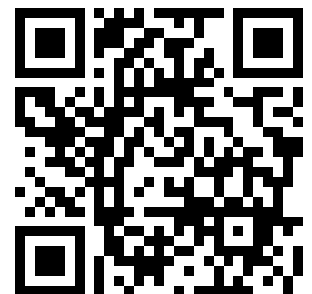

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Agency

Region 6
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EPA 906/01-89-002
January 1989



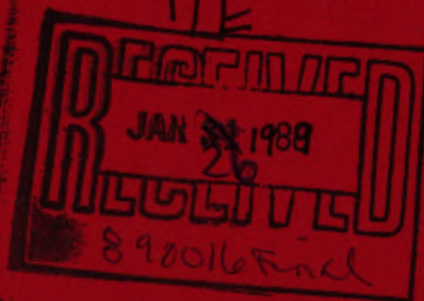
U.S. Army Corps
of Engineers

Environmental Impact Statement

Final

Houma Navigation Canal Ocean Dredged Material Disposal Site Designation

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VI

1446 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202

JAN 13 1989

TO INTERESTED AGENCIES, OFFICIALS, PUBLIC GROUPS AND INDIVIDUALS:

Enclosed is a copy of the Final Environmental Impact Statement (EIS) concerning the Environmental Protection Agency's (EPA's) designation of the Houma Navigation Canal ocean dredged material disposal site. The National Environmental Policy Act does not apply to EPA activities of this type. EPA has voluntarily committed to prepare EIS's in connection with its ocean disposal site designation program. EPA and the New Orleans District Corps of Engineers jointly prepared this EIS. Written comments and inquiries regarding this Final EIS should be addressed to Norm Thomas, Chief, Federal Activities Branch, at the above address by the date stamped on the cover sheet following this letter.

Sincerely yours,


Robert E. Layton Jr., P.E.
Regional Administrator

Enclosure

FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR
HOUMA NAVIGATION CANAL
OCEAN DREDGED MATERIAL DISPOSAL SITE DESIGNATION
TERREBONNE PARISH, LOUISIANA

Responsible Agencies: U.S. Environmental Protection Agency, Region VI
U.S. Army Corps of Engineers, New Orleans District

Administrative Action: The purpose of this action is to comply with the Marine Protection, Research, and Sanctuaries Act of 1972 by providing an environmentally acceptable ocean dredged material disposal site (ODMDS) for the Houma Navigation Canal, in compliance with the Ocean Dumping Regulations (40 CFR Parts 220-229).

Contacts: Mr. Norm Thomas (6E-F)
U.S. Environmental Protection
Agency
Region VI
1445 Ross Avenue
Dallas, TX 75202-2733

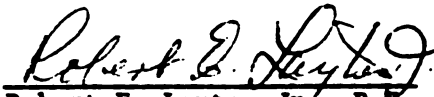
Mrs. Suzanne Hawes
U.S. Army Corps of Engineers
New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

ABSTRACT

The proposed action is the designation of the Houma Navigation Canal, Louisiana ODMDS. In 1977, the EPA approved the site for interim use, based on historical use of the site since 1964. Alternatives considered were no action, relocation of the ODMDS to alternate ocean areas, land disposal, and beach nourishment. The preferred action is designation of the site. Adverse environmental impacts may include: 1) temporary increase in turbidity; 2) short-term changes in grain size of ODMDS surficial sediments; 3) localized burial of benthic organisms; and 4) temporary mounding of substrate.

COMMENTS ON FINAL EIS DUE: MAR 06 1989

RESPONSIBLE OFFICIALS:


Robert E. Layton Jr., P.E.
Regional Administrator

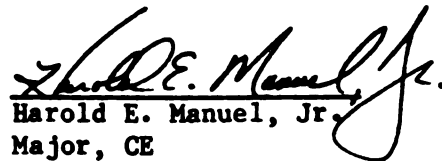

Harold E. Manuel, Jr.
Major, CE
Temporary Commander

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SUMMARY

PURPOSE AND NEED - The purpose of this draft Environmental Impact Statement (EIS) is to evaluate the Houma Ocean Dredged Material Disposal Site (ODMDS) as an appropriate EPA designated disposal site. This site, at the gulfward end of the Houma Navigation Canal (HNC) has been used for disposal of dredged material by the Corps of Engineers (COE) since 1964. It received interim designation by EPA in 1977. Designation of the Houma ODMDS would provide an environmentally acceptable site for future disposal of dredged material that is in compliance with the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972.

ALTERNATIVES - Alternatives considered in this EIS include:

- 1) No Action.
- 2) Relocation of the ODMDS to an alternate ocean area; near-shore, mid-shelf, or off-shelf sites.
- 3) Non-ocean disposal - beach nourishment and land disposal.
- 4) Preferred-designation of the interim Houma ODMDS.

RATIONALE FOR THE PREFERRED ALTERNATIVE - The preferred alternative is designation of the Houma ODMDS, which has been used for over 24 years. The no action alternative is unacceptable because it leaves the site in an interim status. Relocation would subject other areas to effects of disposal without resulting in environmental advantages. Relocation of the site would also be more costly than use of the existing site because distances to transport the dredged material would be increased; substantially in the case of the mid-shelf or off-shelf sites. Non-ocean disposal also would be impractical because of increased costs. The Houma ODMDS has been evaluated using the eleven specific and five general criteria listed in the MPRSA and found to be environmentally acceptable.

ENVIRONMENTAL IMPACTS - Past use of the Houma ODMDS has resulted in minimal, short-term adverse impacts. Temporary increases in turbidity occur during disposal, but conditions return to ambient soon after cessation of disposal.

The grain size of the disposal material is very similar to that existing in the site, and any fine sediments are moved to the west by longshore currents. Benthic organisms are buried during disposal, but repopulation usually occurs within 2 to 6 months. Temporary mounding of dredged material may occur within the site, but the mounds disperse quickly. One vessel grounding has been reported (the site is noted on nautical charts).

INTRODUCTION

The Houma Navigation Canal (HNC), Louisiana, project serves the port of Houma. The U.S. Army Corps of Engineers (COE), New Orleans District, is responsible for planning and conducting necessary maintenance dredging. In 1975, the COE prepared a final EIS on the operation and maintenance of this project. The information in the 1975 EIS is incorporated by reference in this document.

The Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972 made designation of dredged material disposal sites in the ocean mandatory. The only ocean disposal from the HNC is in a 1152-acre site running 3.7 miles seaward from Cat Island Pass (Plates 1 and 2). Approximately 400,000 cubic yards (cy) of dredged material are disposed in this site on an annual basis. The HNC-Cat Island Pass Ocean Dredged Material Disposal Site, henceforth referred to as the Houma ODMDS, received a 3-year interim designation by EPA in 1977. This interim designation was based on historical use of the site since 1964. In January 1980, the interim status of the site was extended indefinitely.

The proposed action in this EIS is the designation of the Houma ODMDS. The EIS presents the information used to evaluate the suitability of the site and is based on environmental studies, including a 1980-81 site study, done with funding from the COE, by Interstate Electronics Corporation, under contract to EPA.

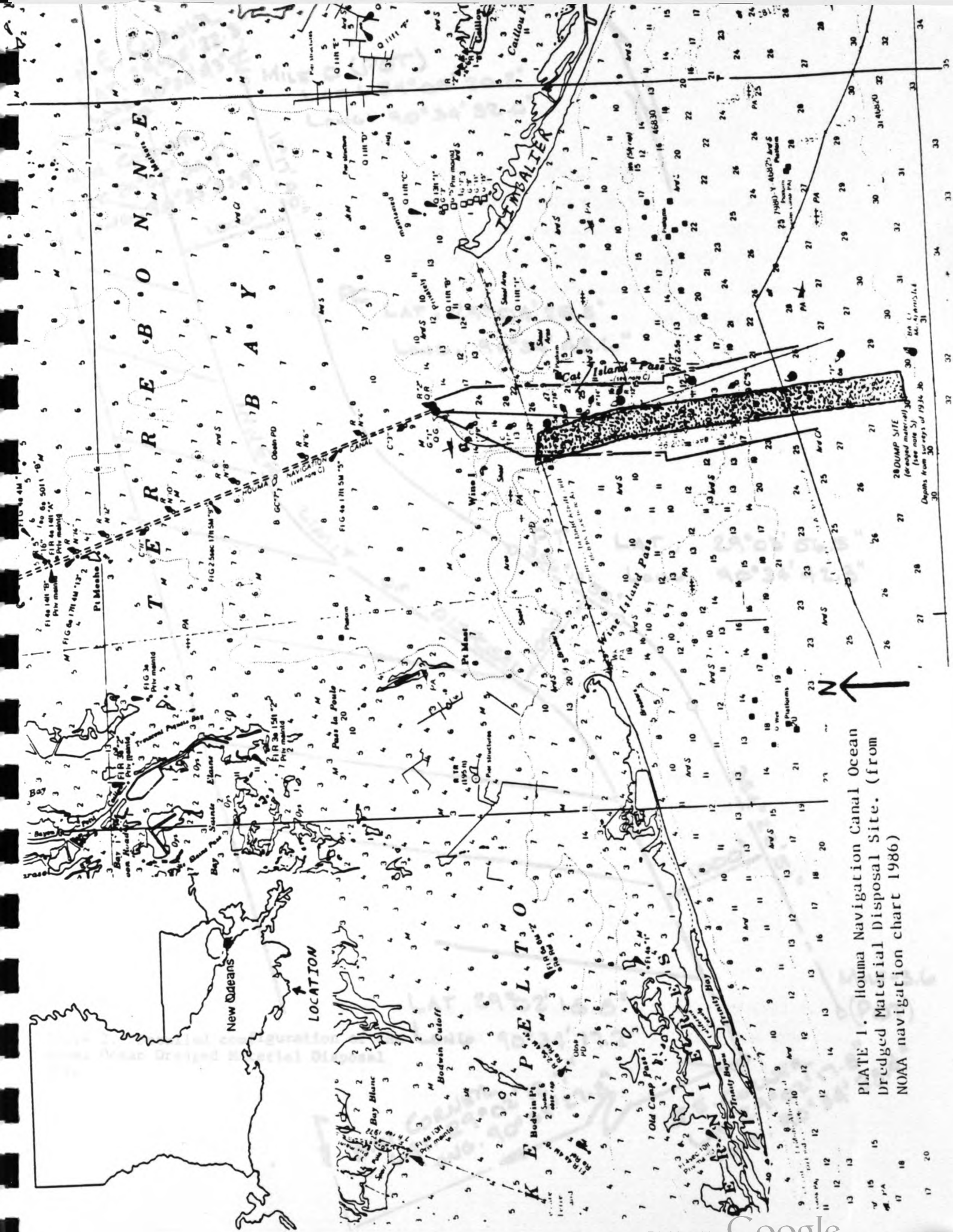


PLATE 1. Houma Navigation Canal Ocean
Dredged Material Disposal Site. (from
NOAA navigation chart 1986)

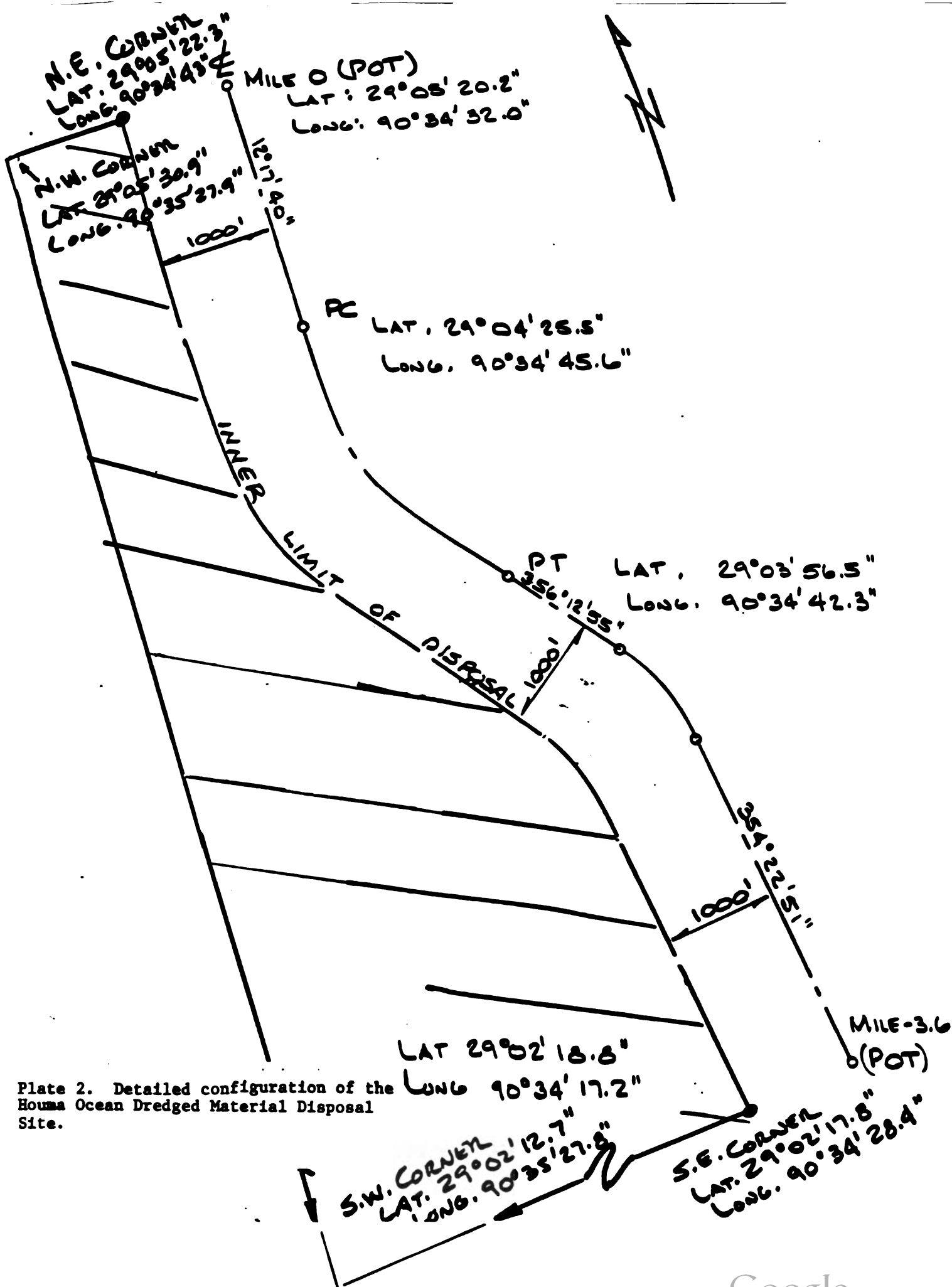


Plate 2. Detailed configuration of the Houma Ocean Dredged Material Disposal Site.

The COE is likely to be the sole user of the Houma ODMDS. The COE does not issue itself a permit; however, the requirements that must be met before dredged material from a COE project can be discharged into the ODMDS are the same as when a permit is required. If a non-Federal entity desires to use the Houma ODMDS for dredged material, the COE would apply the criteria in 40 CFR Part 227 during its public interest review of the permit application.

PURPOSE, NEED, AND AUTHORITY

The HNC is the main entrance to the Port of Houma, Louisiana from the Gulf of Mexico. The canal provides access for commercial barge traffic carrying shell and lumber; vessels involved in shrimp, crab, and menhaden fisheries; and support vessels for offshore oil and gas activities. A designated site for ocean disposal is needed for material dredged from the Cat Island Pass section of the HNC.

The purpose of the proposed action is to designate an environmentally acceptable ocean location for continued disposal of materials dredged from the offshore reach of the HNC.

The authority for designation of ocean disposal sites is the MPRSA of 1972 (86 Stat. 1052), as amended (33 U.S.C.A. § 1401 et seq.). Section 102(c) of Title 1 of the Act authorizes EPA to designate recommended ocean disposal sites for disposal of dredged material. The EPA's Ocean Dumping Regulations (ODR) (40 CFR 220-229) must be used to make site determinations. This EIS is being prepared under EPA's voluntary EIS preparation policy.

In accordance with the Ocean Dumping Regulations, site designation will be promulgated by formal rule-making. The proposal by EPA to designate the Houma ODMDS will be published in the Federal Register and will be based on appropriate Federal statutes, disposal site evaluation studies, the draft

and final EIS's, supporting documentation, and the public notice issued as part of the proposed rule-making.

ALTERNATIVES. This section describes the alternatives that were considered and explains the rationale for their elimination.

NO ACTION. The interim designation of the Houma ODMDS does not have a specific termination date. If no action is taken, the designation status will remain unsettled. The interim designation was made pending completion of any necessary studies and evaluation of its suitability for continued use. The environmental studies and evaluation have been completed, and in accordance with the Ocean Dumping Regulations, a decision regarding designation is required.

RELOCATION OF ODMDS TO ALTERNATE OCEAN AREAS. The location of an alternate shallow-water site was determined by avoiding locations of conflicting activities (oil and gas activities, fishing areas, shipwrecks, etc.)(COE 1984). An alternate shallow-water ODMDS could be located immediately west of the interim site. The alternate site would be approximately the same depth and size as the interim site. Environmental effects of dredged material disposal on the physical, chemical, and biological environment of the alternate shallow-water site would be similar to those at the interim ODMDS. No environmental benefits would be gained by moving the disposal site to a shallow-water alternative, and costs would increase due to greater transportation distance. The turbidity plume would be closer to Isle Dernieres, which would be a greater potential impact to shallow water habitat around the island. There are no other shallow water sites that would be less damaging environmentally and/or less costly.

Selection of an alternate mid-shelf site was based on criteria similar to those for the alternate shallow-water site. An alternate site in

approximately 65 ft of water, located about 15 miles south of the interim site would be acceptable because there are no active oil and gas leases. Because of its greater depth, the mid-shelf area is less dynamic than the shallow-water area. Bottom organisms would be buried as they would be at the interim site. The mid-shelf site would be much further from the dredging site than the interim site; thus transportation costs would be greater. Safety hazards, resulting from transporting dredged material greater distances through areas of active oil and gas development, would be increased. Surveillance methods would be similar to those at the interim site, but surveillance would be more expensive because of the additional travel time to the site. Monitoring would also be more expensive due to greater distances and water depths involved. In addition, use of the mid-shelf site would remove sediments from the nearshore environment and make them less available for movement and deposition by longshore currents.

The deep-water region lies off the continental shelf seaward of the 400-foot depth contour. An alternate deep-water ODMDS could be located off the continental shelf about 70 miles south of the interim site. No specific site was selected for evaluation, but the characteristics of a deep-water site were considered. The dredged material would be dispersed over a larger area because of the dissipation of the descending plume. Sediments reaching the bottom would tend to remain in place because of the slow erosion and transport. Effects on benthic organisms would be less than those at the interim site or mid-shelf alternate sites because it is a natural deposition zone (MMS 1987). Safety hazards would be increased by longer distances required to transport the material. Surveillance and monitoring would be more costly and difficult because of deep water. Annual costs of disposal would be significantly increased over costs at the interim site because special deep-water barges would be required and travel time would be increased. With existing equipment, it is not feasible to dredge and transport the necessary volume of material within the available time. Use of the deep-water site would also remove sediments from the nearshore environment and make them unavailable for deposition.

NON-OCEAN DISPOSAL ALTERNATIVES. Land disposal alternatives were evaluated in the 1977 COE Ocean Dumping Assessment for the HNC. Land disposal into diked areas is considered infeasible because of the distance involved. The nearest land-based sites are from 30 to 35 miles distant and their use would involve barging material. Using these sites could increase costs 4-5 times over use of the ODMDS site (COE 1975). In addition, the inland diked disposal sites cannot accommodate material from Cat Island Pass. The use of those sites for material traditionally dumped at the interim site would quickly decrease the life of the inland sites. Marsh creation with the Cat Island Pass material would involve similar problems as land disposal, with costs increasing by at least \$0.5 - 1.5 million over each use of the ODMDS.

Beach nourishment with the material dredged from Cat Island Pass has been suggested by several local, state, and Federal agencies. Although such comments may be relevant to determinations about the need for ocean dumping in relation to a specific maintenance dredging occurrence, EPA does not regard those comments as being relevant to the site designation. EPA believes that beach nourishment should be evaluated each time the COE or other entity plans to use the site.

Section 145 of P.L. 94-587, as amended, reads as follows: "The Secretary of the Army, acting through the Chief of Engineers, is authorized upon request of the State, to place on the beaches of such State beach-quality sand which has been dredged in constructing and maintaining navigation inlets and channels adjacent to such beaches, if the Secretary deems such action to be in the public interest and upon payment by such state of 50 percent of the increased cost thereof above the cost required for alternative methods of disposing of such sand."

Beach nourishment with material that would be placed in the Houma ODMDS from the HNC would be impractical because of high costs of transporting the material approximately three miles (an increase of at least \$500,000) and the material is mostly silt, which makes its stability questionable.

Terrebonne Parish applied for a Section 404 permit from the COE to use Cat Island Pass material to combat erosion on the Isles Dernieres. After studying the economic feasibility of such action, the parish decided that it was too costly.

If the material dredged from Cat Island Pass is deemed suitable for beach nourishment and if the requirements of Section 145 of P.L. 94-587 are met, the final designation of the Houma ODMDS would not interfere with the alternative uses of the dredged material.

PREFERRED ALTERNATIVE

The alternative preferred by both the EPA and COE is the designation of the historically-used interim Houma ODMDS. The boundary coordinates of the preferred site (Plate 2) begin at 29° 05' 22.3" N., 90° 34' 43" W.; thence follow a line 1,000 ft. west of the channel centerline to 29° 02' 17.8" N., 90° 34' 28.4" W.; thence to 29° 02' 12.7" N., 90° 35' 27.9" W.; thence to 29° 05' 30.9" N., 90° 35' 27.9" W.; thence to the point of beginning. A need exists for locating and designating an acceptable ODMDS in the vicinity of Cat Island Pass. The need for continued dredging of the HNC has been demonstrated (COE 1977) and the no-action alternative is not considered acceptable. Selection of this alternative is based on the following information: 1) the Houma site has been in use for nearly 24 years with minimal adverse environmental effects, 2) no adverse environmental effects were detected outside the site boundaries during environmental surveys, 3) relocation of the site would subject new areas to adverse effects of dredged material disposal, without resulting in environmental advantages over continued use of the interim site, and 4) the costs of using any other sites would be greater than those associated with the interim site. Utilizing the eleven specific criteria (40 CFR 228.6) and the five general criteria (40 CFR 228.5), EPA has determined that the final designation of the Houma ODMDS is environmentally acceptable.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This section summarizes information in the 1975 COE FEIS, the 1977 COE Ocean Dumping Assessment, results of the Interstate Electronics Corporation (IEC) studies in November 1980 and May 1981 (available from COE), the EPA preliminary draft EIS (1984), and studies done by others.

The Houma ODMDS is located off the deltaic plain of south-central Louisiana. The deltaic plain is a highly productive, complex mixture of swamps, marshes, ponds, barrier islands, and bays created by sediment from the Mississippi and Atchafalaya Rivers. The continental shelf extends about 75 miles from the "shoreline" of Terrebonne Parish. Cat Island Pass lies between the Timbalier Islands to the east and Isles Dernieres to the west. These islands are eroding and slowly moving west and north. Sediment transport is by longshore currents to the west.

The climate in the area is subtropical, rainfall averages 140 cm (55 in) per year, and winds are generally southerly in spring and summer and northerly in winter. Hurricanes occur in summer and early autumn, with a frequency of about once every two years at or near the site.

SPECIFIC AND GENERAL CRITERIA

Section 228 of the Ocean Dumping Regulations mandates that 11 specific criteria and five general criteria be utilized to evaluate a potential ODMDS. These criteria are discussed in the following paragraphs; the impacts of site designation on each criteria are analyzed.

Specific Criteria (§ 228.6)

1) "Geographical position, depth of water, bottom topography and distance from coast."

See Plate 1 for the location of the proposed site. Water depths at the site range from 2 to 9 m (6.6-30.0 ft). Bottom topography is relatively flat and slopes to the south (3.8 ft/mi). The northern end of the site is about 8.0 miles south of the Terrebonne Parish mainland and 2.9 miles from Timbalier Island to the east and Isles Dernieres to the west. The site extends approximately 5.8 miles offshore.

2) "Location in relation to breeding, spawning, nursery, feeding, or passage areas of living resources in adult or juvenile phases."

Breeding, spawning, nursery, feeding, and passage of shrimp, menhaden, bottom fish, and other organisms occur within the entire northern Gulf of Mexico, and thus, also in the vicinity of the ODMDS. Migration of fish and shellfish through the area is heaviest during spring and fall. The Houma ODMDS represents a small area of the total range of fisheries resources. Impacts to endangered or threatened turtles and whales that might utilize the area for the listed activities are negligible. Brown pelicans, an endangered species, nest on the Isles Dernieres. Designation of the ODMDS would have no impact on those birds.

3) "Location in the relation to beaches and other amenity areas."

The ODMDS is 2.9 miles from the nearest beaches on the barrier islands. These beaches are sparsely used because they are accessible only by boat. The turbidity plume would be diluted to ambient levels well before reaching these beaches (Stern and Stickle 1978).

4) "Types and quantities of wastes proposed to be disposed of and proposed methods of release, including methods of packing the waste, if any."

The material disposed is from the adjacent area of the HNC and consists of various mixtures of sand, silt, and clay. Sediments generally decrease in

grain size in the offshore direction, with sands being predominant in the northern portion of the ODMDS and 80-97% silts existing generally in the southern area. This is probably related to higher water velocities as water funnels between the two barrier islands. Approximately 400,000 cubic yards of material are disposed in the site on an annual basis, based on historical use. Over 90 percent of the material is removed with a hydraulic pipeline dredge. The material is released as an uncohesive slurry directly into the water overlying the site. The remaining 10 percent of material is removed by hopper dredge and released as a slurry from the hopper. The material is not packaged in any way. Future disposal is expected to be similar to past actions, in terms of material types, quantities, and methods of disposal. The Corps of Engineers would likely be the only user of the site.

5) "Feasibility of surveillance and monitoring."

Surveillance is possible by shore-based radar, aircraft, or day-use boats. No surveillance is currently performed by the U.S. Coast Guard. Monitoring would be facilitated by the fact that the ODMDS is nearshore, in shallow waters, and has baseline data available. The primary purpose of monitoring is to determine whether disposal at the site is significantly affecting areas outside the disposal area and to detect any unacceptable adverse effects occurring in or around the site. Based on historic data, an intense monitoring program is not warranted. However, in order to provide adequate warning of environmental harm, EPA will develop a monitoring plan in coordination with the COE. The plan would concentrate on periodic depth soundings and sediment and water quality testing. Details of a monitoring plan are being coordinated at this time and will be available at a later date.

6) "Dispersal, horizontal transport, and vertical mixing characteristics of the area, including prevailing current direction and velocity, if any."

Mixing processes, current characteristics, and sediment transport in the nearshore region off Cat Island Pass are influenced by tidal currents, winds, and storms. Chemical and physical parameters generally indicate a

vertically homogeneous water column in the area. Density stratification can occur seasonally. In the summer, bottom waters on the Louisiana shelf are occasionally oxygen depleted, which causes mass mortalities of benthic organisms. During the IEC study in December 1980 and June 1981, waters were supersaturated with oxygen at all depths. A westerly surface flow of 0.8 knots predominates during winter and spring (Murray, 1976; Weissburg et al., 1980). Velocities of 3 to 4 knots may occur during storm events. In non-storm conditions, predominant sediment transport along the barrier islands fronting Terrebonne Bay is toward the west. Suspended sediments associated with tidal discharge or dredged material disposal may be rafted along with the tidal plumes and eventually influenced by wind-driven, longshore currents (Harper, 1974).

7) "Existence and effects of current and previous discharges and dumping in the area (including cumulative effects)."

Dredged materials from maintenance of the HNC have been disposed at the interim ODMDS since 1964, and no significant adverse impacts have resulted. Previous disposals have caused minor and reversible effects, such as temporary increases in suspended sediment concentrations, temporary turbidity, sediment mounding, smothering of some benthic organisms, release of nutrients, possible minor releases of trace metals, and a temporary change in sediment grain size. For a more detailed discussion of impacts, see specific criteria 9. Since the effects of disposal are temporary, there are no cumulative effects.

8) "Interference with shipping, fishing, recreation, mineral extraction, desalination, fish and shellfish culture, areas of special scientific importance, and other legitimate use of the ocean."

In the vicinity of the ODMDS the majority of shipping traffic is confined to the HNC. Dredging facilitates shipping; periodic use of the ODMDS has some potential for interfering with ship movement in the HNC during dredging operations. Shoaling immediately after dredging stopped caused one grounding in the ODMDS*.

*Lt. Beskeen, Captain of the Port; personal communication, 1982.

Nearshore areas also contain a productive, "high-use" fishing ground for a number of commercial and recreational species. The Houma ODMDS represents a very small proportion of the total nearshore fishing grounds in the Deltaic Plain and adverse impacts from its use would be temporary and minor. Interferences with fishing may occur if any shoals are created by dredged material disposal, since this could cause groundings of shrimp boats within disposal site boundaries.

The nearest shellfish culture is in the Terrebonne Bay estuarine area; disposal operations at the ODMDS would not affect this activity. There are oyster leases in remnant bayous on the north side of Isles Dernieres and the Timbalier Islands. Designation of the ODMDS would not impact these lease areas (Dunham, personal communication, 1988). Desalination and areas of special scientific importance do not occur in the vicinity of the ODMDS.

Petroleum and mineral-extracting activities occur offshore within 3.5 miles of the ODMDS and are not impacted by use of the site. Intermittent dumping does not interfere with the exploration or production phases of resource development, or with other legitimate uses of the ocean.

9. "The existing water quality and ecology of the site as determined by available data or by trend assessment or baseline surveys."

Physical Environment Baseline Conditions - Water column concentrations of trace metals were below EPA water quality criteria during IEC sampling.

Chlorinated hydrocarbon (CHC) concentrations in and near the Houma ODMDS were below EPA 24-hour average water quality criteria in the IEC survey.

Water temperatures parallel air temperatures and range from 32°C in summer to 11°C during winter. Surface salinities vary from 26 to 32 ppt near the Houma ODMDS.

Nutrient concentrations, turbidity, and suspended solids, are controlled in large part by Mississippi River discharge, and are generally low in the summer/fall and increase in the winter/spring.

Concentrations of chemicals in sediments were strongly related to grain size, with highest levels in silts and clays offshore. Concentrations of heavy metals and CHC's were comparable inside and outside the ODMDS for similar sediment types. Effects of previous dredged material disposal were not evident during the IEC study.

Physical Environment Impacts - Temporary mounding occurs within the ODMDS during dumping, which reduces water depths. The disposed sediments are reworked by waves and littoral currents and are slowly moved out of the ODMDS within one year.

Sediments dredged from the entrance channel are generally finer than those in the ODMDS. However, shortly after these finer sediments have been placed in the ODMDS, littoral currents and waves transport the sediments westward; leaving the ODMDS similar to its original sediment composition.

Contaminants are generally not released into the water following disposal, but remain associated with the sediments, especially silts and clays. COE elutriate tests in 1977 indicated slightly high concentrations of manganese and phenol with values of 130 ug/l and 0.2 ug/l respectively. Manganese concentrations were much higher upstream of the ODMDS; the manganese probably originates from industrial areas around Houma. The IEC surveys in 1980 and 1981 indicated concentrations of contaminants were low inside and outside the ODMDS. Thus, contaminant release due to disposal is unlikely, since settling would preclude any long-term releases of contaminants.

Disposal would temporarily increase turbidity at the site. The duration of the plume would depend on particle size, currents, and mixing, but should not extend over an area greater than about 130 acres beyond the ODMDS at any given time. The fine sediments may remain suspended for hours, but

would eventually settle and turbidity would return to ambient conditions. The Houma ODMDS is actively used for disposal on an average of 14 days per year. Thus, turbidity would be increased for approximately 2-3 weeks during each disposal.

Elutriate tests of sediments dredged from the HNC indicated releases of nitrogen and carbon. These releases would be short-term and localized; after the suspended materials settle, they could stimulate phytoplankton productivity which is especially prevalent during the summer months.

Plankton Baseline Conditions - Plankton communities at the ODMDS fluctuate seasonally and are typical of nearshore waters of the gulf. Phytoplankton consists primarily of marine diatoms and dinoflagellates. Dominant components of the zooplankton include copepods, chaetognaths, and larval crustaceans.

Impacts to Plankton - Impacts of disposal on plankton are generally temporary. Plankton in the ODMDS during disposal may be entrained in the dredged material, subjected to decreased light transmission, and possibly to increased levels of contaminants. A summer bioassay, using sediments collected 3.8 miles north of the ODMDS, showed no statistically significant mortalities among copepods, mysids, and sheepshead minnows in the liquid phase (COE, 1979). Statistically significant test mortalities were reported for copepods and mysids in 100% concentrations of suspended sediments and for copepods in 50% test concentrations (COE 1979a). Less mortality would probably occur at the ODMDS since it is further from possible contaminant sources. A winter bioassay at the same site showed no statistically significant mortalities in any liquid or suspended sediment concentrations (COE 1980). If dredging occurs during the summer, zooplankton productivity would be reduced temporarily at and near the disposal site.

Benthos Baseline Conditions - The benthos at the site is also characteristic of the northern Gulf, and is dominated by polychaete worms, ribbon worms, and the little surf clam. Population densities were highest in the late spring. Several of the dominant organisms, inside and outside the ODMDS, were small-bodied opportunistic species capable of rapid recolonization of disturbed sediments. No effects of dredged material disposal on benthic organisms could be identified at the Houma ODMDS. There is recruitment throughout the area during winter and spring such that dense assemblages form by late spring; populations then decline during the summer.

Impacts to Benthos - Benthic organisms in the ODMDS would be buried during disposal. Motile species can burrow upward through 10-30 cm of overburden. Nonmotile or slow-moving species would be killed by disposal. Thus species density and diversity would decline during disposal. Recolonization would start at the cessation of dumping and be essentially complete within a period of 2-6 months (Gaston et al. 1985). The most recent disposal prior to the December, 1980 IEC survey had been 30 months previously. Mean macrofaunal abundance in 1980 was 1,096 individuals/m². During the June 1981 survey, mean macrofaunal abundance was 8,903 individuals/m². A high natural seasonal variability in numbers is represented by the June 1981 density. There was little difference in density of benthic organisms between sites in the ODMDS and those outside of the ODMDS. Species composition was also very similar between the two areas. Sediments placed in the Houma ODMDS may be slightly finer than native sediment. But the fine sediments would be more subject to wave action and littoral drift such that by the time the material settles, grain size would be similar to ambient conditions. Sediments collected from the Cat Island Pass channel in 1978 and 1980 had no significant effect on the clams, worms, or shrimp tested in bioassays and bioaccumulation tests.

Nekton Baseline Conditions - Numerous recreationally and commercially important fishery species exist in Gulf waters off Louisiana. Abundance and composition vary seasonally as many species spend part of their life

cycle in the inshore marsh/estuarine complex. The most common invertebrates caught in the IEC survey were seabob shrimp, white shrimp, and squid. Sea catfish, anchovies, and various sciaenids and flounders were the dominant fish present.

Impacts to Nekton - Due to their high mobility and ability to avoid the disposal activities, effects on nekton would be minimal. Burial of benthic prey could have a slight adverse impact on bottom feeders.

Mammals, Turtles, Birds, and Endangered and Threatened Species Baseline - The numbers and diversity of marine mammals and turtles are low in nearshore waters. The Atlantic bottlenosed dolphin is common in tidal passes. Five species of endangered or threatened sea turtles [(green (threatened), Kemp's ridley (endangered), hawksbill (endangered), leatherback (endangered), and loggerhead (threatened)] occur in the northern Gulf, but are relatively rare near the ODMDS. Several species of oceanic birds and waterfowl may occur throughout the year in the nearshore waters off Louisiana. The brown pelican, an endangered species, nests on the Isles Dernieres just west of the ODMDS. Several species of endangered whales may occur in the area including finback, humpback, right, sei, and sperm whales (see letters from FWS and NMFS) (Attachment 1).

Impacts on Mammals, Turtles, Birds, and Endangered and Threatened Species - Effects of disposal should be minimal on these highly mobile animals. The feeding of sea turtles may be disrupted by burial of prey, but disposal is infrequent and effects are temporary and localized, so significant negative impacts should not occur. Disposal would have little effect on migration or breeding of sea turtles or whales. Food sources of endangered whales would not be affected. Brown pelicans nesting on the Isles Dernieres would not be impacted by use of the Houma ODMDS.

Commercial/Recreation Fisheries Baseline Conditions - Waters off the central Louisiana coast, shoreward of the 20 m contour, comprise one of the most heavily fished areas in the world. Fishing occurs throughout the

year, but activities are more intense from March through October (Dugas, 1981). The most valuable resources have been penaeid shrimp, menhaden, blue crabs, redfish, and bottom fish. In 1984, the Gulf menhaden catch was 2.7 billion pounds, valued at \$85.2 million.

The commercial redfish fishery in Louisiana has been closed until September 1, 1991. In Federal waters, there is an indefinite ban on the commercial redfish fishery and recreational fishermen can not keep any redfish. Changes in fishing regulations for speckled trout have also been initiated because of intense fishing pressure. A number of management plans have been developed by the Gulf of Mexico Fishery Management Council and approved by the National Oceanic and Atmospheric Administration.

Impacts to Commercial/Recreational Fisheries - There would be some physical interference with commercial and recreational fishing during disposal. However, it would be confined to the ODMDS itself and should be minimal. There would be no danger of heavy metal or CHC contamination of fish and or shellfish during disposal.

Shipping and Navigation Baseline Conditions - Shipping tonnage on the HNC has varied from one million to 2.6 million tons in 1981 and 1976 respectively during the period 1976-1985 (COE 1987). Commodities carried included mainly crude petroleum, non-metallic minerals, and distillate fuel oil.

Impacts To Shipping and Navigation - Temporary shoaling after disposal may reduce water depths to less than 1 meter within the site. Shoaling has resulted in one grounding within the site (Beskeen, personal communication 1982). However, the Houma ODMDS is located outside the HNC fairway and is marked on NOAA charts. The dredges may interfere with shipping by temporarily blocking sections of the channel. This is an unavoidable impact resulting from disposal at the site.

Esthetics Baseline Conditions - Turbidities in the vicinity are generally low except during storms. The only noise in the area is from passing vessels.

Impacts to Esthetics - Disposal would cause a temporary turbidity plume of about 2,000 feet (Carstea et al. 1976; Stern and Stickle 1978) that would disperse soon after disposal ceases. The dredging and disposal activities would temporarily increase noise levels in the vicinity of the ODMDS.

Industrial Development Baseline Conditions - The nearest land masses to the ODMDS are the Isles Dernieres and the Timbalier Islands. These barrier islands are presently undeveloped, except for oil and gas activities and recreational camps. There are numerous active oil and gas wells in the vicinity of the ODMDS, the nearest being about 3.0 miles to the northwest.

Industrial Development Impacts - There would be no impact on oil and gas activities by use of the ODMDS.

10. "Potential for the development or recruitment of nuisance species in the disposal sites." No nuisance species have developed at the Houma ODMDS, or are expected to develop in the future.

11. "Existing at or in proximity to the site of any significant natural or cultural features of historical importance." There are no known features of historical or cultural significance on the barrier islands to either side of the site. A survey to identify archeological and historical resources is not required at this time. However, a Nautical Resources Plan for the COE is being prepared in consultation with the Louisiana State Historic Preservation Officer. Under guidelines established by this plan, studies may be done in the future to evaluate impacts to historic shipwrecks, which may result from maintenance dredging of the HNC.

General Criteria (§228.5)

- (a) The dumping of material into the ocean will be permitted only at sites or in areas selected to minimize the interference of disposal activities with other activities in the marine environment, particularly avoiding areas of existing fisheries or shellfisheries, and regions of heavy commercial or recreational navigation.

The interim ODMDS is located adjacent to Cat Island Pass. This location allows use of a cutterhead pipeline dredge, which limits transport time and minimizes interference with other activities in the marine environment. There may be some minor interference with fishing and navigation during the dredging and disposal activities. It is not expected that there will be interference with these or other marine activities outside these brief periods. Dredging the channel will facilitate commercial and recreational activity.

- (b) Locations and boundaries of the disposal sites will be so chosen that temporary perturbations in water quality or other environmental conditions during initial mixing caused by disposal operations anywhere within the site can be expected to be reduced to normal seawater levels or to undetectable contaminants or effects before reaching any beach, shoreline, marine sanctuary, or known geographical fishery or shellfishery.

There would be a turbidity plume of about 2,000 ft. during the actual dredged material disposal operations (Carstea et al. 1976; Stern and Stickle 1978). This plume should be dispersed to the point where it is undetectable from the turbidity naturally occurring in the area. It would not reach the adjacent barrier islands. Any temporary changes in water quality would also be reduced to ambient before reaching any of the amenities mentioned. There are no marine sanctuaries in the area. Commercial fisheries and shellfisheries exist throughout the region; however, these are not unique to the area of the site, and would be minimally impacted.

- (c) If at anytime during or after disposal site evaluation studies, it is determined that existing disposal sites presently approved on an interim basis for ocean dumping do not meet the criteria for site selection set forth in §§228.5 - 228.6, the use of such sites will be terminated as soon as suitable alternative disposal sites can be designated.

The studies to date indicate that the interim ODMS meets the requirements of both §228.5 and §228.6. Surveys of the site indicated the water quality, sediments, and biological life were generally similar inside and outside the site. No adverse environmental effects due to dredged material disposal outside the site boundaries have been detected.

- (d) The sizes of ocean disposal sites will be limited in order to localize for identification and control any immediate adverse impacts and permit the implementation of effective monitoring and surveillance programs to prevent adverse long-range impacts. The size, configuration, and location of any disposal site will be determined as a part of the disposal site evaluation or designation study.

The configuration of the interim ODMS has resulted from the ease and economics of disposal from HNC maintenance dredging areas. The proximity led to the establishment of a long, narrow site parallel to the channel. The site lends itself to surveillance of individual dredged material disposal operations and long-term monitoring.

- (e) EPA will, wherever feasible, designate ocean dumping sites beyond the edge of the continental shelf and other such sites that have been historically used.

The interim site has been used historically for disposal of dredged material; there is no environmental advantage to locating the site beyond the shelf without incurring large increases in the cost of disposal.

CUMULATIVE IMPACTS

There are two active oil and gas fields located in the vicinity of the ODMDS that require some dredging for access to well sites and for pipeline construction. The Lake Pelto Field is located about 3.0 miles to the northwest and the Caillou Island Field is located about 5.0 miles to the northeast. Production and associated impacts probably have been declining since the late 1960's (MMS, 1984). Pipelines from offshore oil and gas rigs traverse the area to the south and east of the ODMDS. The impacts from the oil and gas development are generally temporary and localized. The use of the ODMDS would result in additional temporary, localized impacts.

PUBLIC INVOLVEMENT

AREAS OF CONTROVERSY - In a letter dated October 25, 1984, the Louisiana Department of Natural Resources (LDNR) stated that final designation of the Houma ODMDS was inconsistent with the Louisiana Coastal Zone Management Plan unless the dredged material was to be used for beach nourishment or marsh enhancement. Designation was again ruled inconsistent by LDNR by letter dated October 20, 1988. Designation by EPA only makes the site available to be used for disposal of dredged material when ocean disposal is the preferred alternative. Each time the COE desires to use the site, they would go through the same actions as if they were applying for a permit. EPA is still coordinating a Consistency Determination with LDNR to ensure maximum consistency with the Louisiana Coastal Zone Management Plan.

History of Public Involvement - The 1975 COE Draft EIS was sent to numerous state, Federal, and local agencies and groups. No comments were received relative to the Ocean Dumping site from any of the approximately 90 entities that were sent copies of the EIS.

Scoping - A Notice of Intent to prepare the EIS for the Houma ODMDS was published in the Federal Register on 28 March 1988. A scoping input request was sent to all interested parties in April 1988. A scoping document was sent on July 13, 1988 to all parties responding to the scoping input request. Comments received from said parties have been incorporated into the EIS. Letters regarding endangered and threatened species were sent to the U.S. Fish and Wildlife Service and National Marine Fisheries Service and responses are included in this document. Biological Assessments have been prepared by the COE.

Draft Environmental Impact Statement - A Draft EIS was published by EPA on August 31, 1988.

Responses to Comment Letters

Four Draft EIS comment letters were received from the following Federal and State agencies:

<u>Letter Number</u>	<u>Agency</u>
1	Louisiana Department of Natural Resources
2	U.S. Department of Commerce, National Marine Fisheries Service
3	U.S. Department of the Interior, Office of Environmental Project Review
4	U.S. Department of Health and Human Services, Centers for Disease Control

The comment letters received from the above agencies are reproduced in this section. Each letter is numbered at the top, and each comment within the letter is numbered in the left margin. EPA's response to the comment is assigned a number corresponding to the comment number and is reproduced in the right margin beside the letter.



State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

BUDY ROGER
GOVERNOR

RAYMOND V. STEPHENS, JR.
SECRETARY

October 20, 1988

RECEIVED

OCT 31 1988

6 ES

Norm Thomas, Chief, Activities Branch
U. S. Environmental Protection Agency
Region VI
1445 Ross Avenue, Suite 1200
Dallas, TX 75202

Re: - C880487 - Houma Navigational Canal Ocean Dredge & Material Disposal Site

Dear Mr. Thomas:

After careful review of the Draft Environmental Impact Statement for the Houma Navigation Canal Ocean Dredged Material Disposal Site, we have determined that the designation of this site is inconsistent with the Louisiana Coastal Management Program.

We are not satisfied with the general information given to justify the designation of the disposal site you are proposing. Statements such as "the nearest shallow sites suitable for marsh creation are several miles away and the cost of moving the material would be prohibitive" is too general in context to be of any use in this complex consistency determination. Detailed facts and figures must be used to shore up broad general statements about why you can or cannot do something in regards to the designated spoil disposal site.

One particular question that we have is whether the increased cost that you claim is prohibitive in favor of marsh creation is a one-time or perennial cost-prohibitive operation.

Also, would it not make sense to decrease the size of your proposed disposal site so that all spoil material could be deposited in one compact area year after year to possibly create habitat that will grow with each dredge operation?

If you have any questions concerning this matter, please contact Barbara Benson or Larry Narcisse of my staff at (504) 342-7591.

Sincerely,

Terry Howey

Terry Howey
Assistant Director

TH:LM/lmc

1-1. Cost comparisons for the marsh creation, beach nourishment, and preferred project alternatives have been provided in the final EIS with the assumption that material would be transported 7-11 mi for marsh creation and 3 mi for beach nourishment.

1-2. The cost comparisons are for a one time disposal; therefore, cost increases would be multiplicative for additional disposal operations. Should LDNR or any other entity desire to absorb the increased costs, the COG would coordinate an alternate disposal method.

1-3. The material that is disposed at the site would be transported naturally to and beyond the OMDS site by longshore current except that it falls temporarily into the RMC. The COG disposal operation simply returns the sediments to their natural route. The deposited sediments do not stay in the OMDS and probably would not stay without very expensive containment and stabilization measures.

COASTAL MANAGEMENT DIVISION P.O. BOX 44487 BATON ROUGE, LOUISIANA 70804-4487

SCOTT P. ROBERTS, JR.
9450 Rieger Boulevard
St. Petersburg, FL 33702
October 5, 1988
P/SZ9114/RL:jk
504/389-0508

Mr. Robert E. Layton, Jr.
Regional Administrator
U.S. Environmental Protection Agency - Region VI
1445 Ross Avenue
Dallas, Texas 75202

Dear Mr. Layton:

The National Marine Fisheries Service (NMFS) has received the Draft Environmental Impact Statement entitled Houma Navigation Canal Ocean Dredged Material Disposal Site Designation (EPA 906/09-88-002) transmitted by your letter dated August 31, 1988.

We have reviewed the environmental statement and have the following general and specific comments to offer.

General Comments

The subject document appears to have been written to justify past spoil disposal practices rather than to carefully evaluate alternatives and describe impacts associated with each. We are especially concerned that more attention was not given to evaluating potential beneficial uses of the dredged material. Beach erosion and coastal marsh loss repeatedly have been identified as major environmental problems in Louisiana requiring immediate action. Since the Houma Navigation Canal (HNC) has been shown to be responsible for a great deal of land loss, we believe it is appropriate to mitigate some of those losses or provide enhancement or maintenance of coastal habitats through creative use of spoil material. Maintenance of the HNC would seem to offer an opportunity, albeit a relatively small one, to create wetlands or provide sediments necessary for beach maintenance/building. Such opportunities should be considered in great detail rather than lightly dismissed.

Specific Comments

ALTERNATIVES NON-OCEAN DISPOSAL ALTERNATIVES

Page 6, paragraph 3. Although land disposal may have some problems in common with marsh creation, it is incorrect to state that the problems are the same. For example, potential marsh creation or restoration sites are much closer to the HNC than upland disposal sites and would be cheaper to construct (e.g., no levee construction expenses). These and other differences should be identified and quantified in the final statement.



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2-1. The document is written to analyze the designation of the Houma OOMDS. Its purpose does not include discussions of impacts resulting from the HNC or analyses of beach erosion or marsh loss in Louisiana. Alternative disposal locations were certainly not dismissed in a cursory manner, but rather, were evaluated in light of the realities and practicalities that encumber any project.

2-2. This has been recorded to say that they have similar problems. The cost increase for marsh creation over use of the OOMDS is shown in this document.

Page 7, paragraph 1. It is unclear why beach nourishment considerations are regarded as irrelevant to site designation issues. Beach nourishment would seem to represent a desirable and viable project alternative. We recommend that the document give all such disposal options detailed consideration. One of several beach nourishment options should include placement of material in an ocean dump site location such that it could be "naturally redistributed" to the beach/surf zone of Isles Dernieres by longshore drift.

Page 7, paragraph 3. This paragraph should be greatly expanded to adequately address the beach nourishment alternative. The impracticality and high costs of pumping should be quantified (e.g., benefit-cost ratio) and compared to current disposal practices. Furthermore, material in the northern reach of the channel is predominantly sand (DEIS page 11), not silt, and could be suitable for beach nourishment. As noted in the previous comment, the environmental statement should address an ocean dumping alternative of placing as much of the dredged material as possible in zones west of the channel which contribute sediments to beach building processes of Isles Dernieres.

PREFERRED ALTERNATIVE

Page 8, paragraph 1. Item 3 should be revised to address environmental benefits of locating a disposal area to take advantage of existing sediment transport patterns which contribute to barrier island maintenance.

Costs and benefits should be quantified in item 4. While the preferred alternative may be the least expensive, benefits of other more costly plans could offset increased costs.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES SPECIFIC AND GENERAL CRITERIA Specific Criteria

Page 11, paragraph 1. The final document should provide a complete description of monitoring plans (e.g., chemical constituents to be sampled, general sampling location, etc.) and remedial measures to be undertaken if environmental degradation is shown or forecast through monitoring.

Page 14, paragraph 3. This paragraph should indicate the area of water bottom directly impacted (buried) during the average maintenance dredging operation. Also, this and the several following paragraphs suggest that spoil deposition is a short-term problem because dredged sediment dispersal and benthic recovery are believed to be rapid. However, this section also should discuss biological implications of frequently repeated spoil disposal and the short recovery period available between dredging cycles.

Page 14, paragraph 4. Contaminant data summarized on this page are 7 to 11 years old and may not represent existing conditions. These data should be updated and presented in greater detail to permit reviewers of the environmental document to independently evaluate potential contaminant problems.

2-3. See response to LWRM Paragraph 3. The placement of material in the OMDS would allow material to be taken by longshore drift and "naturally redistributed".

2-4. Cost has been quantified and compared to the preferred alternative. The material to be disposed is primarily silt overall and is probably not good material for beach nourishment (see response to Paragraph 1 concerning redistribution of sediments).

2-5. The preferred alternative keeps the material in natural sediment transport patterns as much as possible. Any other alternative would alter sediment transport from natural patterns to a greater degree. The preferred alternative would allow deposition of material west of the BMC where it would continue to travel toward the west.

2-6. The costs of beach nourishment or marsh creation are considerably higher than use of the OMDS for disposal, ranging from \$0.5-1.5 million higher for each disposal, while the benefits would be speculative, especially with regard to beach nourishment.

2-7. Monitoring plans are being coordinated by the EPA through the COS and will be available after the site is designated, if it is designated.

2-8. The impacted area is the OMDS. Disposal occurs at two year intervals, so considerable time is available after the recovery period (18-22 months).

2-9. The results are somewhat dated, but show that past disposal did not cause contaminant problems. There is no reason to believe that these conditions have changed substantially. Contaminants will be monitored according to the schedule now being coordinated between the EPA and COS.

2-10 Page 14, paragraph 6. This section should present data on the aerial extent of the turbidity plume and the measured levels of turbidity during disposal operations.

2-11 Page 16, paragraph 1. To more accurately describe impacts to benthos, this paragraph should: 1) identify the limits of the area normally affected by spoil deposition; 2) discuss the implication of repetitive benthic perturbations from frequent channel maintenance; and 3) present data to substantiate the suggestion that mobile species would not suffer burial mortality because they would burrow upward through thick layers of overburden.

2-12 Page 17, paragraph 4. We recommend that this paragraph be expanded to address the management of a number of valuable Gulf fisheries (including red drum) under plans developed by the Gulf of Mexico Fishery Management Council and approved by the Assistant Administrator for Fisheries of the National Oceanic and Atmospheric Administration.

CUMULATIVE IMPACTS

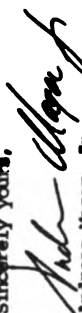
2-13 Page 21, paragraph 5. The discussion of cumulative impacts should be expanded to fully address, not only local petroleum production and exploration related impacts, but the broad range of adverse impacts associated with HNC maintenance and disposal site designation. Some cumulative impact topics which should be addressed include salinity intrusion, hydrographic alterations, dredging and filling impacts, and shoreline and marsh erosion. With respect to oil and gas development impacts (see page 22, line 2), they have been shown to be both long-term and regional in nature (see Turner, R.E. and D.R. Cahoon, editors. 1987. Causes of Wetland Loss in the Coastal Central Gulf of Mexico. Volumes I-III. Final report submitted to Minerals Management Service, New Orleans, LA. Contract No. 14-12-0001-30252. OCS Study/HMS 87-0119.).

PUBLIC INVOLVEMENT

AREAS OF CONTROVERSY

2-14 Page 22, paragraph 1. Although designation of the preferred disposal site would not dictate the use of that site, we believe that it would make the use of alternative sites, which could enhance coastal resource values, very unlikely. Future use of the preferred site would not require a significant level of public input, and we believe would not encourage consideration of beneficial uses of spoil. On the other hand, if the ocean disposal site for the HNC is not approved, environmentally desirable disposal locations could be implemented. This section of the environmental statement should be expanded to fully address these issues.

Sincerely yours,


Andreas Meger, Jr.
Acting Assistant Regional Director
Habitat Conservation Division

2-10. Acknowledged. The area should be no more than 130 acres beyond the OOMDS at any time.

2-11. The affected area is the OOMDS. As discussed in the DEIS, species composition and numbers were found to be very similar inside and outside of the OOMDS after years of disposal. Markey and Putnam 1976 found that a benthic community showed no effects six weeks after dredging and disposal in Mississippi Sound. Many benthic organisms (e.g. oligochaetes and polychaetes) are known for their ability to burrow through several inches of substrate. It is not clear what was meant by the comment "thick layers of overburden." Please note however, that the disposal site would not be used every year by the COG and that a natural community would exist 75-90 percent of the time.

2-12. It is acknowledged that plans exist, but a detailed discussion is not warranted, given the nature of the proposed action.

2-13. The area of study and impact assessment has been limited to include the zone of likely impact from the proposed project, which is designation of the Rousa OOMDS. While salinity intrusion, marsh erosion, etc. are acknowledged problems in Louisiana, the proposed project would not impact these areas.

2-14. The increased costs of using alternative disposal sites make the use of the sites impractical in light of the minor adverse impacts resulting from use of the OOMDS.

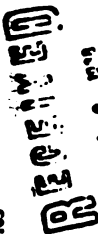


United States Department of the Interior

OFFICE OF ENVIRONMENTAL PROJECT REVIEW
POST OFFICE BOX 649
ALBUQUERQUE, NEW MEXICO 87103

November 1, 1988

ER 88/855



Mr. Norm Thomas, Chief
Federal Activities Branch
Environmental Protection Agency, Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Dear Mr. Thomas:

We have reviewed the Draft Environmental Statement for the Houma Navigation Canal, Ocean Dredged Material Disposal Site, Designations Terrebonne Parish, Louisiana, and have the following comments.

The Statement provides a concise assessment of potential adverse environmental impacts that may result from the proposed action. The Statement also adequately addresses those concerns that have been previously expressed by the Fish and Wildlife Service regarding a description and quantification of sensitive fish and wildlife resources that may be either directly or indirectly impacted by the proposed activity.

We are concerned that the selection of the preferred alternative (permanent designation of the interim site) may preclude future consideration of alternative uses of the spoil to benefit the public. We note that local interests, including the Terrebonne Parish Consolidated Government, strongly support use of the spoil material to re-establish barrier island/marsh habitat in the Wine Island Shoal area immediately north of the proposed designated site. The Coastal Restoration Technical Committee, appointed by the Governor of the State of Louisiana, has also identified the use of spoil generated from maintenance dredging of the Lower Houma Navigation Canal as a priority, short-term measure to help ameliorate the enormous problem of marsh loss in coastal Louisiana.

Beneficial uses of dredge spoil to create and/or restore Louisiana's barrier island/marsh system at Wine Island Shoal near the proposed site could greatly enhance the area's fish and wildlife resources while requiring only a small additional expenditure of money and effort. Section 1155 of the Water Resources Development Act of 1986 (Public Law 99-662-November 17, 1986) authorizes the Corps of Engineers (Corps) to implement such projects to create, protect, restore, and enhance wetlands. Federal funds may be used to defray costs associated with the activity. Further, Section 1135 authorizes the Corps to review water resource projects to learn if their operations can be modified to improve the quality of the environment in the public interest. A report on the results of this review is to be transmitted to Congress by November 17, 1988. This issue should be adequately addressed in this Statement.

We appreciate the opportunity to provide these comments.

Sincerely,

Raymond P. Churan
Raymond P. Churan
Regional Environmental Officer

3-1

3-1. The designation of the site does not preclude future consideration of alternative uses of the disposal material (see response to LWMR comment Paragraph 3).

3-2

3-2. Costs would increase by about \$500,000 and the material may not remain in place. Should the DOI or other entity desire to provide the additional funds, the COE would coordinate this venture. In regard to Sections 1135 and 1155 of the Water Resources Development Act of 1986, the COE has been directed not to implement authorized programs without specific implementations guidance.

October 31, 1988

Mrs. Suzanne News
U.S. Army Corps of Engineers
New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

Dear Mrs. News:

We understand from our review of the document that this site has been used for some 25 years for depositing dredged materials. Have these dredged materials been characterized or analyzed in any detail before they are discharged in the disposal site? This seems especially important since it is stated on page 13, that the near-shore area to the disposal site is a high-use fishing area. Have any studies been conducted on fish or shellfish around the site area for bioaccumulation of contaminants? It would seem prudent to have this information to avoid possible contamination of food supplies. It would be helpful if the final EIS contained more information on long-term monitoring of the site and the impacts that have been historically noted.

Thank you for sending this document for our review. Please provide us with a copy of the final EIS when it is completed.

Sincerely yours,



Sharon Dickerson-Ebo
Program Specialist
Special Programs Group, F-29
Center for Environmental Health and
Injury Control

4-1. Studies have been conducted on sediments, water quality, and tissues of organisms collected at the site. Also, elutriate tests and bioassays have been conducted for sediments obtained from the site. A monitoring program will be developed by EPA in coordination with the COE after the site is designated. The plan will concentrate on periodic soundings and sediment and water quality testing.

Coordination of the Draft EIS - This EIS was sent to the following agencies, groups, and individuals:

Honorable J. Bennett Johnston
Honorable Lindy Boggs
Honorable Robert Livingston
Honorable Jimmy Hayes
Honorable Jim McCrery

Honorable John B. Breaux
Honorable Jerry Huckaby
Honorable Richard Baker
Honorable Billy Tauzin
Honorable Clyde Holloway

FEDERAL

Dept. of the Interior
Washington, D.C.

U.S. Fish and Wildlife Service
Lafayette, LA

U.S. Dept. of Commerce
Washington, D.C.

U.S. Coast Guard
New Orleans, LA

Mineral Management Service
New Orleans, LA

National Marine Fisheries
Service
Baton Rouge, LA
St. Petersburg, FL

Centers for Disease Control
Atlanta, GA

Advisory Council of Historic
Preservation
Washington, D.C.
Golden, CO

Dept. of Health and Human Resources
Washington, D.C.

STATE OFFICIALS AND AGENCIES

Governor of Louisiana

Attorney General of Louisiana

La. Dept. of Health and Human
Resources

STATE OFFICIALS AND AGENCIES (Cont'd)

La. Dept. of Transportation and
Development

La. Natural Heritage Program

La. Dept. of Natural Resources
Office of Environmental Affairs
Division of State Lands
Coastal Resources Program

La. Dept. of Culture, Recreation
and Tourism
State Historic Preservation Officer
Office of State Parks

LSU
Center for Wetlands Resources
Curator of Anthropology

La. Geological Survey

La. Dept. of Wildlife and
Fisheries

La. Dept. of Environmental
Quality
Water Pollution Control
Division

La. Dept. of Commerce

La. State Planning Office

Governor's Coastal Protection
Task Force

LOCAL AGENCIES

Terrebonne Parish Police Jury

ENVIRONMENTAL GROUPS

Orleans Audubon Society

Environmental Defense Fund

Chappepeela Group, Sierra Club

National Wildlife Federation

National Resources Defense Council

South LA. Environmental Council

Gulf States Marine Fisheries Comm.

Lafayette Natural History Museum

Delta Chapter, Sierra Club

Honey Island Group, Sierra Club

Louisiana Wildlife Federation

League of Women Voters of LA

Fund for Animals

Sea Grant Legal Program

Description of EIS and Rule-making Processes - The draft EIS was distributed for a 45-day review and the proposed rule-making was published in the Federal Register for a 45-day review. This final EIS is circulated to the above entities for a 30-day review. Comments on the final EIS will be considered in the final rule-making to be published by EPA in the Federal Register.

LIST OF PREPARERS

The final EIS was prepared by Suzanne R. Hawes and Robert Martinson, (Environmental Resource Specialists in the New Orleans District, COE) in cooperation with Joe Swick and Darlene Coulson (EIS Project Officers of EPA, Region VI). Some of the data herein was taken from a Preliminary Draft EIS prepared by Janis T. Jeffers, Environmental Protection Specialist of the EPA Ocean Dumping EIS Task Force. Information from the IEC Survey of the Houma ODMDS was also used.

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ATTACHMENT 1

**Letters from U.S. National Marine Fisheries Service
and the U.S. Fish and Wildlife Service**



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9450 Koger Boulevard
St. Petersburg, FL 33702

April 21, 1989

F/SER23:SM:td

Mr. Clotis R. Wagahoff
Chief, Planning Division
Environmental Analysis Branch
New Orleans District/Corps of Engineers
Post Office Box 60267
New Orleans, LA 70160-0267

Dear Mr. Wagahoff:

This is in response to your letter of April 12 requesting information on threatened or endangered species which may be impacted by disposal of dredged material in three ocean dredged material disposal sites off Louisiana.

Enclosed is a list of endangered and threatened species under NMFS jurisdiction off Louisiana. Regarding the proposed dredging activities, we would call your attention to the listed sea turtles, particularly Kemp's ridleys and loggerheads given the proposed location of the activities. Please note that we are equally concerned about the potential impacts of the actual dredging activity (the Corps should be aware of this concern from past experiences at Cape Canaveral, Florida), in addition to the disposal activity which is the focus of your letter.

At this time, we reserve further comments on the potential impacts of the proposed dredging and disposal activities pending our review of the draft environmental impact statements under joint preparation by the COE and the EPA.

If you have any questions, please contact Dr. Terry Henwood, Fishery Biologist at FTS 826-3366.

Sincerely yours,

Charles A. Oravetz, Chief
Protected Species Management
Branch

Enclosure

cc: F/PR2
F/SER1



**ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITATS
UNDER
NMFS JURISDICTION**

Louisiana

<u>Listed Species</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Date Listed</u>
finback whale	<u>Balaenoptera physalus</u>	E	12/02/70
humpback whale	<u>Megaptera novaeangliae</u>	E	12/02/70
right whale	<u>Eubaleana glacialis</u>	E	12/02/70
sei whale	<u>Balaenoptera borealis</u>	E	12/02/70
sperm whale	<u>Physeter catodon</u>	E	12/02/70
green sea turtle	<u>Chelonia mydas</u>	Th	07/28/78
hawksbill sea turtle	<u>Eretmochelys imbricata</u>	E	06/02/70
Kemp's (Atlantic)	<u>Lepidochelys kempi</u>	E	12/02/70
ridley sea turtle			
leatherback sea	<u>Dermochelys coriacea</u>	E	06/02/70
turtle			
loggerhead sea	<u>Caretta caretta</u>	Th	07/28/78
turtle			

SPECIES PROPOSED FOR LISTING

None

LISTED CRITICAL HABITAT

None

PROPOSED CRITICAL HABITAT

None



United States Department of the Interior
FISH AND WILDLIFE SERVICE

POST OFFICE BOX 4305
103 EAST CYPRESS STREET
LAKE CHARLES, LOUISIANA 70602



May 5, 1988

Mr. Cletis R. Wagahoff
Chief, Planning Division
U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

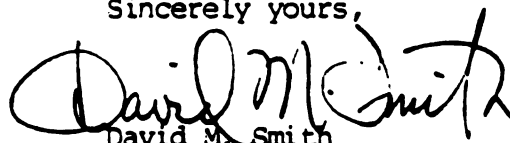
Dear Mr. Wagahoff:

Reference is made to your April 12, 1988, letter in which you requested information concerning listed and proposed threatened or endangered species that may be impacted by disposal of dredged material in three ocean disposal sites in coastal Louisiana. The disposal sites are located adjacent to the Mississippi River Gulf Outlet in St. Bernard Parish, the Barataria Bay Waterway in Jefferson Parish, and the Houma Navigation Canal in Terrebonne Parish. Material dredged from those navigation channels would be deposited in the designated disposal areas. The following comments are provided in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended: 16 U.S.C. 1531 et seq.).

Our records indicate no endangered, threatened, or proposed species or their critical habitat occur in the project area. However, the National Marine Fisheries Service is responsible for aquatic marine threatened or endangered species. Contact Terry Henwood (813/893-3366) in St. Petersburg, Florida, for information concerning those species.

If you anticipate any changes in the scope or location of this project, please contact Kim Bettinger of this office for further coordination.

Sincerely yours,


David M. Smith
Acting Field Supervisor

KB/pl

cc: EPA, Dallas, TX
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA
LA Dept. of Natural Resources (CMD), Baton Rouge, LA
NMFS, Baton Rouge, LA



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE**

**Southeast Regional Office
9450 Koger Boulevard
St. Petersburg, FL 33702**

September 20, 1988 F/SER23:TAH:td

**Mr. R. H. Schroeder, Jr.
Acting Chief, Planning Division
New Orleans District COE
P.O. Box 60267
New Orleans, Louisiana 70160-0267**

Dear Mr. Schroeder:

This responds to your August 29, 1988 letter regarding the proposed designation for ocean dredged material disposal of sites at Houma Navigation Canal (Cat Island Pass), Barataria Bay Waterway (Barataria Pass and Bar Channel), and Mississippi River-Gulf Outlet (Breton Sound and Bar Channel) in coastal Louisiana. A Biological Assessment (BA) was transmitted pursuant to Section 7 of the Endangered Species Act of 1973 (ESA).

We have reviewed the BA and concur with your determination that populations of endangered/threatened species under our purview would not be adversely affected by the proposed action.

This concludes consultation responsibilities under Section 7 of the ESA. However, consultation should be reinitiated if new information reveals impacts of the identified activity that may affect listed species or their critical habitat, a new species is listed, the identified activity is subsequently modified or critical habitat determined that may be affected by the proposed activity.

If you have any questions, please contact Dr. Terry Henwood, Fishery Biologist at FTS 826-3366.

Sincerely yours,

Charles A. Oravetz

**Charles A. Oravetz, Chief
Protected Species Management Branch**

**cc: F/PR2
F/SER1**



ATTACHMENT 2

Comment letters on the Draft EIS



State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

BUDDY ROEMER
GOVERNOR

RAYMOND W. STEPHENS, JR.
SECRETARY

October 20, 1988

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OCT 31 1988

6 ES

Norm Thomas, Chief, Activities Branch
U. S. Environmental Protection Agency
Region VI
1445 Ross Avenue, Suite 1200
Dallas, TX 75202

Re: C880487 - Houma Navigational Canal Ocean Dredge & Material Disposal Site

Dear Mr. Thomas:

After careful review of the Draft Environmental Impact Statement for the Houma Navigation Canal Ocean Dredged Material Disposal Site, we have determined that the designation of this site is inconsistent with the Louisiana Coastal Management Program.

We are not satisfied with the general information given to justify the designation of the disposal site you are proposing. Statements such as "the nearest shallow sites suitable for marsh creation are several miles away and the cost of moving the material would be prohibitive" is too general in context to be of any use in this complex consistency determination. Detailed facts and figures must be used to shore up broad general statements about why you can or cannot do something in regards to the designated spoil disposal site.

One particular question that we have is whether the increased cost that you claim is prohibitive in favor of marsh creation is a one-time or perennial cost-prohibitive operation.

Also, would it not make sense to decrease the size of your proposed disposal site so that all spoil material could be deposited in one compact area year after year to possibly create habitat that will grow with each dredge operation?

If you have any questions concerning this matter, please contact Barbara Benson or Larry Narcisse of my staff at (504) 342-7591.

Sincerely,

Terry Howey
Assistant Director

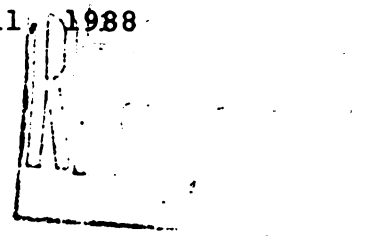
TH:LN/lmc



UNITED STATES DEPARTMENT OF COMMERCE
The Chief Scientist
National Oceanic and Atmospheric Administration
Washington, D.C. 20230

Norm T.

October 11, 1988



Mr. Robert E. Layton, Jr.
Regional Administrator
U.S. Environmental Protection Agency - Region VI
1445 Ross Avenue
Dallas, Texas 75202

Dear Mr. Layton:

This is in reference to your Draft Environmental Impact Statement on the Houma Navigation Canal Ocean Dredged Material Disposal Site Designation, Terrebonne Parish, Louisiana. Enclosed are comments from the National Oceanic and Atmospheric Administration.

We hope our comments will assist you. Thank you for giving us an opportunity to review the document.

Sincerely,

David Cottingham
Ecology and Environmental
Conservation Office

Enclosure

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OCT 21 1988

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9450 Koger Boulevard
St. Petersburg, FL 33702

October 5, 1988

F/SER114/RR:jk
504/389-0508

Mr. Robert E. Layton, Jr.
Regional Administrator
U.S. Environmental Protection Agency - Region VI
1445 Ross Avenue
Dallas, Texas 75202

Dear Mr. Layton:

The National Marine Fisheries Service (NMFS) has received the Draft Environmental Impact Statement entitled Houma Navigation Canal Ocean Dredged Material Disposal Site Designation (EPA 906/09-88-002) transmitted by your letter dated August 31, 1988.

We have reviewed the environmental statement and have the following general and specific comments to offer.

General Comments

The subject document appears to have been written to justify past spoil disposal practices rather than to carefully evaluate alternatives and describe impacts associated with each. We are especially concerned that more attention was not given to evaluating potential beneficial uses of the dredged material. Beach erosion and coastal marsh loss repeatedly have been identified as major environmental problems in Louisiana requiring immediate action. Since the Houma Navigation Canal (HNC) has been shown to be responsible for a great deal of land loss, we believe it is appropriate to mitigate some of those losses or provide enhancement or maintenance of coastal habitats through creative use of spoil material. Maintenance of the HNC would seem to offer an opportunity, albeit a relatively small one, to create wetlands or provide sediments necessary for beach maintenance/building. Such opportunities should be considered in great detail rather than lightly dismissed.

Specific Comments

ALTERNATIVES

NON-OCEAN DISPOSAL ALTERNATIVES

Page 6, paragraph 3. Although land disposal may have some problems in common with marsh creation, it is incorrect to state that the problems are the same. For example, potential marsh creation or restoration sites are much closer to the HNC than upland disposal sites and would be cheaper to construct (e.g., no levee construction expenses). These and other differences should be identified and quantified in the final statement.



Page 7, paragraph 1. It is unclear why beach nourishment considerations are regarded as irrelevant to site designation issues. Beach nourishment would seem to represent a desirable and viable project alternative. We recommend that the document give all such disposal options detailed consideration. One of several beach nourishment options should include placement of material in an ocean dump site location such that it could be "naturally redistributed" to the beach/surf zone of Isles Dernieres by longshore drift.

Page 7, paragraph 3. This paragraph should be greatly expanded to adequately address the beach nourishment alternative. The impracticality and high costs of pumping should be quantified (e.g., benefit-cost ratio) and compared to current disposal practices. Furthermore, material in the northern reach of the channel is predominantly sand (DEIS page 11), not silt, and could be suitable for beach nourishment. As noted in the previous comment, the environmental statement should address an ocean dumping alternative of placing as much of the dredged material as possible in zones west of the channel which contribute sediments to beach building processes of Isles Dernieres.

PREFERRED ALTERNATIVE

Page 8, paragraph 1. Item 3 should be revised to address environmental benefits of locating a disposal area to take advantage of existing sediment transport patterns which contribute to barrier island maintenance.

Costs and benefits should be quantified in item 4. While the preferred alternative may be the least expensive, benefits of other more costly plans could offset increased costs.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES SPECIFIC AND GENERAL CRITERIA Specific Criteria

Page 11, paragraph 1. The final document should provide a complete description of monitoring plans (e.g., chemical constituents to be sampled, general sampling location, etc.) and remedial measures to be undertaken if environmental degradation is shown or forecast through monitoring.

Page 14, paragraph 3. This paragraph should indicate the area of water bottom directly impacted (buried) during the average maintenance dredging operation. Also, this and the several following paragraphs suggest that spoil deposition is a short-term problem because dredged sediment dispersal and benthic recovery are believed to be rapid. However, this section also should discuss biological implications of frequently repeated spoil disposal and the short recovery period available between dredging cycles.

Page 14, paragraph 4. Contaminant data summarized on this page are 7 to 11 years old and may not represent existing conditions. These data should be updated and presented in greater detail to permit reviewers of the environmental document to independently evaluate potential contaminant problems.

Page 14, paragraph 6. This section should present data on the aerial extent of the turbidity plume and the measured levels of turbidity during disposal operations.

Page 16, paragraph 1. To more accurately describe impacts to benthos, this paragraph should: 1) identify the limits of the area normally affected by spoil deposition; 2) discuss the implication of repetitive benthic perturbations from frequent channel maintenance; and 3) present data to substantiate the suggestion that mobile species would not suffer burial mortality because they would burrow upward through thick layers of overburden.

Page 17, paragraph 4. We recommend that this paragraph be expanded to address the management of a number of valuable Gulf fisheries (including red drum) under plans developed by the Gulf of Mexico Fishery Management Council and approved by the Assistant Administrator for Fisheries of the National Oceanic and Atmospheric Administration.

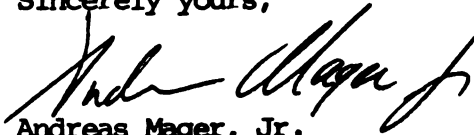
CUMULATIVE IMPACTS

Page 21, paragraph 5. The discussion of cumulative impacts should be expanded to fully address, not only local petroleum production and exploration related impacts, but the broad range of adverse impacts associated with HNC maintenance and disposal site designation. Some cumulative impact topics which should be addressed include salinity intrusion, hydrographic alterations, dredging and filling impacts, and shoreline and marsh erosion. With respect to oil and gas development impacts (see page 22, line 2), they have been shown to be both long-term and regional in nature (see Turner, R.E. and D.R. Cahoon, editors. 1987. Causes of Wetland Loss in the Coastal Central Gulf of Mexico. Volumes I-III. Final report submitted to Minerals Management Service, New Orleans, LA. Contract No. 14-12-0001-30252. OCS Study/MMS 87-0119.).

PUBLIC INVOLVEMENT AREAS OF CONTROVERSY

Page 22, paragraph 1. Although designation of the preferred disposal site would not dictate the use of that site, we believe that it would make the use of alternative sites, which could enhance coastal resource values, very unlikely. Future use of the preferred site would not require a significant level of public input, and we believe would not encourage consideration of beneficial uses of spoil. On the other hand, if the ocean disposal site for the HNC is not approved, environmentally desirable disposal locations could be implemented. This section of the environmental statement should be expanded to fully address these issues.

Sincerely yours,

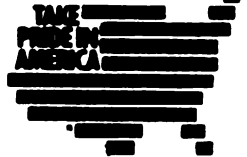


Andreas Mager, Jr.
Acting Assistant Regional Director
Habitat Conservation Division



United States Department of the Interior

OFFICE OF ENVIRONMENTAL PROJECT REVIEW
POST OFFICE BOX 649
ALBUQUERQUE, NEW MEXICO 87103



November 1, 1988

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ER 88/855

Mr. Norm Thomas, Chief
Federal Activities Branch
Environmental Protection Agency, Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Dear Mr. Thomas:

We have reviewed the Draft Environmental Statement for the Houma Navigation Canal, Ocean Dredged Material Disposal Site, Designation; Terrebonne Parish, Louisiana, and have the following comments.

The Statement provides a concise assessment of potential adverse environmental impacts that may result from the proposed action. The Statement also adequately addresses those concerns that have been previously expressed by the Fish and Wildlife Service regarding a description and quantification of sensitive fish and wildlife resources that may be either directly or indirectly impacted by the proposed activity.

We are concerned that the selection of the preferred alternative (permanent designation of the interim site) may preclude future consideration of alternative uses of the spoil to benefit the public. We note that local interests, including the Terrebonne Parish Consolidated Government, strongly support use of the spoil material to re-establish barrier island/marsh habitat in the Wine Island Shoal area immediately north of the proposed designated site. The Coastal Restoration Technical Committee, appointed by the Governor of the State of Louisiana, has also identified the use of spoil generated from maintenance dredging of the Lower Houma Navigation Canal as a priority, short-term measure to help ameliorate the enormous problem of marsh loss in coastal Louisiana.

Beneficial uses of dredge spoil to create and/or restore Louisiana's barrier island/marsh system at Wine Island Shoal near the proposed site could greatly enhance the area's fish and wildlife resources while requiring only a small additional expenditure of money and effort. Section 1155 of the Water Resources Development Act of 1986 (Public Law 99-662-November 17, 1986) authorizes the Corps of Engineers (Corps) to implement such projects to create, protect, restore, and enhance wetlands. Federal funds may be used to defray costs associated with the activity. Further, Section 1135 authorizes the Corps to review water resource projects to learn if their operations can be modified to improve the quality of the environment in the public interest. A report on the results of this review is to be transmitted to Congress by November 17, 1988. This issue should be adequately addressed in this Statement.

We appreciate the opportunity to provide these comments.

Sincerely,


Raymond P. Churan
Regional Environmental Officer

