOT informed the Corps and the Texas Parks and Wildlife Department that the issues presented in the White Paper must be addressed to clearly establish the environmental acceptability of the planned Baffin Bay sites as prudent alternatives to open-water disposal. Until then, to lessen disposal impacts to the Laguna Madre, TxDOT met with the Corps and state and federal resource agencies to discuss disposal methods and techniques that should be incorporated in upcoming maintenance contracts. Meanwhile, a representative of TxDOT met with the Corps' District Engineer to discuss the Section 216 Study and its relationship to the Kenedy and Kleberg County properties.

In February 1994, the Corps asked TxDOT to suspend acquisition of the Baffin Bay sites until the Section 216 Study findings were completed. The Texas Transportation Commission then voted to suspend acquisition of the sites until the completion of the Section 216's feasibility study and its subsequent review by the commission.

With the suspension of the Baffin Bay acquisitions and resulting lack of alternative upland disposal sites in the area, the aim to minimize open-water disposal practices remains problematic. Until federal studies identify disposal solutions, GIWW maintenance projects will continue with traditional open-water sites in this region of the upper Laguna Madre, minimizing impacts where possible with beneficial uses of dredged material or other project modifications, such as localized placement areas.

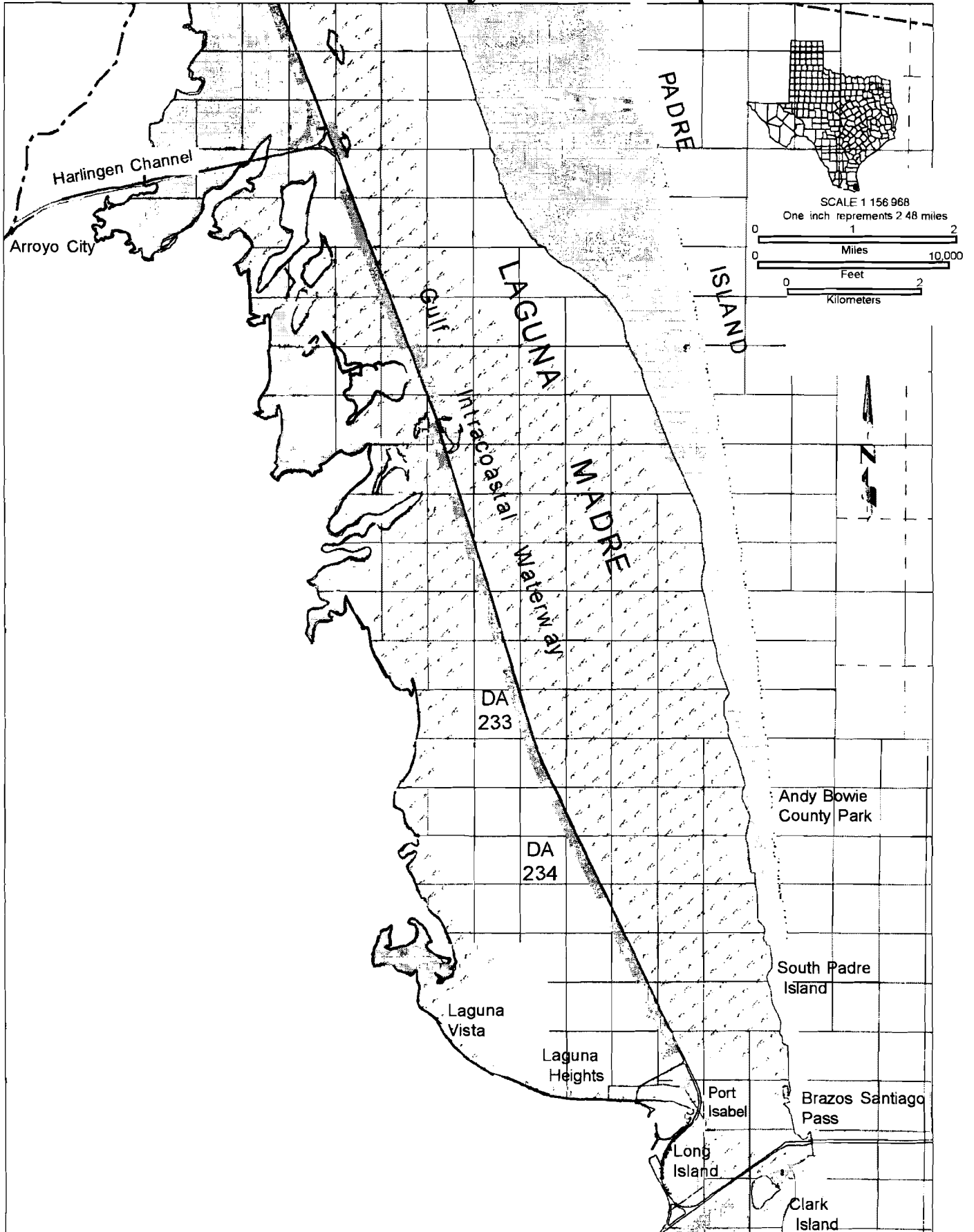
### *Lower Laguna Madre*

In January 1994, the Corps issued an invitation for bids to private dredging contractors to maintain a segment of the GIWW in the lower Laguna Madre. The dredging operation identified the GIWW segment as the Port Isabel to Arroyo Colorado maintenance project. A 29,000-foot stretch just north of Port Isabel and a 5,000-foot segment of the GIWW turning wye at the Channel to Harlingen required maintenance dredging, as well as the U.S. Coast Guard Channel and Basin in Cameron County, Texas.

For the 29,000-foot stretch just north of Port Isabel, dredged material would be placed within the Corps' authorized open-water disposal areas, DA233 and DA234, indicated on Figure 3. This part of the project called for the removal of approximately 756,000 cubic yards of dredged material.

The Port Isabel to Arroyo Colorado maintenance project generated concerns about environmental impacts related to open-water disposal. The clash between pro-bay and pro-waterway interests resulted in an evolution of the coordination of maintenance projects in the environmentally sensitive Laguna Madre. Many factors contributed to this process: environmental groups became increasingly active; the Governor personally requested protection of the Laguna

# GIWW Port Isabel to Arroyo Colorado Disposal Areas



Base map developed by the Texas General Land Office.

FIGURE 3

Madre, while strongly supporting the continuance of the GIWW through it; state and federal resource protection agencies assumed stronger positions; transportation and commercial interests entered into the information-gathering process; a lawsuit was filed; and the Corps initiated a new partnering approach to maintenance project coordination.

In February 1994, the Corps amended its invitation for bids on the Port Isabel to Arroyo Colorado maintenance project. In an effort to ease concerns over open-water disposal, the amendment called for reducing the dredge pump size, plus downsizing the disposal pipe to 18 inches. These adjustments would allow for better management during the dredged material placement operation. Additionally, the Corps modified the dredging schedule to avoid interference with bird nesting seasons in Disposal Area 233. A third change in the bid package included the inclusion of two sites within designated Disposal Area 234 to provide for a study of dredged material impacts on seagrasses. If the seagrasses responded favorably to transplanting onto dredged material, future placement of dredged material could be beneficially applied to other maintenance projects.

In March 1994, the Governor of Texas wrote to the Corps' Southwestern Division Commander in Fort Worth, Texas, and the District Engineer in Galveston, Texas, concerning GIWW maintenance dredging in the Laguna Madre. The Governor expressed deep concern for the impacts of open-water, unconfined disposal, but also strongly supported the continued operation of the GIWW between Corpus Christi and the lower Rio Grande Valley. The Governor requested the Corps to expedite the EIS process and strongly urged the Corps to consider gulf disposal for projects in the Laguna Madre. In addition, the Governor asked the Corps to work with the Texas Parks and Wildlife Department



and other interested parties to develop an interim plan to protect the Laguna Madre.

Also in March, the Corps temporarily postponed the invitation for bids on the GIWW's Port Isabel to Arroyo Colorado maintenance project and contacted TxDOT, the nonfederal sponsor. The Corps requested assistance from TxDOT, GIWAC, and the GIWAC task force. The goal was to develop affordable and environmentally acceptable interim disposal options for the Port Isabel to Arroyo Colorado project until such time as the Section 216 Study for the Corpus Christi Bay to Port Isabel reach would be completed.

Later in March, the Corps responded to the Governor's letter, explaining the difficulty of expediting the EIS process. Because the process relied heavily on the development of data obtained through the reconnaissance phase of the Section 216 Study, the preparations of an EIS could not be committed to a firm schedule until the reconnaissance study was completed. In addition, the Corps informed the Governor of the previous coordination with the Texas Parks and Wildlife Department and other state and federal agencies on modifying dredging projects to accommodate environmental concerns. The Corps also reported the following to the Governor: the National Audubon Society's request to augment eroding bird islands with material dredged in the Port Isabel to Arroyo Colorado project; the Corps' intention to coordinate with GIWAC; and the anticipated cost to the state and probable impacts should disposal switch to the gulf.

At the end of March 1994, the Corps informed the National Audubon Society of its intention to accomplish environmental coordination through GIWAC. Furthermore, because of Audubon's management authority over some of the bird islands in the Port Isabel to Arroyo Colorado reach, a local Audubon representative would be included on the GIWAC task force.

In April 1994, dredged material spilled into the Laguna Madre from an upland disposal site for the Port Mansfield Channel. Although not directly related to the GIWW, the spill intensified negative feelings about dredging and disposal operations in the Laguna Madre area. In addition, the Texas Center for Policy Studies released its report in April, "Subsidized Destruction: The Gulf Intracoastal Waterway and the Laguna Madre," further intensifying concerns about the GIWW through the Laguna Madre.

Also during April, the Corps indefinitely postponed the bidding process for the Port Isabel to Arroyo Colorado maintenance project. TxDOT informed the Governor's Office that the GIWAC task force would soon begin work on identifying affordable and environmentally acceptable interim disposal options for the project. The task force would present its findings to the April 15, 1994 GIWAC meeting. At the request of the Governor's Office, a member of the Texas Coastal Coordination Council was included on the task force to represent environmental concerns about the project. To promote a balance of interests in the task force effort, TxDOT expanded the effort to include certain organizations as corollary invitees.

The corollary invitees to the GIWAC task force included representatives from the Texas Coastal Coordination Council, the National Audubon Society, the Atascosca National Wildlife Refuge, Padre Island National Seashore, and the inland transportation industry. As an added effort, TxDOT also coordinated the task force's work with other public and private entities. Schedule conflicts precluded the GIWAC task force meeting and planned April 15, 1994 report to the GIWAC members. The April GIWAC meeting was used instead to direct the task force's efforts. A May 3-4, 1994 task force meeting was set for Harlingen, Texas.

The May 3-4 task force meeting, which was aided by a contract facilitator, allowed the state and federal agencies, private, environmental, and transportation industry representatives to discuss field observations, identify concerns, and develop ideas for alternative disposal methods in the lower Laguna Madre. The task force's preferred method of dredged material disposal was upland disposal utilizing the nearest available contained sites; however, other alternatives were also recommended. One alternative included the containment of dredged material in unvegetated sections of the existing open-water disposal areas by utilizing geotextile tubes to construct emergent islands. Also recommended was minimizing the volume of materials by dredging only the sections currently 12' deep or less to a depth of 12' plus 1' maximum allowable overdredge.

On May 10, the Texas Waterway Operators Association passed two resolutions. The first recommended that: 1) the Corps continue the temporary moratorium on open-water dredged material disposal in the Laguna Madre until September 1994; 2) all interested parties should develop studies on the environmental effects and costs of disposal options; and 3) in the event of imminent danger to continued navigation on the GIWW, the temporary moratorium should be lifted immediately. The second resolution requested that GIWAC: 1) withhold any disposal recommendations for the Laguna Madre during the extended, temporary moratorium; 2) complete further studies, and 3) meet jointly with interested parties before September 1994.

In response, the Corps then moved to defer dredging in the Laguna Madre until September with one provision: the Corps was obligated to maintain the GIWW's congressionally authorized depth to assure safe, unimpeded navigation. Should such navigation be challenged, the Corps would have to proceed with dredging.

The May 13, 1994 GIWAC meeting resulted in a resolution of their own that the task force: 1) continue efforts during the extended, temporary moratorium; 2) develop recommendations for preferred disposal options; and 3) present final recommendations to GIWAC on July 1, 1994.

The task force continued its efforts in June 1994, reviewing a recent three-day seagrass survey in the vicinity of Disposal Areas 233 and 234. Later that month, the task force met with a representative from the National Audubon Society to consider all the available information. For the immediate project, the task force conceded that, under the existing constraints of time and economic, environmental, and operational considerations, some open-water disposal must continue in unvegetated portions of existing disposal areas. The task force also recommended extensive monitoring of various open-water methods to provide substantive input to the Section 216 Study process. The task force supported the Corps' Section 1135 seagrass enhancement study for research purposes; eliminated bird island augmentation as an option in the project reach; recommended that options, costs, and environmental impacts be reported to GIWAC; and requested further postponement of dredging.

The task force presented its findings to the GIWAC members on July 1, 1994. The committee then developed a prioritized list of recommended disposal options, which TxDOT sent to the Corps on behalf of GIWAC. In a July 1994 letter to the Corps, the Governor endorsed GIWAC's recommendations and reaffirmed the position of supporting the continued operation of the waterway, while preserving the coastal environment.

Also in July, the Corps presented its disposal plan to the Governor's Office in a meeting that included representatives from TxDOT and the Texas Parks and Wildlife Department. TxDOT forwarded the disposal plan, which included

monitoring and studying disposal impacts, to the GIWAC members not present at the Governor's meeting. The Corps later revised the disposal plan to reduce the volume of dredged material as much as possible and still conduct a meaningful study of the maintenance dredging project's impact. The Corps then proceeded to develop plans and specifications in order to begin dredging in September 1994, immediately after the Laguna Madre dredging moratorium ended.

The Corps awarded the dredging contract for the Port Isabel to Arroyo Colorado maintenance dredging in August 1994. Additional developments in August included the Texas Parks and Wildlife Department's application for a grant to obtain additional funds for the Port Isabel to Arroyo Colorado maintenance project. In addition, the Texas Parks and Wildlife Department hosted a meeting in Harlingen to evaluate what additional dredged material could be contained for the pending project, if additional funds were available from the state. The grant, however, was not awarded, because characteristics of the project's application did not conform to the grant's criteria.

Also in August, TxDOT wrote the Corps, supporting the creation of an Interagency Coordination Team (ICT) for the Corpus Christi Bay to Port Isabel segment of the GIWW. Operated as a joint effort and sponsored by the Corps, the purpose of the ICT was to improve coordination between agencies and environmental interests while studying environmental concerns and issues related to the Laguna Madre. The ICT would develop scopes of work necessary for studies to gather valuable information that can be applied to the establishment of a dredged material management plan. Later in August, the Corps hosted a partnering session with contractors, the local nonfederal sponsor, and natural resource agencies for the Port Isabel to Arroyo Colorado maintenance project.

In addition, the Corps hosted a helicopter survey of the Laguna Madre for an aerial view of all the concerned areas.

On September 2, 1994, the National Audubon Society, in conjunction with six local environmental organizations, filed a lawsuit against the Corps. The plaintiffs were seeking an injunction to stop what they regarded as environmentally destructive disposal practices in the Corpus Christi Bay to Port Isabel reach of the Laguna Madre. After a week-long trial and based on the available evidence and testimony, the judge ruled to deny the plaintiffs' request.

The Corps subsequently continued with dredging, which had not been interrupted during the court session, in accordance with the designed plans and the issued contract. The dredging plans, which were consistent with those presented by the Corps at the Governor's office on July 22, 1994, included the following: extensive seagrass planting; various methods of sediment control and monitoring thereof; turbidity studies; and maximum collaboration with environmental agencies on issues critical to the overall health of the Laguna Madre. Historic dredging and disposal practices would also be monitored to determine the impact of open-water placement. In addition, the Corps complied with TxDOT's request to defer dredging over 100,000 cubic yards for the Port Isabel to Arroyo Colorado maintenance project. This project's plan would gather valuable information which may be applicable to the next maintenance project in this reach and facilitate efforts to avoid or minimize adverse environmental impacts, while providing for safe, unimpeded navigation.

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**Chapter Three**  
**REPORT OF SIGNIFICANT ACTIVITIES**



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# **SIGNIFICANT ACTIVITIES**

There have been many activities involving the Texas Gulf Intracoastal Waterway in Texas during fiscal years 1993-1994: concerns over environmental impacts of the waterway's maintenance and possible physical or economic changes have given rise to a number of studies; several GIWW maintenance projects have involved beneficial uses of dredged material; the Texas Department of Transportation (TxDOT) has acquired upland sites for the placement of the waterway's maintenance dredged material and is scheduled to soon convey several easements to the U. S. Army Corps of Engineers (Corps); and, in order to address diversified transportation issues, TxDOT has an International Relations Office and a Multimodal Operations Office to facilitate such issues as those between Texas and Mexico.

This chapter presents a capsule of the many significant activities involving the Gulf Intracoastal Waterway (GIWW) in Texas over the last two fiscal years.

## **Section 216 Studies**

One of the most comprehensive activities involving the GIWW during fiscal years 1993-1994 is the Corps' Section 216 Studies. These studies, which will address the Texas waterway in specific study reaches, are authorized by the Federal Flood Control Act of 1970. Through this authority, the Corps can conduct a study of its completed water resources projects which may have changed because of physical or economic reasons. TxDOT acts as the nonfederal sponsor for the Section 216 Studies involving the Texas GIWW.

The Section 216 Study process is divided into two phases. The first of these phases is the reconnaissance study, lasting an average of one year. The

reconnaissance study identifies project changes, if any, and determines the interest of the federal government in proceeding with the next phase, or feasibility study. If the reconnaissance study identifies such interest, the process will then proceed to a three- to four-year feasibility study, involving detailed engineering, economic, and environmental studies. Based on the results of those studies, the Corps then recommends the most cost-effective solution which responds to the project changes and needs, while protecting the environment. Important aspects of the feasibility study include the preparation of an environmental document in accordance with the National Environmental Policy Act (NEPA) and the development of a long-term disposal plan for a specific study reach. The product of the feasibility phase is a report which presents a recommendation to the United States Congress that the solution, or project, be implemented for the overall public interest. Congress must decide whether to authorize and fund the project.

For the GIWW, five separate Section 216 Studies will address specific reaches of the waterway; two other Section 216 Studies focus on two unique or special areas along the GIWW. (See Figure 4.) Congress must authorize and fund each study. The five study reaches and two special areas in Texas are being addressed in the following order, as prioritized by the Corps, the environmental community, and the maritime transportation industry:

- A.) Sargent Beach (special area - initiated in 1987)
- B.) Aransas National Wildlife Refuge (special area - initiated in 1988)
  - 1.) Corpus Christi Bay to Port Isabel (initiated in 1993)
  - 2.) High Island to Brazos River (initiated in 1994)

# GIWW SECTION 216 STUDY REACHES

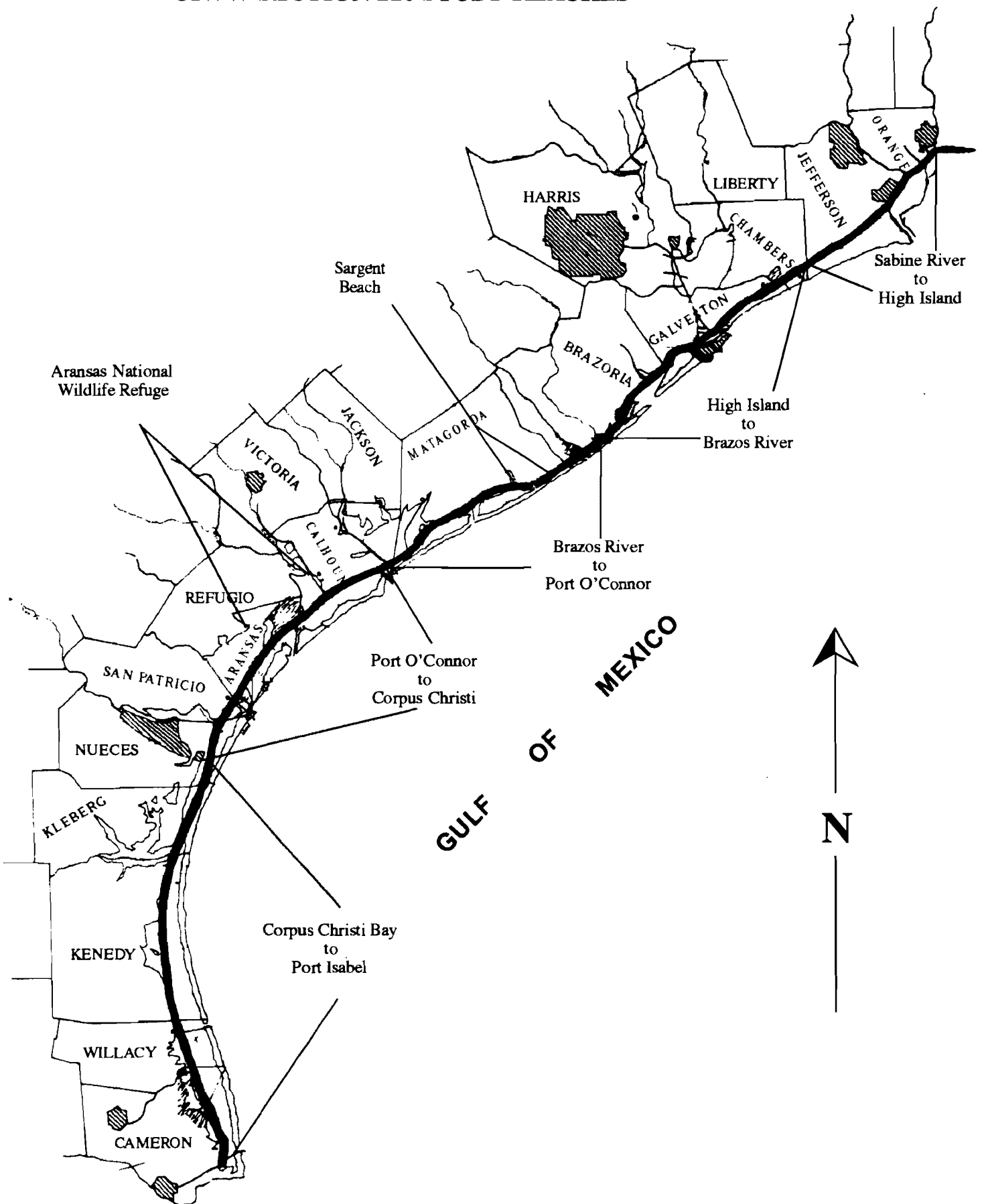


FIGURE 4

- 3.) Port O'Connor to Corpus Christi Bay (scheduled to begin in 1995)
- 4.) Brazos River to Port O'Connor (scheduled to begin in 1996)
- 5.) Sabine River to High Island (scheduled to begin in 1997)

### ***Sargent Beach***

The reconnaissance phase of the Section 216 Study addressing the ten-mile reach of the Sargent Beach special area was completed in 1989. The feasibility phase, which was completed in 1992, included the development of an Environmental Impact Statement (EIS). The study findings recommended that an eight-mile, combination concrete-block revetment and concrete sheetpile wall be constructed against the eroding forces of the Gulf of Mexico to stabilize the beach at Sargent, Texas in Matagorda County. The protective seawall would not only prevent further erosional losses of property and high quality wetland habitats, but would also eliminate the need to relocate the waterway through wetlands.

The construction of two mooring facilities, necessary for construction of the eight-mile seawall, commenced in 1994. Advertisement for contract bids to construct the \$80 million project is scheduled for February 1995<sup>11</sup>. Funding will be accomplished by 50 percent federal treasury and 50 percent from the Inland Waterways Trust Fund.

The Corps's real estate acquisition process for the seawall project neared completion in 1994. A minimum number of tracts were expected to undergo condemnation proceedings for parcels that either had title problems or great disparity between the appraised value and the landowner's asking price. Three

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<sup>11</sup>U.S. Army Corps of Engineers. District Commander's Executive Summary, Galveston District, October Reports. November 9, 1994, p. 3-4.

small TxDOT parcels of disposal acreage were acquired by the Corps for the seawall project. The parcels consisted of a minimal portion of TxDOT upland disposal properties in Matagorda County.

### ***Aransas National Wildlife Refuge***

This Section 216 Study addresses the 30-mile special area reach encompassing the Aransas National Wildlife Refuge and extending to include much of the endangered whooping cranes' critical habitat. The study is in the final stages of the feasibility phase. The four-year feasibility study, initiated in September 1990, will include an evaluation of the possible realignment of the waterway, develop various beneficial uses of dredged material, and will generate a plan for implementation. The study's primary objective is to evaluate a means of reducing bank erosion along the GIWW within the environmentally sensitive wildlife refuge and whooping cranes' critical habitat.

Study activities during fiscal years 1993-1994 included environmental coordination for an Environmental Impact Statement and efforts toward finalizing the feasibility report. Implementation of the study's final recommendations is scheduled for 1998<sup>12</sup>.

### ***Corpus Christi Bay to Port Isabel***

In July 1994, the Corps submitted a draft report to Washington, D.C. headquarters on the Section 216's reconnaissance study of the 117-mile reach from Corpus Christi Bay to Port Isabel. This report, however, which addresses the GIWW reach through the Laguna Madre, was released before certification was

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<sup>12</sup>U.S. Army Corps of Engineers. District Commander's Executive Summary, Galveston District, October Reports. November 9, 1994, p.4.

obtained from the Corps' Washington, D.C. headquarters. Due to litigation in September 1994, which involved GIWW maintenance dredging and disposal in the Laguna Madre, the U.S. Justice Department subsequently released the report, bearing a disclaimer of the report's unofficial status. The unofficial reconnaissance report listed the following points concerning the GIWW:

- ◆ The existing channel is economically justified,
- ◆ There is no interest in a Port Isabel realignment plan,
- ◆ There exists a large-scale ecosystem restoration plan,
- ◆ There exists a feasible long-term disposal plan,
- ◆ Continuing the study into the feasibility phase is recommended<sup>13</sup>.

After the Corps' Washington, D.C. headquarters conducted a review of the reconnaissance report, the headquarters requested that the Galveston District Corps restructure the study based on more traditional navigation features. Subsequently, for the Section 216 reconnaissance study of the Corpus Christi Bay to Port Isabel reach, the Corps' Galveston District will evaluate the channel's navigation features.

### ***High Island to Brazos River***

In February 1994, the Corps initiated the reconnaissance phase for the 85-mile reach of the High Island to Brazos River Section 216 Study. In order to discover any physical or economic problems associated with this section of the GIWW, the Corps initiated a vigorous public involvement program. A large

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<sup>13</sup>U.S. Army Corps of Engineers. District Commander's Executive Summary, Galveston District, October Reports. November 9, 1994, p. 15.

number of comments and concerns were received and can be categorized as follows: environmental problems and opportunities; long-term disposal plan; dredging frequency/shoaling; eroding areas needing repair; mooring problems and opportunities; navigation problems; problems which fall under other programs or agencies; and problems outside the scope of this study.<sup>14</sup>

In addition, significant interest was expressed in a beach nourishment project at Rollover Pass and a bend easing of the GIWW at the State Highway 332 bridge near Freeport, Texas. The reconnaissance study, which is scheduled for completion in 1995, will continue to evaluate whether a federal interest exists in resolving concerns or increasing efficiency of the waterway in this reach.

#### ***Port O'Connor to Corpus Christi Bay***

The Section 216's reconnaissance study of the 79-mile reach from Port O'Connor to Corpus Christi Bay is scheduled to begin in 1995 and will require approximately one year for completion. Schedules are subject to change due to congressional action, as Section 216 Study projects must compete with other activities nationwide for limited financial resources.

#### ***Brazos River to Port O'Connor***

The tentative start date for the 72-mile reach of the Brazos River to Port O'Connor Section 216's reconnaissance study is 1996, with completion in approximately one year. This schedule is subject to change by congressional action, as Section 216 Study projects must compete with other activities nationwide for limited financial resources.

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<sup>14</sup>U.S. Army Corps of Engineers. District Commander's Executive Summary, Galveston District, October Reports. November 9, 1994, p. 14-15.



### ***Sabine River to High Island***

For the 50-mile Sabine River to High Island reach, the Section 216's reconnaissance study is tentatively scheduled for 1997 with an approximate one-year completion period. As with all Section 216 Studies, this schedule is subject to change, pending congressional actions.

### ***Summation***

For those Section 216 Studies which proceed through the feasibility phase, long-term disposal plans would be developed. It is anticipated that those plans will aid planning efforts of the state to act as nonfederal sponsor of the GIWW. Furthermore, those plans will likely include some implementation of beneficial uses of dredged material. The state is not currently authorized to help fund such projects; however, that is addressed in this report's chapter on legislative recommendations.

### **Other Studies**

In addition to the Section 216 Studies, TxDOT became involved in several other studies that address various needs associated with the GIWW in Texas. During fiscal years 1993-1994, TxDOT supported the following studies: "Closure of the Gulf Intracoastal Waterway and its Impact on the Texas Highway Transportation System," by the Texas A&M University's Texas Transportation Institute; a Section 1135 Seagrass Study (see Appendix B) in the lower Laguna Madre by the Corps; "System Planning for the Inland Waterway and Port System in Texas" by the University of Texas' Center for Transportation Research; and a proposed study on erosion protection technology at Christmas Bay (Galveston

County). TxDOT has also reviewed the need for a study to develop a short-term interim plan for dredged material disposal.

### *Closure of the Waterway Study*

TxDOT contracted the Texas A&M University's Texas Transportation Institute to evaluate the impacts that an interruption in the GIWW's operations would have upon other modes of transportation. The results were published in a 1993 study titled, "Closure of the Gulf Intracoastal Waterway and its Impact on the Texas Highway Transportation System." This study predicts that, in the event of a long-term GIWW closure, approximately 52% of the tonnage currently being transported along the waterway could be shifted to other modes of transportation (truck and rail). However, this modal shift would result in significantly higher fuel costs and vehicular emissions. Escalated traffic would also decrease the life-span of roadway pavements, thus increasing maintenance costs. The modal shift would have a more limited impact, however, on traffic congestion, hazardous-materials movement, and accident rates.<sup>15</sup>

### *Section 1135 Seagrass Study*

In the lower Laguna Madre, TxDOT is participating in a Section 1135 (see Appendix B) Seagrass Enhancement Study sponsored by the Corps. From this study, timed to correspond with the November 1994 maintenance dredging of the Port Isabel to Arroyo Colorado reach of the GIWW, data will be gathered from a modification to the existing dredged material disposal plan, and then evaluated.

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<sup>15</sup>Roop, Stephen S.; Daryl U. Wang; Richard W. Dickinson; and Gordon M. Clarke. Closure of the Gulf Intracoastal Waterway and its Impact on the Texas Highway Transportation System. Research Report 1283-2F. College Station, Texas: Texas Transportation Institute, 1993, p.84.

The project modification consists of transplanting seagrass from nearby undisturbed seagrass meadows onto freshly deposited dredged material within two of the GIWW's designated open-water placement areas. The intent of the study is to determine whether dredged material placement operations can be adjusted to increase the seagrass colonization rate between dredging cycles. In addition, the project will ascertain whether placement modifications will improve habitat value for estuarine life in open-water placement corridors (also known as open-water disposal areas).

### ***Inland Waterway and Port Systems Study***

In line with TxDOT's mission to provide safe, effective, and efficient movement of people and goods, the agency has contracted a study with the University of Texas' Center for Transportation Research to develop a comprehensive strategic plan and planning process for Texas' inland waterway and port system. This strategic plan will be coordinated with the ongoing statewide transportation plan. The Texas inland waterway and port system plays a vital role in the flow of commerce on the state's multimodal transportation network.

The contracted study will develop and document a comprehensive strategic planning process for the Texas inland waterway and port system, including intermodal linkages to rail and other transportation modes and in coordination with the emerging statewide multimodal transportation planning process. The scope of work includes: 1) conducting an analysis of the facilities and operations of the inland waterway and port system; 2) conducting an analysis of connecting rail and other transportation modes; 3) conducting an analysis of current and future traffic flows along the waterway and at each of its connecting ports; 4) identifying and examining current plans to improve efficiency of operations and to invest in

expansion of facilities; 5) determining waterway and port deficiencies and identifying alternative solutions and other methods of assisting maritime commerce in Texas; 6) preparing a comprehensive waterway and port plan in coordination with the statewide multimodal transportation plan; and 7) developing implementation and updating procedures for the state of Texas.

### ***Christmas Bay Erosion Protection Study***

The U.S. Fish and Wildlife Service revealed a proposal in April 1994 for an erosion-protection study where the GIWW parallels the environmentally significant Christmas Bay in Galveston County. A designated Coastal Preserve, Christmas Bay is separated from the GIWW by only a narrow strip of land. This narrow strip could breach from ongoing erosion, impacting the bay's ecosystem and introducing shoaling, or sedimentation, to an area of the GIWW which has required no maintenance dredging since its construction. This erosion-protection study, scheduled for 1995, will evaluate the effectiveness of concrete matting technology between two bodies of water. TxDOT plans to cost-share in this study with the U. S. Fish and Wildlife Service to gather valuable technical information, which the Corps could extract for other similar situations.

### ***TxDOT Interim Maintenance Plan***

Through its planning efforts, TxDOT has reviewed the need for a study to address the state's short-term needs for GIWW maintenance disposal. Referred to as the "Interim Plan for Maintenance and Development of the GIWW," the interim plan would facilitate cooperation between TxDOT, the Corps, and other state and federal agencies to identify suitable dredged material placement sites along the GIWW. The interim plan would develop estimates of expected

quantities of dredged material over a pre-determined period, plus costs and impacts of alternative disposal methods.

## **Beneficial Uses of Dredged Material**

The Corps of Engineers spends an average of \$13 million dollars every year to dredge approximately eight million cubic yards of material from the Texas GIWW. The historical locations for placement of this dredged material are designated open-water and upland sites. However, as environmental objections to open-water placement increase and as upland placement sites become less available due to technical, economic, and environmental considerations, alternatives to the traditional placement methods must be explored.

One alternative to traditional disposal methods is the beneficial use of dredged material. The key to effectively using dredged material in productive, beneficial ways lies in regarding the material as a useful resource, rather than an unwanted by-product. For the most part, dredged material from the GIWW has tested as uncontaminated and, therefore, is feasible for beneficial uses.

In recent years, the Corps has focused on such opportunities, identifying ten broad categories of beneficial uses, based on the dredged material's function at the placement site. These beneficial use categories include the following: habitat development; beach nourishment; aquaculture; parks and recreation; agriculture; forestry and horticulture; strip mine reclamation, solid waste management, shoreline stabilization and erosion control; construction and industrial use; material transfer (fill, dikes, levees, parking lots, roads); and multiple purposes, i.e., the combination of categories on a dredging project. As this list indicates, dredged material has the potential to be productive in a wide variety of dredging projects.

During fiscal years 1993-1994, the Corps addressed several beneficial use projects along the waterway in Texas. (See Figure 5 for the general locations.) Three wildlife habitat creation projects and a habitat replenishment project applied the use of dredged material from GIWW maintenance operations. A description of these beneficial use applications and a similar planned project is presented below.

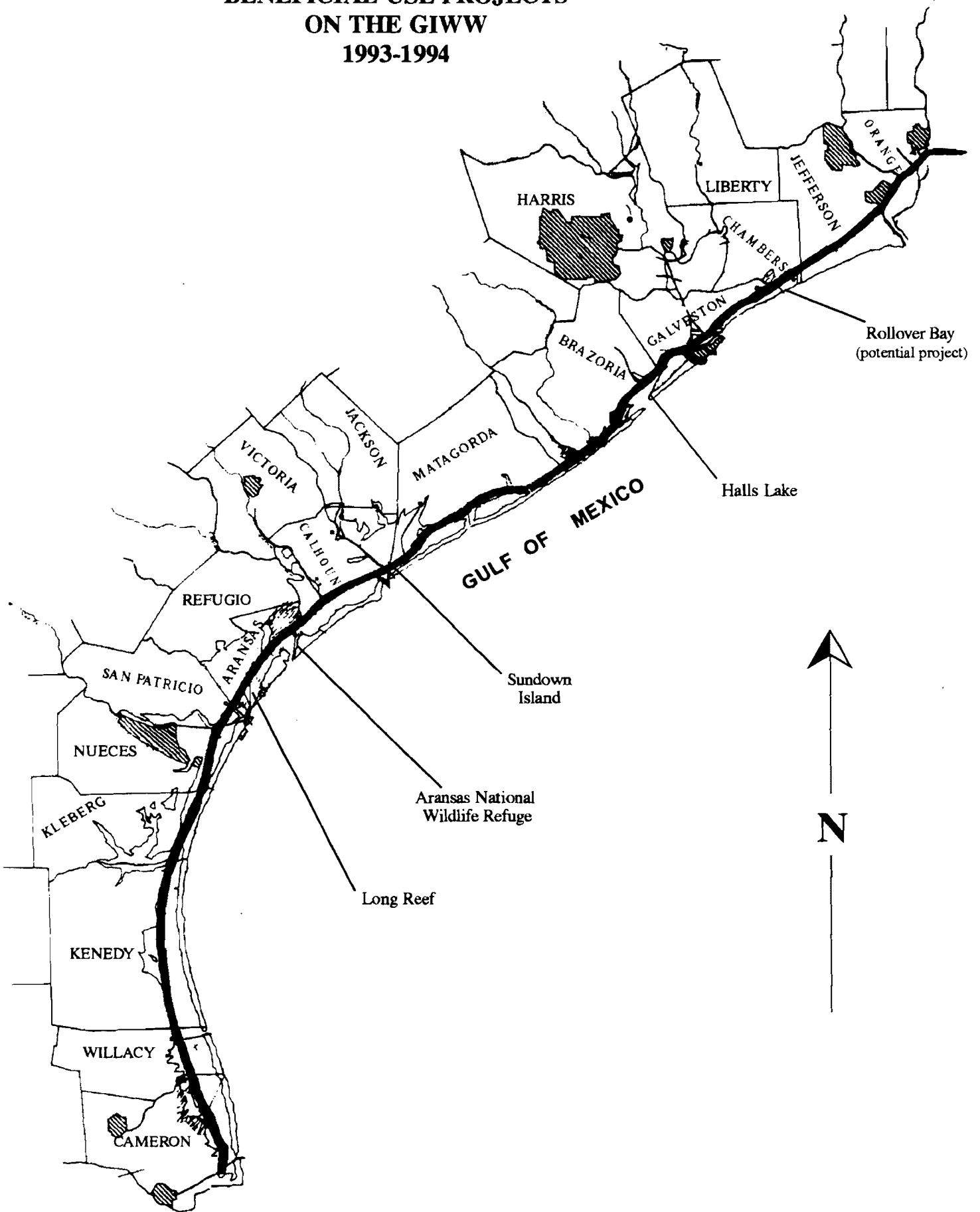
### ***Aransas National Wildlife Refuge***

In the Aransas National Wildlife Refuge, the Corps used dredged material to create marshes suitable for whooping crane habitat within two of the waterway's designated placement areas. On Disposal Area 127A (see Figure 6), the Corps used a low-crest, rock breakwater to protect containment levees composed of stiff clay. Maintenance dredged material was then placed within the levees to create marsh habitat for the endangered cranes. For Disposal Area 128 (see Figure 7), an island experiencing erosion, geotextile tubes were filled with maintenance dredged material that had a high sand content. The filled tubes formed erosion barriers. Additional dredged material was then carefully placed inside the erosion barriers to form the desired marsh habitat for the whooping cranes. Both beneficial use sites were sprigged with marsh vegetation after allowing the dredged material to consolidate.

### ***Sundown Island***

Sundown Island is located in Matagorda Bay near the intersection of the GIWW and the Matagorda Ship Channel. This island forms a portion of Disposal Area 116A (see Figure 8), an unconfined, partially emergent disposal area. The 50-acre emergent portion of the disposal area supports a variety of waterbird

**BENEFICIAL USE PROJECTS  
ON THE GIWW  
1993-1994**



**FIGURE 5**

GIWW

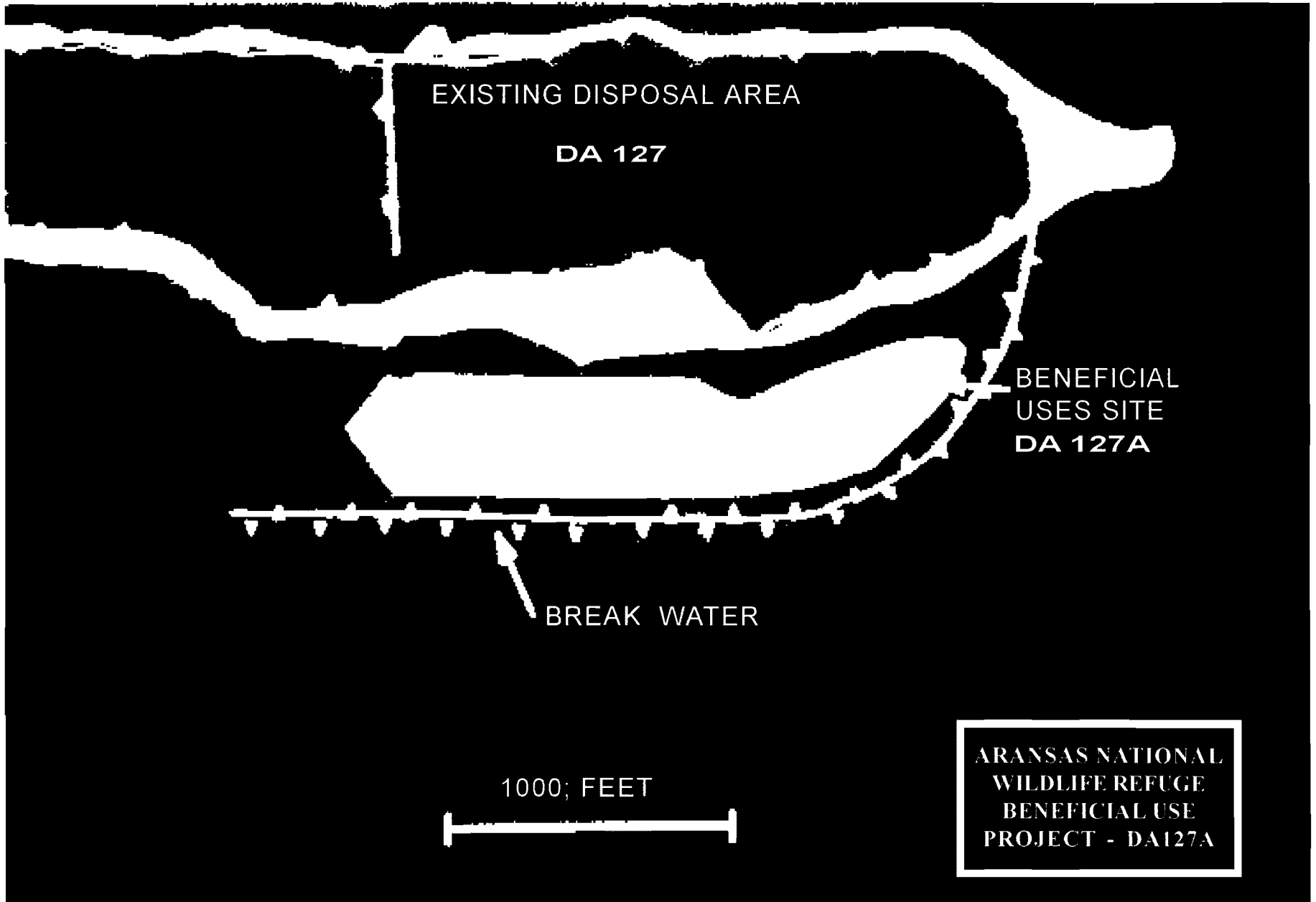
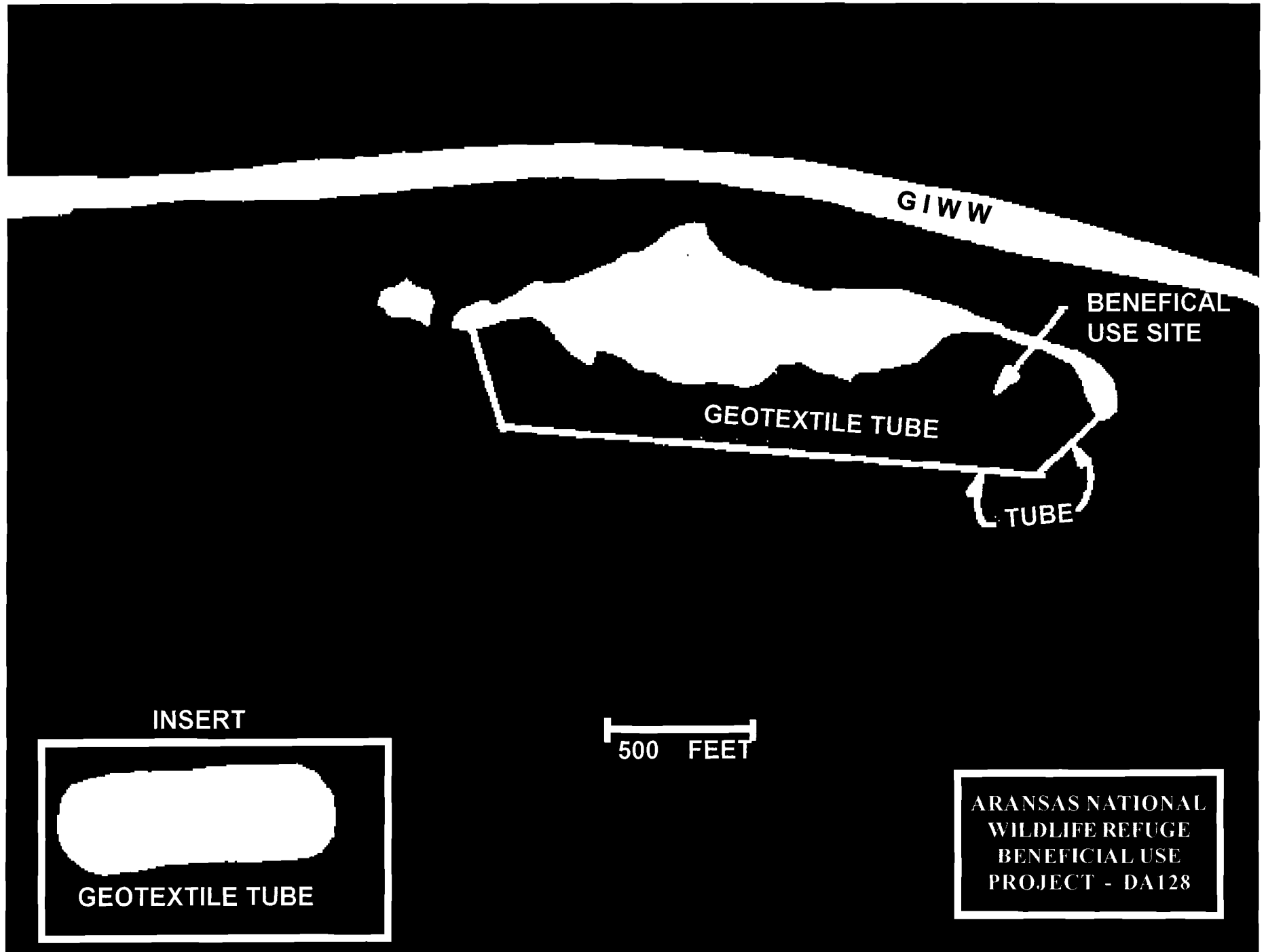


FIGURE 6

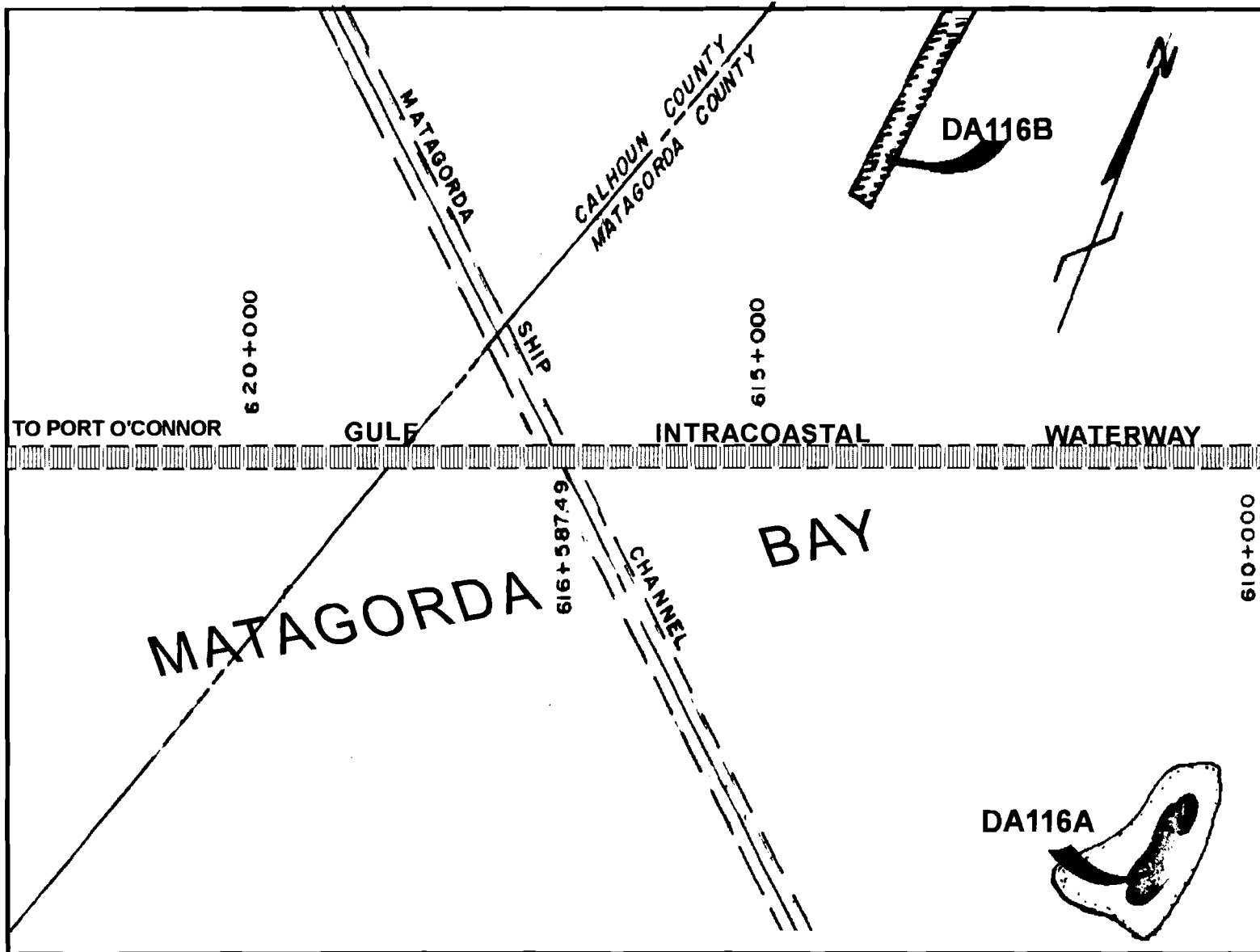
Base map developed by the  
U.S. Army Corps of Engineers.



FIGURE 7



Base map developed by the  
U.S. Army Corps of Engineers.



Base map developed by the  
U. S. Army Corps of Engineers

**SUNDOWN ISLAND  
BENEFICIAL USE  
PROJECT - DA116A**

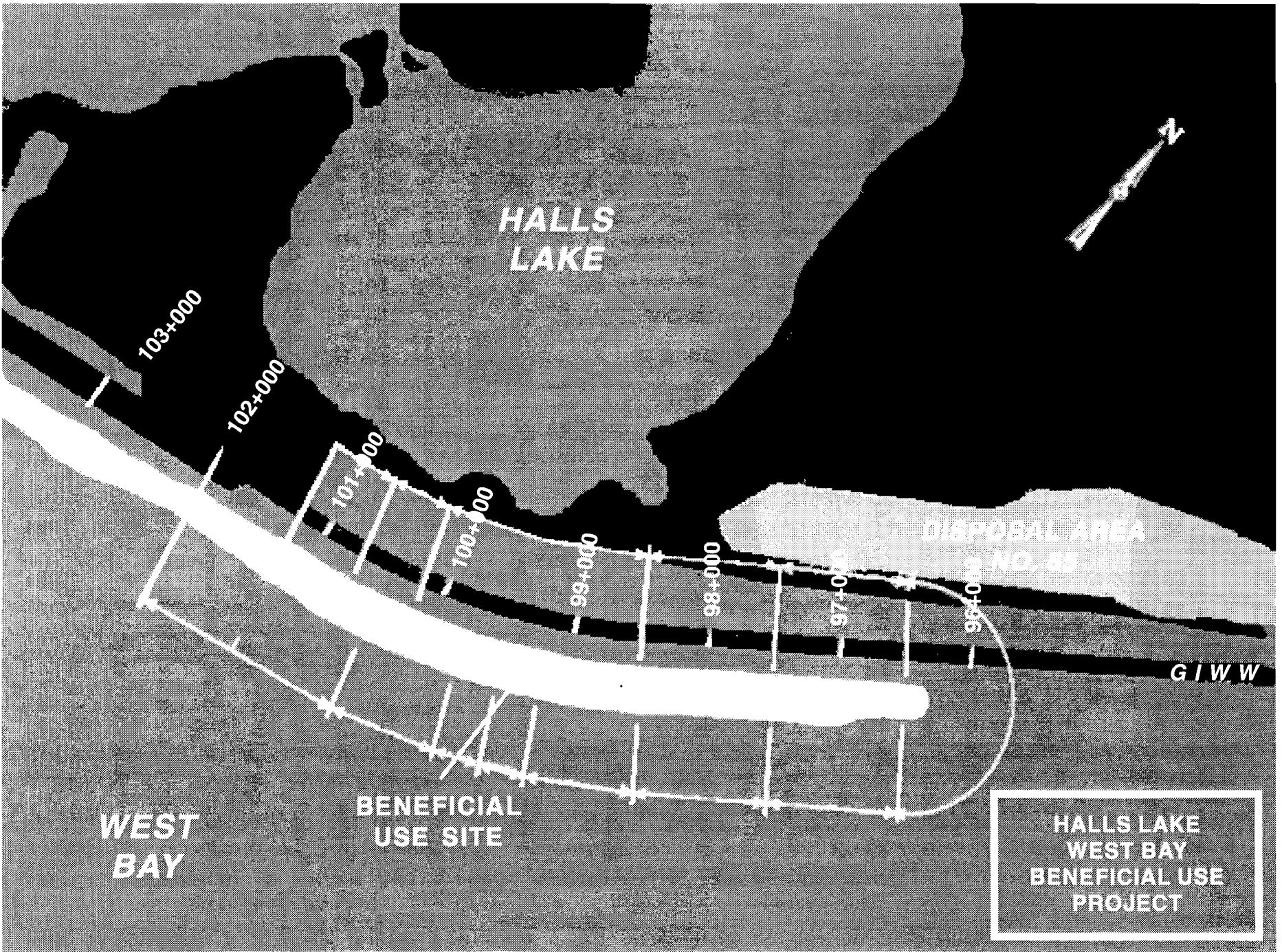
**FIGURE 8**

nesting colonies including brown pelicans, herons, egrets, ibises, roseate spoonbills, gulls, terns, and black skimmers.

During maintenance dredging of the waterway, material is placed on the northwest, submerged portion of the disposal area in order to protect the emergent portion from erosion. In September 1992, 163,000 cubic yards of dredged material were placed in this manner. To avoid negative impacts to nesting birds during the dredged material placement, precautions were taken, such as restricting operations to the birds' non-nesting season and prohibiting all personnel and equipment from the emergent island. When this reach of the waterway is dredged again in 1995, approximately 230,000 cubic yards of dredged material will be placed in a similar manner to further nourish and protect this island.

### ***Halls Lake***

Halls Lake is a small lake located approximately 16 miles west-southwest of Galveston, Texas, in the West Bay region of the Galveston Bay System. Before the Corps implemented its West Bay Beneficial Use of Dredged Material Project here (see Figure 9), only a narrow strip of eroding land separated the lake and its valuable wetland habitat from the waterway and gulf wave action. In April 1993, a 250-foot wide by 5,000-foot long barrier was created with 500,000 cubic yards of dredged material between the waterway and the gulf. The new barrier was constructed on the submerged remnants of the original barrier island and original dredged material from the GIWW's initial construction. Maintenance dredged material from the waterway was placed inside this area to an intertidal level and seeded with saltwater grasses. By beneficially using dredged material, this project allowed the Corps to evaluate various erosion control materials and



**FIGURE 9**

Base map developed by the U.S. Army Corps of Engineers.

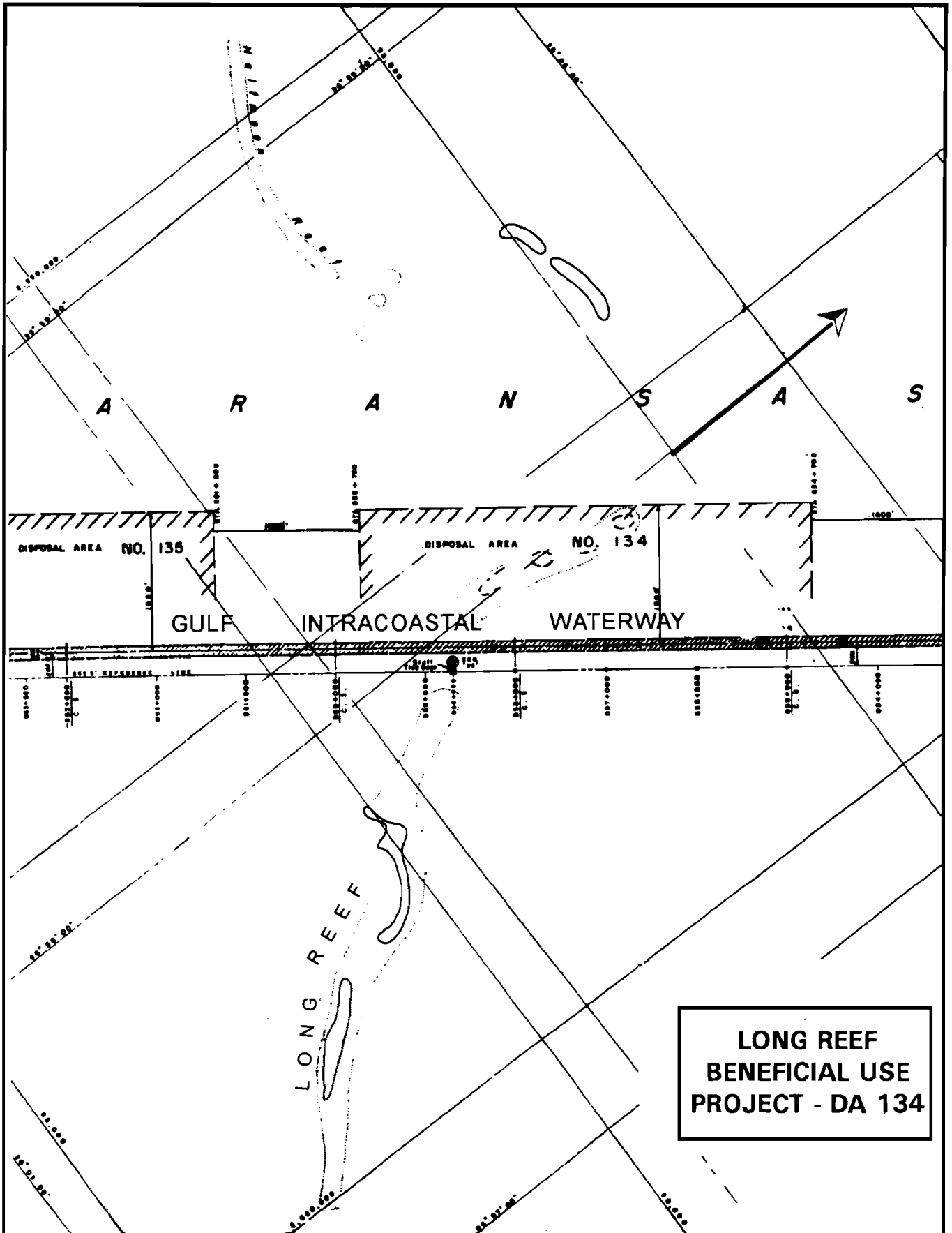
levee construction techniques while simultaneously creating a wetland erosion barrier that would shield the mainland from effects of wind and wave action.

### ***Long Reef***

Long Reef, located in Aransas Bay, is a natural reef along which lies a chain of islands near the main channel of the GIWW. The northernmost island in the chain provides three acres of colonial waterbird nesting habitat for herons, egrets, gulls, terns, and black skimmers. In January 1994, the Corps enhanced this island, which lies within Disposal Area 134 (see Figure 10), by using maintenance dredged material. Approximately 114,000 cubic yards were placed uniformly along the island shore to protect it from erosion. Precautions were taken during the operations to avoid negative impacts to nesting birds.

### ***Rollover Bay***

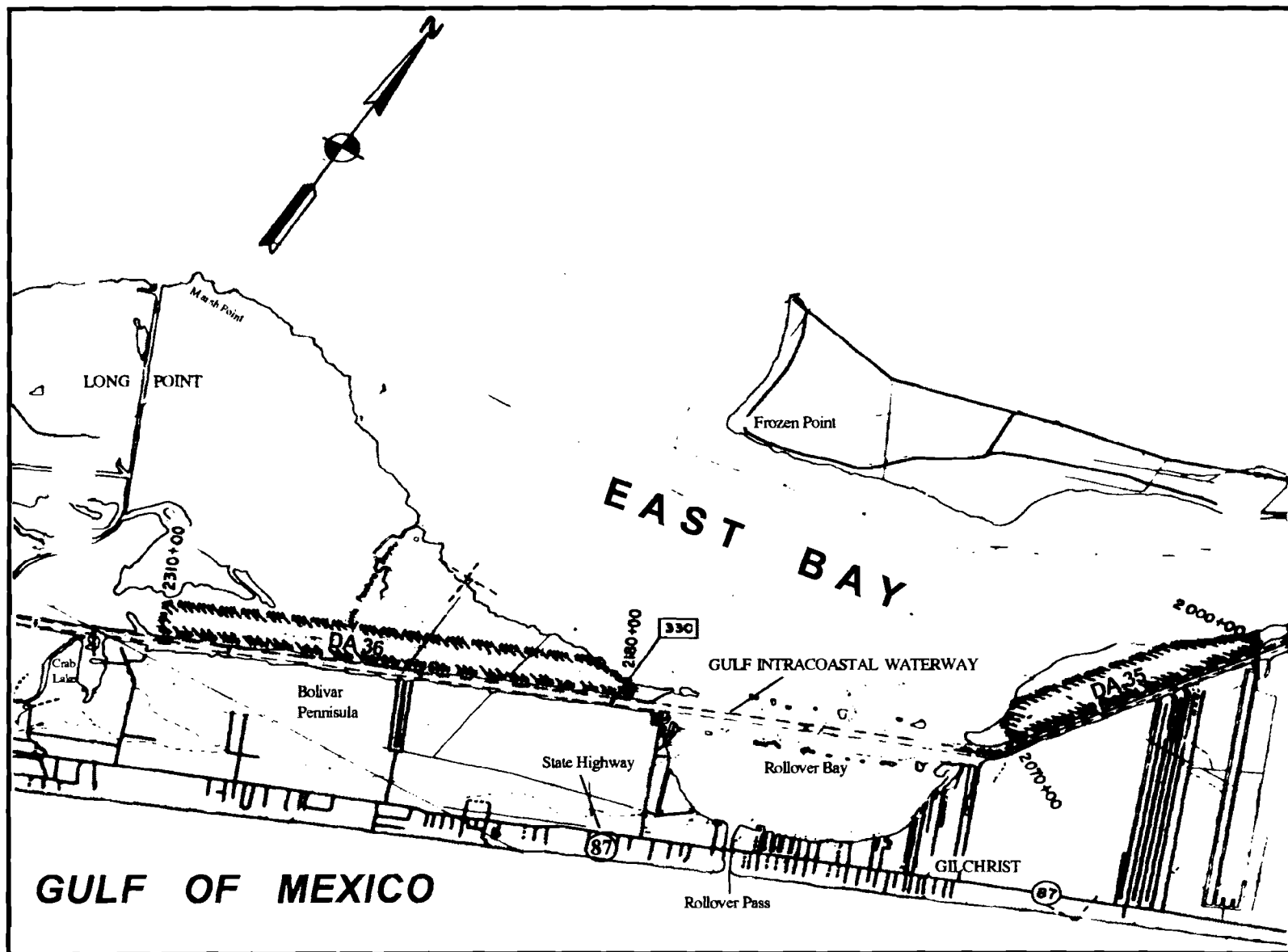
Rollover Bay, a small bay south of East Bay in Galveston County, cuts through the Bolivar Peninsula by way of the Rollover Pass which flows under State Highway 87 and continues into the Gulf of Mexico (see Figure 11). The beach on the gulf side of the peninsula west of Rollover Pass is eroding at a considerable rate. Because of various physical factors, the involved state and federal agencies have agreed that this area has excellent potential for beach nourishment through the beneficial use of dredged material from maintenance of the nearby GIWW. The Texas General Land Office has officially requested that the Corps conduct a Section 933 Study (see Appendix B) of the situation and is currently acting as the nonfederal local sponsor of this study. To help the Corps offset expenses associated with the beneficial use project, which will be above the typical maintenance cost for this reach of the waterway, TxDOT has solicited



**LONG REEF  
BENEFICIAL USE  
PROJECT - DA 134**

Base map developed by the  
U.S. Army Corps of Engineers.

**FIGURE 10**



Base map developed by the  
U. S. Army Corps of Engineers.

**POTENTIAL BENEFICIAL  
USE PROJECT  
ROLLOVER BAY**

FIGURE 11

various parties to share in those additional costs. Additionally, TxDOT has investigated the possibility of providing an easement under State Highway 87 to provide disposal pipeline access to Rollover Beach.

## **Acquisitions and Conveyances**

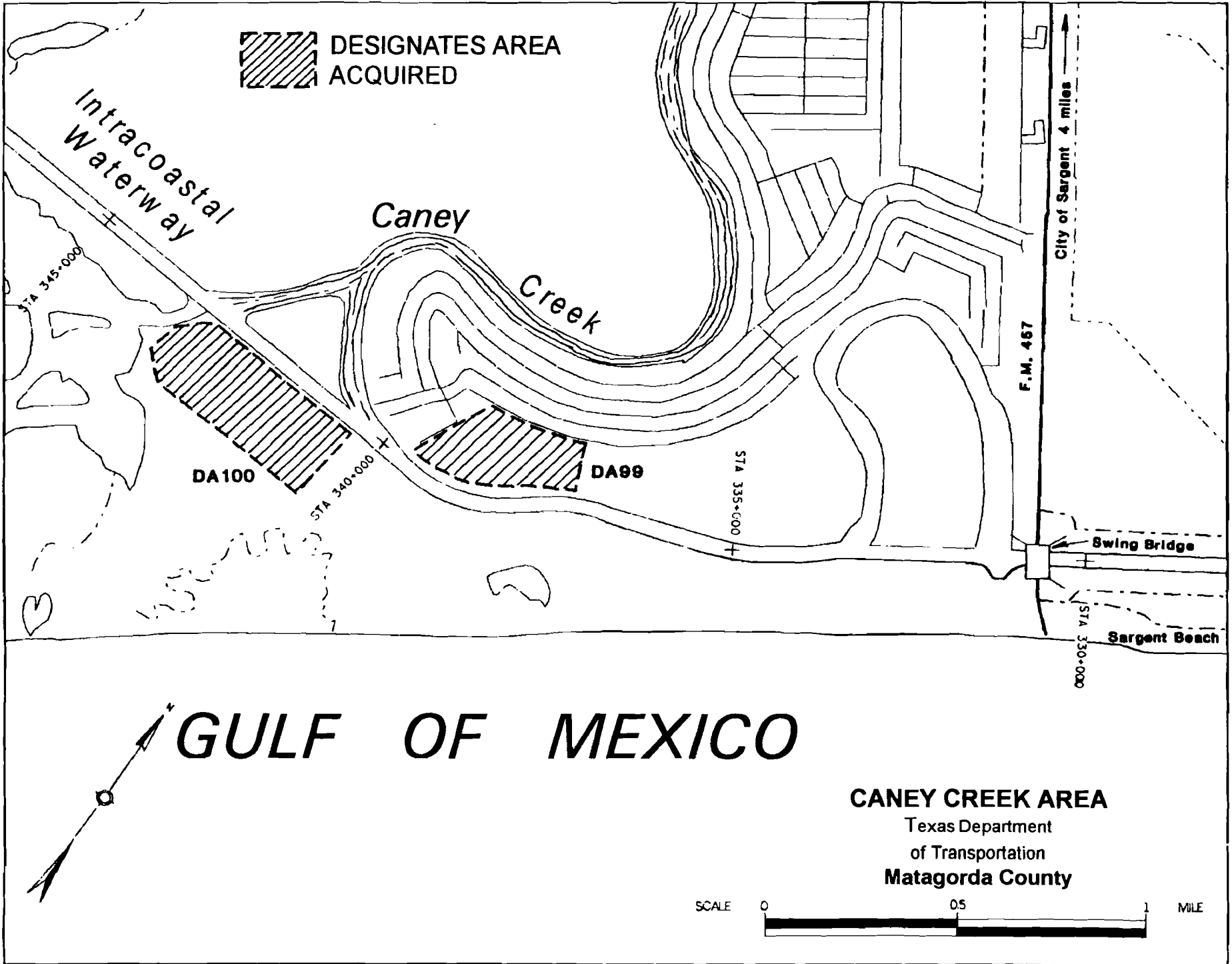
For the 1994-1995 biennium, the Texas Legislature appropriated 1.5 million dollars for acquiring disposal sites requested by the Corps of Engineers which would facilitate maintenance dredging of the GIWW. It is estimated that approximately 930 acres could be purchased with that funding. In order to continue support for the waterway in an environmentally sound manner, the state, as the nonfederal sponsor, will continue its upland disposal site acquisition program. Continued state funding will be needed to implement this method of disposing materials dredged from the waterway.

During fiscal years 1993-1994, TxDOT completed the acquisition of two upland sites for the placement of dredged material in Matagorda County. Although the Texas Transportation Commission authorized acquisition of these sites several years ago, in 1988, lengthy title clearance and condemnation proceedings have delayed the actual fee title acquisition. Disposal Area 99, shown on Figure 12, is 45.94 acres; the other site, Disposal Area 100, is 86.65 acres.

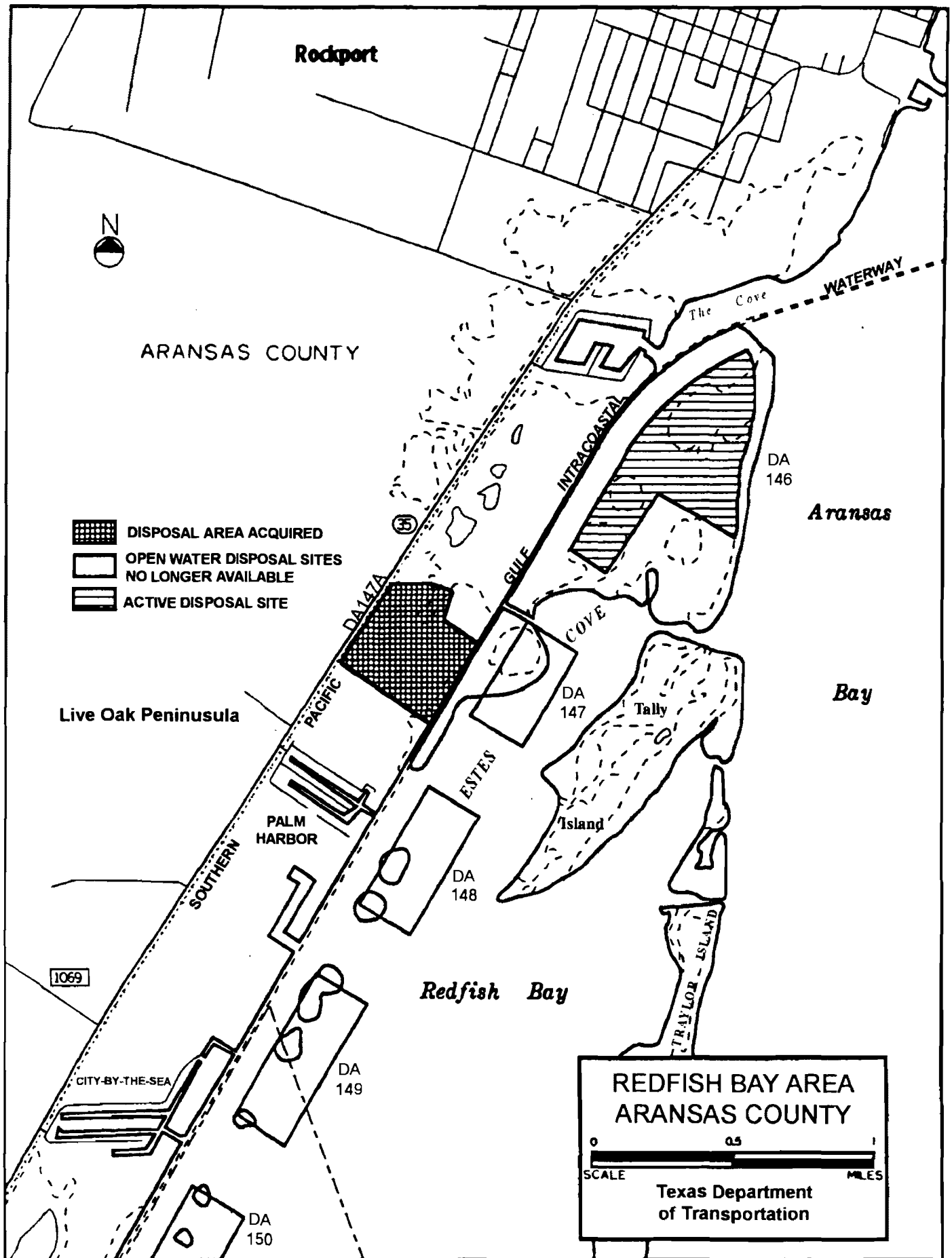
TxDOT will soon convey thirty-year easements to the Corps for these two upland sites. In addition, TxDOT is scheduled to arrange a similar conveyance in 1995 on an 89.1 acre Aransas County site referred to as Disposal Area 147A. TxDOT acquired this site, depicted in Figure 13, during the previous biennium in 1992.

Efforts in the fiscal years 1993-1994 to acquire a 179.96 acre site in Galveston County may result in a completed acquisition in 1995. Referred to as





**FIGURE 12**



**FIGURE 13**

Disposal Area 58A, this site is depicted in Figure 14. All sites acquired or conveyed during fiscal years 1993-1994, as well as DA 58A, will provide a minimum of thirty years' upland storage capacity.

In March 1994, at the request of the Corps, the Texas Transportation Commission suspended departmental actions to acquire four sites, approximated at 750 acres, in Kleberg and Kenedy Counties and adjacent to Baffin Bay in the upper Laguna Madre region. (See Figure 15.) As a result of this suspension, TxDOT must postpone the expenditure of appropriated funds for these disposal property acquisitions. If the Corps' Section 216 Study proceeds through the feasibility phase for the Corpus Christi Bay to Port Isabel reach, a long-term disposal plan and Environmental Impact Statement are anticipated. Upon completion of the feasibility study, the commission will review the study findings and determine if such acquisition is necessary.

### **Extension of the GIWW into Mexico**

Texas' neighboring Mexican state of Tamaulipas has been actively pursuing the extension of the GIWW to Tampico (Figure 16) to create an inland Mexican waterway to export and import goods. TxDOT is currently participating in technology exchange on all transportation modes with the bordering Mexican states to better coordinate plans for the NAFTA challenge. TxDOT's International Relations Office and Multimodal Operations Office will be available during planning efforts for the extension of the GIWW.

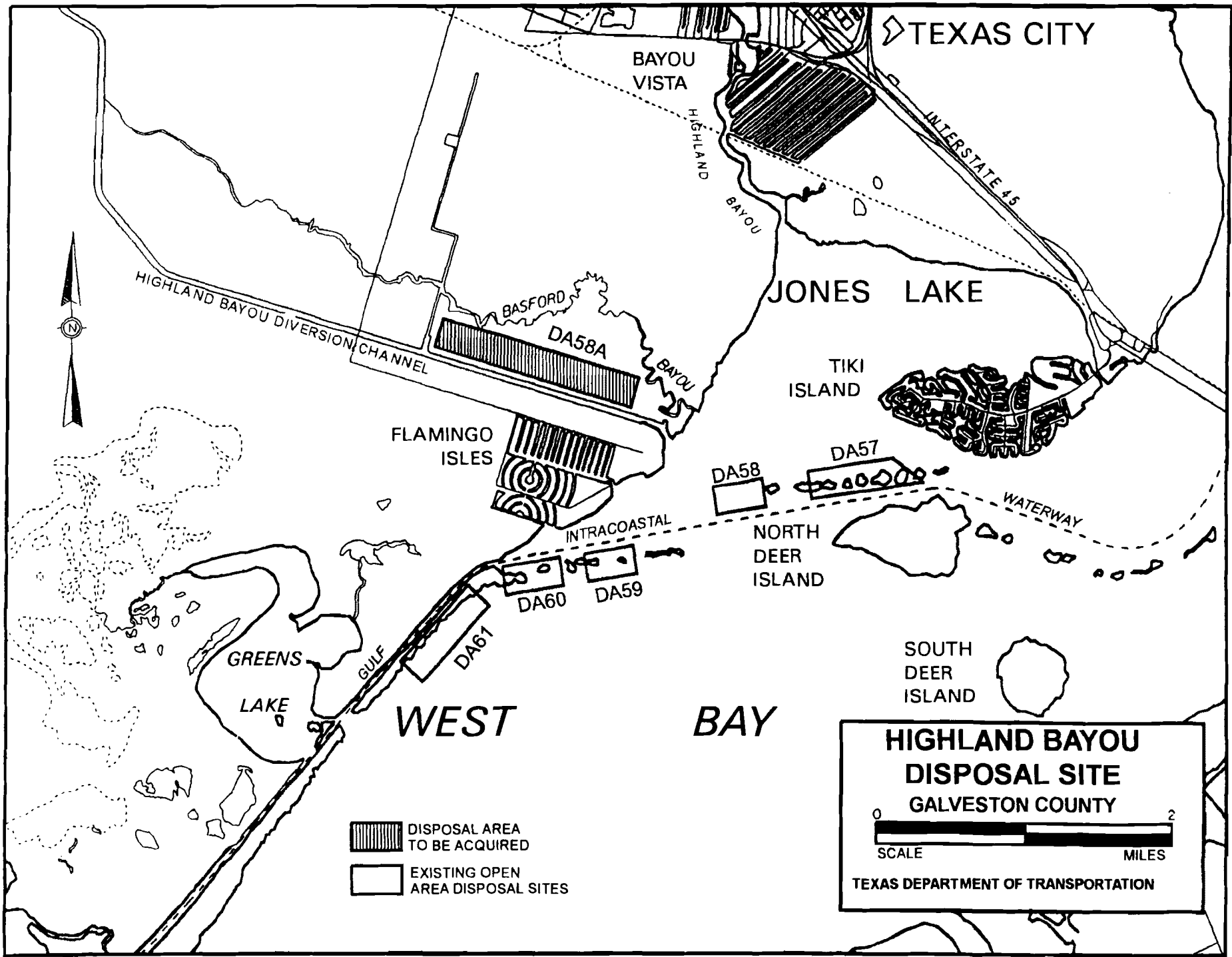
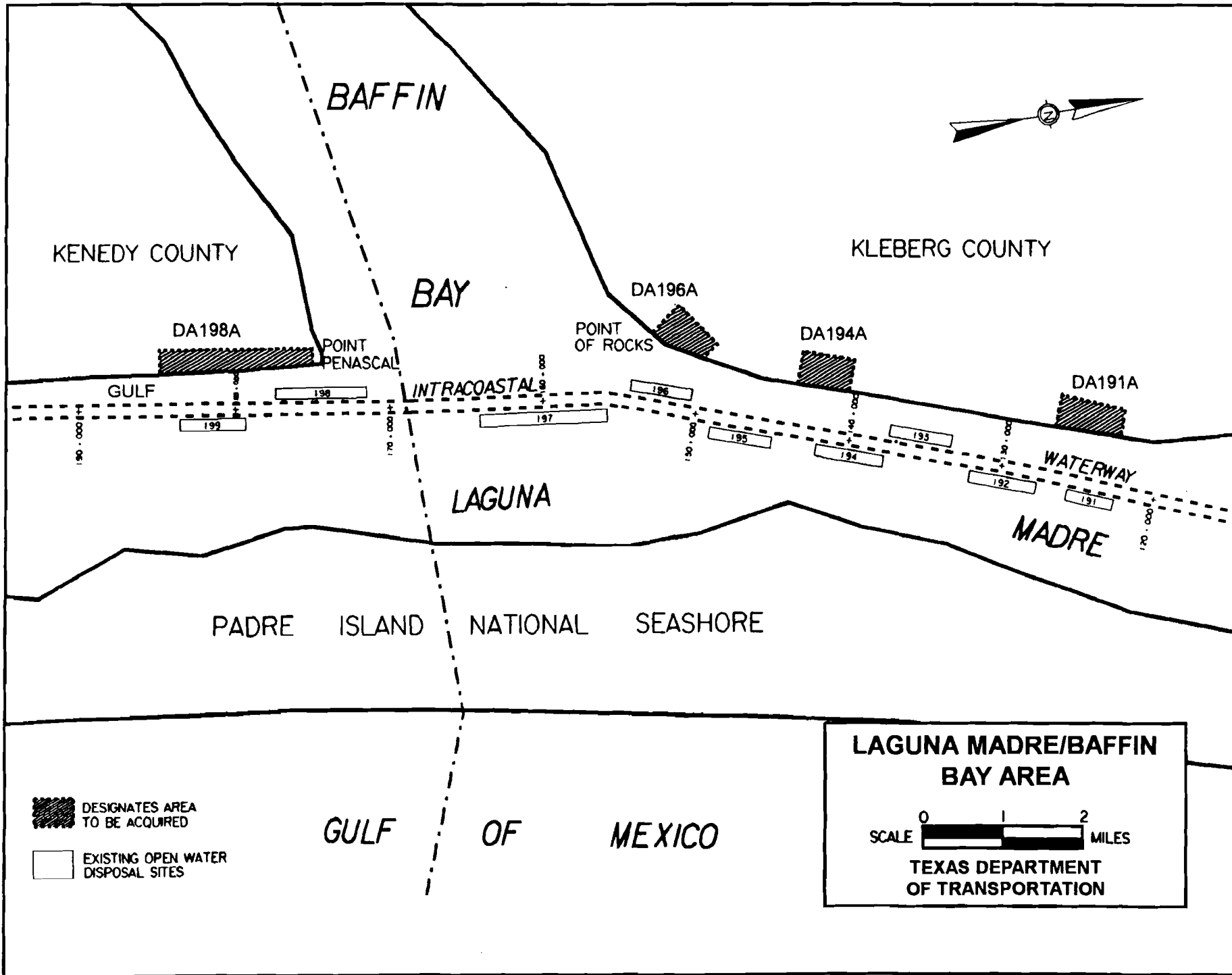




FIGURE 14



 DESIGNATES AREA TO BE ACQUIRED  
 EXISTING OPEN WATER DISPOSAL SITES


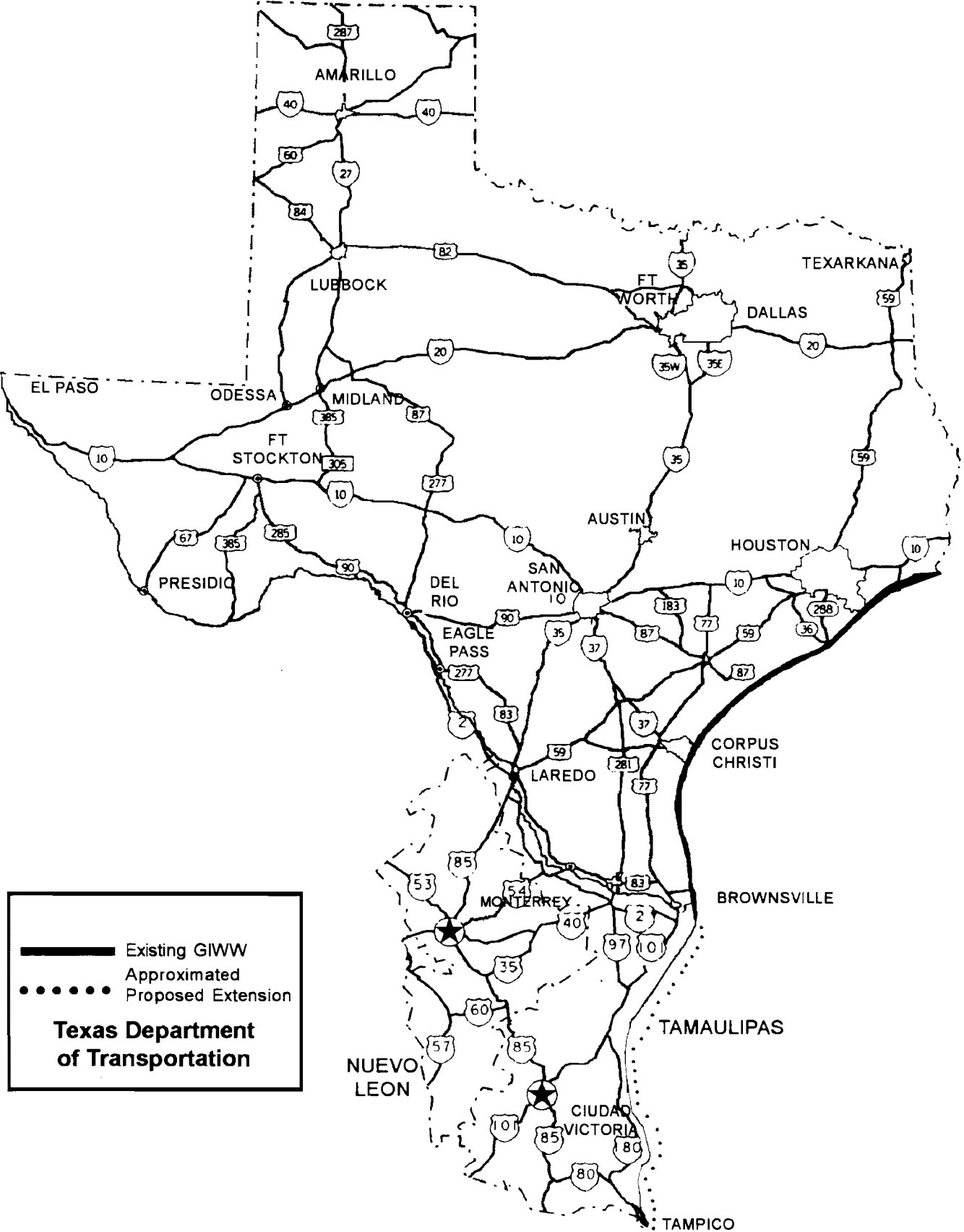
**LAGUNA MADRE/BAFFIN BAY AREA**  
 SCALE  MILES  
 TEXAS DEPARTMENT OF TRANSPORTATION

FIGURE 15

# Proposed Extension of GIWW into Mexico



**FIGURE 16**

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**Chapter Four**  
**LEGISLATIVE RECOMMENDATIONS**



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## LEGISLATIVE RECOMMENDATIONS

Transportation clearly plays an important role in today's movement of people and goods and it will lead us into the future, where multimodal transportation will provide that movement most effectively. As we move into the 21st century, not only will our state's activities continue to increase, but national and international activities will also provide additional transportation challenges. We must, therefore, recognize the importance of maintaining a modern and diversified transportation infrastructure.

In support of that infrastructure and as the nonfederal sponsor of the Gulf Intracoastal Waterway (GIWW), the Texas Department of Transportation (TxDOT) advocates the continued maintenance and operation of the GIWW, while fostering the protection and enhancement of the coastal environment. To facilitate maintenance of the waterway, TxDOT acquires upland property through gift, purchase or condemnation and furnishes an easement to the U.S. Army Corps of Engineers (Corps) for use as a dredged material disposal site. Although TxDOT's preferred method of acquiring sites is to accept or purchase an unencumbered title through negotiations, it is at times necessary to condemn the property through the authority of eminent domain. This authority is crucial to the continued support of the waterway's maintenance program.

Disposal options to facilitate necessary maintenance dredging projects are becoming an increasingly complicated issue. Objections to open-water disposal, reduced availability of upland sites, and prohibitive costs of pumping dredged material over long distances to more environmentally acceptable sites are some of the challenges faced in continuing to provide for safe and effective transportation on the waterway.

As indicated earlier in this report, the beneficial use of materials dredged from the GIWW is becoming a more frequent alternative to the traditional disposal of maintenance materials. However, the costs of implementing beneficial use projects often exceed standard maintenance costs and the Corps' fixed budgets. In this regard, the nonfederal sponsor may be looked upon to fund those extra costs. To help offset those costs, the state could implement a research and technology program to identify uses and economic benefits of dredged material.

Other alternatives to traditional disposal methods may become necessary in instances where beneficial uses of dredged material will not be feasible. These alternatives may involve the movement of dredged material over longer distances, or perhaps a modification of traditional disposal operations to avoid or minimize adverse environmental impacts. Either alternative can cost more than traditional maintenance operations.

The Corps is actively pursuing studies through the authority of Section 216 of the Federal Flood Control Act of 1970. These studies and their recommendations may lead to the Corps' ability to participate in beneficial use projects or alternative disposal methods with adequate funding. However, the studies are not planned to reach fruition until at least the year 2001. Until then, it may become necessary to provide some assistance to the Corps for beneficial use projects or other alternative disposal methods.

To support the state's nonfederal sponsorship of the GIWW in Texas and facilitate planning, maintenance, preservation, research, and improvement of the waterway, the following are recommended for consideration by the Texas Legislature:

The state continue to recognize and promote the Gulf Intracoastal Waterway as an integral and valuable part of the state's multimodal transportation system.

The state provide the authority for the participation and funding to support the Gulf Intracoastal Waterway's projects using dredged material for beneficial purposes.

The state advocate the continuation of the U.S. Army Corps of Engineers' Section 216 Studies, which will address the physical and/or economical changes of the Gulf Intracoastal Waterway in Texas.

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**Appendix A**  
**THE ACQUISITION PROCESS**

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# **APPENDIX A**

## *The Acquisition Process*

### ***Introduction and General Summary***

To acquire needed disposal sites, the Texas Department of Transportation (TxDOT) coordinates within its appropriate divisions, districts, and special offices to handle land acquisitions. Several items are important in making acquisitions for disposal sites, including an understanding of applicable state and federal laws, identification of suitable sites, obtainment of required environmental clearances, public involvement, site-specific authorization, and promulgation of appropriate acquisition procedures. TxDOT's standard right-of-way acquisition procedures fully comply with the federal requirements of the nonfederal sponsor, and these procedures are followed in acquiring the sites.

Through the U. S. Army Corps of Engineers (Corps), TxDOT has access to information on dredging frequencies, volumes of materials removed, and various disposal methods that are environmentally and operationally suitable for maintenance of the Gulf Intracoastal Waterway (GIWW) in Texas. TxDOT also consults with natural resources agencies regarding disposal-related environmental concerns. All these factors help determine the need for disposal capacity, location, size, and design of disposal sites.

### ***Steps to Site-Specific Authorization***

#### *Selection of Proposed Sites*

TxDOT has organized a state agency advisory committee, the Gulf Intracoastal Waterway Advisory Committee (GIWAC) (see page 15), to help



address problems and recommend solutions concerning the waterway. To physically investigate coastal areas that need new or additional disposal capacity, TxDOT appoints members from GIWAC and representatives from federal agencies that include the National Marine Fisheries Service, U. S. Army Corps of Engineers, and U. S. Fish and Wildlife Service, to serve on a task force. This task force of engineers and resource experts makes preliminary identifications of environmentally and operationally suitable sites in the areas of need. After this preliminary identification and with the concurrence of GIWAC, the Corps proceeds to obtain the environmental clearance for use of the proposed sites. Only after environmental clearance has been assured will TxDOT conduct the required public hearings on specific sites. As part of the hearing process, the Texas Transportation Commission must grant authorization to the agency for proceeding with site-specific acquisitions.

#### *Environmental Clearance*

In order for any area to be used for disposal of dredged material, there are federal and state laws which mandate that such use be environmentally acceptable. The National Environmental Policy Act sets federal guidelines which the Corps must follow in making environmental evaluations of proposed sites. The Texas Coastal Waterway Act of 1975 requires that the Texas Transportation Commission determine whether proposed sites can be used without unjustifiable waste of publicly or privately owned natural resources and without permanent, substantial, adverse impact on the environment, wildlife, or fisheries.

Agencies involved with protecting natural and historical resources (the National Marine Fisheries Service, Texas General Land Office, Texas Parks and Wildlife Department, Texas Historical Commission, Texas Natural Resource

Conservation Commission, and U. S. Fish and Wildlife Service) assist in developing recommendations during the environmental evaluation. After the environmental evaluation is completed and a proposed site has been found to be acceptable for disposal use, the Corps documents the analysis in an environmental assessment and issues a finding of no significant impact (EA/FONSI). The environmental assessment and finding of no significant impact is forwarded to the Environmental Protection Agency and TxDOT.

A final review of the environmental assessment and findings is conducted by TxDOT. If TxDOT determines the disposal site can be used in an environmentally acceptable manner, the agency then proceeds with the required public hearings for the site.

The environmental documents are kept on file at TxDOT and the Corps' Galveston District.

#### *Public Involvement*

The 1975 Texas Coastal Waterway Act requires the Texas Transportation Commission to hold public hearings for the purpose of receiving evidence and testimony concerning the desirability of proposed dredged material disposal sites. If the commission determines that use of the sites is acceptable, the commission then authorizes the agency to proceed with acquisition. To better inform communities of the proposed use of an area, TxDOT often conducts public meetings prior to the mandated public hearings. Public meetings are held in cities located near the proposed sites; the public hearings are held in Austin.

Public hearings are advertised in accordance with the 1975 Texas Coastal Waterway Act. Legal notices are published in newspapers that are circulated in

the involved counties for three consecutive weeks before the public hearings, as well as in the *Texas Register*.

Environmental documents and aerial displays regarding the proposed sites are exhibited at the public meetings and hearings. The proceedings of each forum are documented and become part of official record. During these public forums, TxDOT explains the state's nonfederal responsibility for the GIWW, describes the waterway's maintenance program and disposal needs, and identifies the proposed sites. The public is given the opportunity to comment.

#### *Commission Authorization*

After due consideration of all evidence, testimonies, and environmental findings, the Texas Transportation Commission determines whether each proposed site can be used without unjustifiable waste of publicly or privately owned natural resources and without permanent, substantial, adverse impact on the environment, wildlife, or fisheries. Acting through commission minute orders, the commission then authorizes the agency to proceed with acquiring the approved sites.

#### *Acquisition Steps*

##### *Surveying*

After commission authorization, the acquisition process begins by obtaining a survey of the site. Most landowners agree to allow access to their property and the areas are then surveyed to accommodate the size and design needed for a site. Aerial surveys may be used if a landowner does not grant access to the property.

Surveyors develop plats of the sites showing ownership, area, the disposal site perimeter, property access, and improvements, if any, such as pipelines or structures. TxDOT does not intend to encumber habitable structures or dedicated

roads. Legal descriptions, or metes and bounds, are written to be recorded with the plats.

Since erosion is widespread along the Texas coastline, surveys of some properties may determine certain boundaries to be submerged. To provide access for disposal operations, the state may acquire property to the GIWW's right-of-way line. Eroded acreage between the GIWW's right-of-way and the bankside is considered in the appraisal process with the approved values for purchases reflecting this condition.

### *Appraisal*

In the initial stages of the appraisal process, TxDOT notifies landowners of a proposed acquisition. The Uniform Relocation Assistance And Real Property Assistance and Real Property Acquisition Policies Act of 1970, as amended, requires such notice. Landowners are further notified by TxDOT of an appraiser's upcoming contact with the landowner. Landowners are entitled to accompany an appraiser's inspection of the site. Correct legal and appraisal procedures are adhered to in determining the fair market value of the sites.

### *Negotiations*

After appraisals are completed, a negotiator from TxDOT personally contacts landowners and furnishes them a written offer. The agency negotiator explains the acquisition process and the landowners' alternatives should they not accept the proposed offer. Details on the proposed use of the land as a disposal site are explained when requested. In previous years, landowners who chose to donate the use of their property for a disposal site became eligible for ad valorem tax breaks under the Legislative Law, S. B. 982; however, in August of 1994, the

State Attorney General ruled that S. B. 982 conflicted with the Texas Constitution and was therefore invalid.

### *Acquisition*

TxDOT's preferred acquisition method is to accept or purchase in fee, since the leasing of the land over an extended period could approach or exceed the fee cost. Landowners are given not less than one month to consider offers. If an owner is dissatisfied and chooses to refuse the offer, the state may negotiate or may initiate condemnation proceedings through the authority of eminent domain. The Texas Transportation Commission must grant authorization to the agency in order to undertake condemnation proceedings.

**Appendix B**

**RELATED FEDERAL LEGISLATION**

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## **APPENDIX B**

### *Related Federal Legislation*

#### ***Section 216 of the Federal Flood Control Act of 1970 (P.L. 91-611)***

Under the authority of Section 216 of the Federal Flood Control Act of 1970, the U.S. Army Corps of Engineers (Corps) can conduct a study of the Corps' completed water resources projects which may have changed because of physical or economic reasons. The 216 Study process is divided into two phases. The first of these phases is the reconnaissance study, lasting an average of one year. The reconnaissance study identifies project changes, if any, and determines the interest of the federal government in proceeding with the next phase, or feasibility study. If the reconnaissance study identifies such interest, the process will then proceed to a three- to four-year feasibility study, involving detailed engineering, economic, and environmental studies. Based on the results of those studies, the Corps then recommends the most cost-effective solution which responds to the problem, while protecting the environment. Important aspects of the feasibility study include the preparation of an environmental document in accordance with the National Environmental Policy Act (NEPA) and the development of a long-term disposal plan for a specific study reach. The product of the feasibility phase is a report which presents a recommendation to the United States Congress that the solution or project be implemented for the overall public interest. Congress must decide whether to authorize and fund the project.

#### ***Section 933 of the Water Resources Development Act of 1986 (P.L. 99-662)***

Under the authority of Section 933 of the Water Resources Development Act of 1986, the Secretary of the Army, acting through the Corps, can place



beach-quality sand (which has been dredged during construction and maintenance of navigation inlets and channels) onto beaches under the following conditions: a) if such action is requested by the state; b) if the Secretary of the Army deems such action to be in the public interest; and c) upon payment of the cost exceeding normal disposal costs. Section 933 will also increase the additional costs that may be borne by the federal government to 50 percent above that required for the least-cost method of dredged material disposal during the construction and maintenance of navigation inlets onto adjacent beaches. Accordingly, this authority provides for 50-50 cost sharing between federal and nonfederal participants for costs above the federal standard. In addition, the nonfederal sponsor must provide any necessary additional lands, easements, rights-of-way, and relocations for the project.

***Section 1135 of the Water Resources Development Act of 1986 (P.L. 99-662)***

Under the authority of Section 1135 of the Water Resources Development Act of 1986, the Secretary of the Army, acting through the U. S. Army Corps of Engineers, can conduct reviews of the Corps' water resources projects to determine the need for modifications to improve the environment's quality in the public interest. The reviews must address those needs within a program as a result of a Corps' project and must provide restoration or enhancement of the environmental quality. Projects under this authority must have a nonfederal cost-sharing sponsor to provide at least 25 percent of the total cost of project planning, engineering and design, and construction. In addition, project application does not automatically guarantee funding; it must go through the Corps' approval process.

***Federal Authorization to Construct Texas GIWW***

The authorization and construction of the Gulf Intracoastal Waterway (GIWW) in Texas was accomplished through a series of congressional authorizations over a period of years between 1925 and 1949. Congress further authorized improvements to the main channel in years following. (See table next page.)

## GIWW - MAIN CHANNEL

### TEXAS SECTION

#### AUTHORIZATIONS

DATE AUTHORIZING ACT	PROJECT AND WORK AUTHORIZED	DOCUMENTS
Mar. 3, 1925	Channel 9 by 100 feet, Sabine River to Galveston Bay and a 20-inch pipeline dredge. Such passing places, widening at bends, locks or guard locks and railway bridges over artificial cuts as are necessary.	House Document 238, 68th Congress, 1st Session
Jan. 21, 1927	Channel 9 by 100 feet, Galveston Bay to Corpus Christi.	House Document 238, 68th Congress, 1st Session
Mar. 23, 1939	Enlarge waterway to depth of 12 feet and a width of 125 feet from Sabine River to Corpus Christi.	House Document 230, 76th Congress, 1st Session
Jul. 23, 1942	Enlarge waterway from Corpus Christi to vicinity of Mexican border to provide a depth of 12 feet and width of 125 feet throughout.	Public Law 675, 77th Congress
Jul. 24, 1946	Reroute main channel to north shore of Red Fish Bay between Aransas Bay and Corpus Christi Bay.	House Document 700, 79th Congress, 2nd Session
May 17, 1950	Alternate channel across South Galveston Bay between Port Bolivar and Galveston causeway.	House Document 196, 81st Congress, 1st Session
Oct. 23, 1962	Improve main channel 16 feet deep and 150 feet wide from Sabine River to Houston Ship Channel; with two relocations; relocate main channel in Matagorda Bay and Corpus Christi Bay and maintain existing Lydia Ann Channel.	House Document 556, 87th Congress, 2nd Session

**Appendix C**  
**THE TEXAS COASTAL WATERWAY ACT OF**  
**1975**

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# APPENDIX C

## *Texas Coastal Waterway Act of 1975*

*Vernon's Annotated Revised Civil Statutes of  
the State of Texas  
Volume 15A Landlord and Tenant--Lands, Public*

### **Art. 5415e-2. Coastal Waterway Act of 1975**

#### **Short Title**

Sec. 1. This Act may be cited as the "Texas Coastal Waterway Act of 1975."

#### **Policy**

Sec. 2. It is the policy of the State of Texas (i) to support the marine commerce and economy of this state by providing for the shallow draft navigation of the state's coastal waters in an environmentally sound fashion, and (ii) to prevent waste of both publicly and privately owned natural resources, to prevent or minimize adverse impacts on the environment, and to maintain, preserve, and enhance wildlife and fisheries; and to accomplish such policy the State of Texas shall act as the nonfederal sponsor of the main channel of the Gulf Coast Intracoastal Waterway from the Sabine River to the Brownsville Ship Channel, and shall satisfy the responsibilities of the nonfederal sponsor as determined by federal law consistent with the policy of the State of Texas as declared in this section.

#### **Findings**

Sec. 3. The legislature finds and declares that:

(a) Marine commerce is a vital element of the state's economy and the benefits derived therefrom are realized directly or indirectly by the entire state.

(b) The coastal public lands and the coastal marshes and similar coastal areas located on both publicly and privately owned lands are similarly vital elements of the state's economy, and to the maintenance, preservation, and enhancement of the environment, wildlife, and fisheries, the benefits of which are similarly realized directly or indirectly by the entire state.

(c) The coastal public lands and related natural resources constitute a vital asset of the state to be managed for the benefit of all citizens of the State of Texas.

(d) The Gulf Intracoastal Waterway traverses coastal public lands and areas in close proximity to the coastal marshes and similar coastal areas located on both publicly and privately owned lands.

(e) The Gulf Intracoastal Waterway can be maintained, operated, and improved in such a way as to prevent waste of both publicly and privately owned natural resources, that adverse environmental impacts are avoided or minimized, and that in some cases beneficial environmental effects can be realized.

(f) It is in the best interest of all citizens to accomplish the policy of the State of Texas as stated in Section 2 of this Act for the State of Texas to meet the responsibilities as required by federal law of the nonfederal sponsor of the Gulf Intracoastal Waterway.

### **Definitions**

Sec. 4. As used in this chapter:

(a) "Coastal public lands" means all or any portion of the state-owned submerged land, the waters overlying those lands, and all state-owned islands or portions of islands that may be affected by the ebb and flow of the tide.

(b) "Coastal marshes and similar areas" means those soft, low-lying watery or wet lands and drainage areas in the coastal areas of the state which may or may not be subject to the ebb and flow of the tide but which are of ecological significance to the environment and to the maintenance, preservation, and enhancement of wildlife and fisheries.

(c) "Commission" means the State Highway Commission.

(d) "Gulf Intracoastal Waterway" means the main channel, not including tributaries or branches, of the shallow draft navigation channel running from the Sabine River southward along the Texas coast to the Brownsville Ship Channel near Port Isabel that is generally referred to as the Gulf Intracoastal Canal.

(e) "Person" means any individual, firm, partnership, association, corporation (public or private, profit or nonprofit), trust, or political subdivision or agency of the state.

### **Administrative Provisions**

Sec. 5. (a) This Act shall be administered by the State Highway Commission.

(b) The provisions of this Act are cumulative of all other Acts relating to the commission.

(c) Nothing in this Act shall diminish the duties, powers, and authorities of the School Land Board to manage the coastal public lands of the state.

### **Duties and Powers**

Sec. 6. (a) The commission shall cooperate and work with the Department of the Army, all other appropriate federal and state agencies, navigation districts and port authorities, counties, and other appropriate persons to determine specifically what must be done by the State of Texas to satisfy federal local sponsorship requirements relating to the Gulf Intracoastal Waterway in a manner consistent with the policy of the State of Texas as stated in Section 2 of this Act.

(b) The commission shall fulfill, in a manner consistent with the policy of the state as stated in Section 2 of this Act, the local sponsorship requirements relating to the Gulf Intracoastal Waterway as agent for the state.

(c) Subject to the provisions of Subsection (g) of this section, the commission is authorized to acquire by gift, purchase, or condemnation any property or interest in property of any kind or character deemed necessary by the commission to fulfill its responsibilities under this Act as the nonfederal sponsor of the Gulf Intracoastal Waterway, including but not limited to easements and rights-of-way for dredge material disposal sites and easements and rights-of-way for channel expansion, relocation, or alteration, save and except oil, gas, sulphur, and other minerals of any kind or character which can be recovered without utilizing the surface of any such land for exploration, drilling, or mining purposes. All other provisions relating to the exercise of the power of eminent domain shall be in accord with the commission's existing powers and authority relating to eminent domain. However, the commission does not have the authority to condemn any submerged public lands under the jurisdiction of the School Land Board.

(d) Proposed actions and actions of the commission pursuant to this Act which have potential for significant environmental impact or effect upon coastal public lands, coastal marshes and similar areas, wildlife, and fisheries shall be coordinated with appropriate state and federal agencies having environmental, wildlife, and fisheries responsibilities.

(e) All agencies and political subdivisions of the State of Texas shall, within their legal authorities and available resources, assist the commission in carrying out the purposes of this Act. All such agencies and political subdivisions are hereby authorized without any form of advertisement to make conveyance of title or rights and easements, owned by any such body, to any property needed by the commission to meet its responsibilities under this Act as the nonfederal sponsor of the Gulf Intracoastal Waterway.



(f) The commission, in cooperation with all appropriate persons, shall continually evaluate the Gulf Intracoastal Waterway as it relates to Texas. Such evaluations shall include an assessment of the importance of the Gulf Intracoastal Waterway, including an identification of direct and indirect beneficiaries; identification of principal problems and possible solutions to such problems, including estimated costs, economic benefits, and environmental effects; evaluation of the need for significant modifications to the Gulf Intracoastal Waterway; and specific recommendations for legislative actions that the commission believes to be in the best interest of the state in carrying out the policy of the state as declared in Section 2 of this Act. The results of this evaluation shall be published in a report to be presented to each regular session of the legislature.

(g) Prior to approval or implementation by the commission of any plan or project for acquisition or acquisition of any property or interest in property for any dredge material disposal site, or for the widening, relocation, or alteration of the main channel of the Gulf Intracoastal Waterway which requires the acquisition of any additional property or interest in property, to satisfy federal local sponsor requirements, the commission shall hold public hearings for the purpose of receiving evidence and testimony concerning the desirability of such proposed dredge material disposal site and of any such widening, relocation, or alteration of the main channel of the Gulf Intracoastal Waterway, prior to which hearing the commission shall publish notice of such plan, project, and hearing, at least once a week for three successive weeks in a newspaper of general circulation published in the county seat of each county in which any such proposed dredge material disposal site or part thereof is located and in which the channel or any portion of the channel of the Gulf Intracoastal Waterway to be widened, relocated, or altered is located, of the date, time, and place of such hearing. If after such public hearing the commission shall determine that such proposed dredge material site plan or project or such proposed plan or project for widening, relocation, or alteration of the main channel of the Gulf Intracoastal Waterway, as the case may be, can be accomplished without unjustifiable waste of publicly or privately owned natural resources and without permanent substantial adverse impact on the environment, wildlife, or fisheries, the commission may then, upon its approval of such plan or project, proceed to implement such plan or project and acquire, in such manner as provided in Section 6(c) of this Act, such additional property or interest in property necessary to satisfy federal local sponsorship requirements for implementation of such plans for such dredge material site or for such widening, relocation, or alteration of the Gulf Intracoastal Waterway.

### **Funding**

Sec. 7. The legislature is hereby authorized to appropriate from the General Revenue Fund funds in the amount necessary to accomplish the purposes of this Act.

Acts 1975, 64th Leg., p. 405, ch. 181, eff. Sept. 1, 1975.

## Saved from Repeal

*This article was expressly saved from repeal by art. I, § 2(b) of Acts 1977, 65th Leg., p. 2690, ch. 871, enacting the Natural Resources Code.*

## Historical and Statutory Notes

### Title of Act:

An Act relating to the importance of coastal public lands, the coastal marshes, and similar coastal areas of the state located on both publicly and privately owned lands and the importance of the maintenance, preservation, and enhancement of the environment, wildlife and fisheries, and to the importance of the Gulf Intracoastal Waterway; providing for the administration by the State of Texas for

nonfederal sponsorship requirements for the future maintenance and improvement of the Gulf Intracoastal Waterway consistent with the policy of the State of Texas; prescribing the powers and duties of the State Highway Department in implementing this Act and of other state agencies and political subdivisions in cooperating with the department; authorizing appropriations for funding; and declaring an emergency. Acts 1975, 64th Leg., p. 405, ch. 181.

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C.J.S. Navigable Waters § 12 et seq.

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