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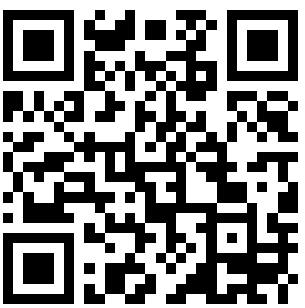

EPA-LA-870429-F

United States
Environmental Protection
Agency

Region 6
1445 Ross Avenue
Dallas TX 75202

EPA 906/11-87-007
November 1987

PA

Environmental Impact Statement

Final

Calcasieu River and Pass Ocean Dredged Material Disposal Site Designation

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
ALLIED BANK TOWER AT FOUNTAIN PLACE
1445 ROSS AVENUE
DALLAS, TEXAS 75202

November 13, 1987

REPLY TO: 6E-F

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) designation of the Calcasieu ocean disposal sites for material dredged from the Calcasieu Channel System by the New Orleans District Corps of Engineers. The National Environmental Policy Act does not apply to EPA activities of this type. EPA has voluntarily committed to prepare EISs in connection with its ocean disposal site designation program.

Because changes from the Draft EIS are minor, this Final EIS incorporates the Draft EIS by reference and includes the following: (1) a revised summary; (2) revisions necessary to the Draft EIS as a result of agency and public comment; (3) EPA's responses to comments received on the Draft EIS; and (4) EPA's Preferred Alternative. A copy of the Draft EIS is also enclosed for use in conjunction with this Final EIS.

Written comments or 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

Enclosures

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COVER SHEET

FINAL ENVIRONMENTAL IMPACT STATEMENT

FOR

CALCASIEU RIVER AND PASS
OCEAN DREDGED MATERIAL DISPOSAL
SITE DESIGNATION

RESPONSIBLE AGENCY: U.S. Environmental Protection Agency
Region VI

ADMINISTRATIVE ACTION: The purpose of the action is to adhere to the Marine Protection, Research, and Sanctuaries Act of 1972 by providing environmentally acceptable ocean dredged material disposal sites (ODMDSs) in compliance with the Ocean Dumping Regulations (40 CFR Parts 220-229).

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

ABSTRACT: The proposed action is the designation of the existing Calcasieu River and Pass, Louisiana, ODMDSs. In 1977, seven sites (A through G) were designated on an interim basis for the disposal of material dredged from the Calcasieu Channel System. Subsequently, the seven sites were combined to form three sites of similar total area (Sites 1, 2, and 3). In January 1980, the interim status of the Calcasieu sites was extended indefinitely. The recommended action is the final designation of Sites 1, 2, and 3 for disposal of dredged material. Alternatives to the proposed action include no action, the relocation of the ODMDS to alternate ocean areas, land disposal, and beach nourishment. Adverse environmental effects of ocean disposal may include (1) temporary increases in turbidity, (2) short-term changes in grain size of ODMDS surficial sediments, (3) burial of benthic organisms, and (4) temporary mounding.

COMMENTS ON FINAL EIS DUE: JAN 04 1988

RESPONSIBLE OFFICIAL: Robert E. Layton Jr., P.E.
Regional Administrator

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PREFACE

In August 1984, the U.S Environmental Protection Agency (EPA) issued the Draft Environmental Impact Statement (EIS) for the Calcasieu River and Pass Ocean Dredged Material Disposal Site (ODMDS) Designation (EPA-440/5-84-016). EPA received nine comment letters on the Draft EIS.

This document is the Final EIS. Because responses to comments received on the Draft EIS did not require significant changes in data or analyses, this Final EIS incorporates the Draft EIS by reference. This Final EIS contains (1) a summary of the the proposed action and its impact; (2) responses to all comments received on the Draft EIS; (3) any resulting changes; and (4) EPA's preferred alternative. The Final EIS and the Draft EIS together provide a complete environmental analysis of the proposed action.

The Final EIS was prepared with the assistance of Battelle Ocean Sciences of Duxbury, Massachusetts.

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PART I.

SUMMARY

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PART I. SUMMARY OF THE DRAFT AND FINAL EIS

A. BACKGROUND

Calcasieu River and Pass serve the ports of Lake Charles and Cameron, Louisiana. The U.S. Army Corps of Engineers (CE), New Orleans District, is responsible for planning and conducting the necessary maintenance dredging of the Calcasieu Bar and Entrance Channel, and for disposing of the dredged material. Approximately 14.0 million cubic yards (mcy) of siliceous and other sedimentary materials enter the Channel annually, primarily from longshore transport of sediments from the Atchafalaya River. For CE to maintain the Calcasieu Bar and Entrance Channel at its authorized depth, this material must be removed annually. Under the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA), seven sites, A through G (Figure I-1), received interim designation in 1977 for disposal of dredged material from the Bar and Channel. Because some of the seven sites either shared a common boundary with another site (Sites A and C, B and F, D and E) or overlapped another site (Site G overlapped A and C) they were subsequently combined to form three sites of similar total area (Sites 1, 2, and 3; Figure I-1; Table I-1). Interim designation of the Calcasieu River and Pass Ocean Dredged Material Disposal Sites (ODMDSs) was based on historical use of the sites for dredged material disposal, and was to remain in effect for up to three years. In January 1980, the interim status of the Calcasieu sites was extended indefinitely. The CE has requested that EPA designate ocean disposal sites suitable for continued disposal of dredged material from the Calcasieu Bar and Entrance Channel.

The proposed action in this Environmental Impact Statement (EIS) is the final designation for continuing use of the three existing ODMDSs. The EIS presents the information used to evaluate the suitability of the sites for final designation, and is based upon environmental studies of the disposal site.

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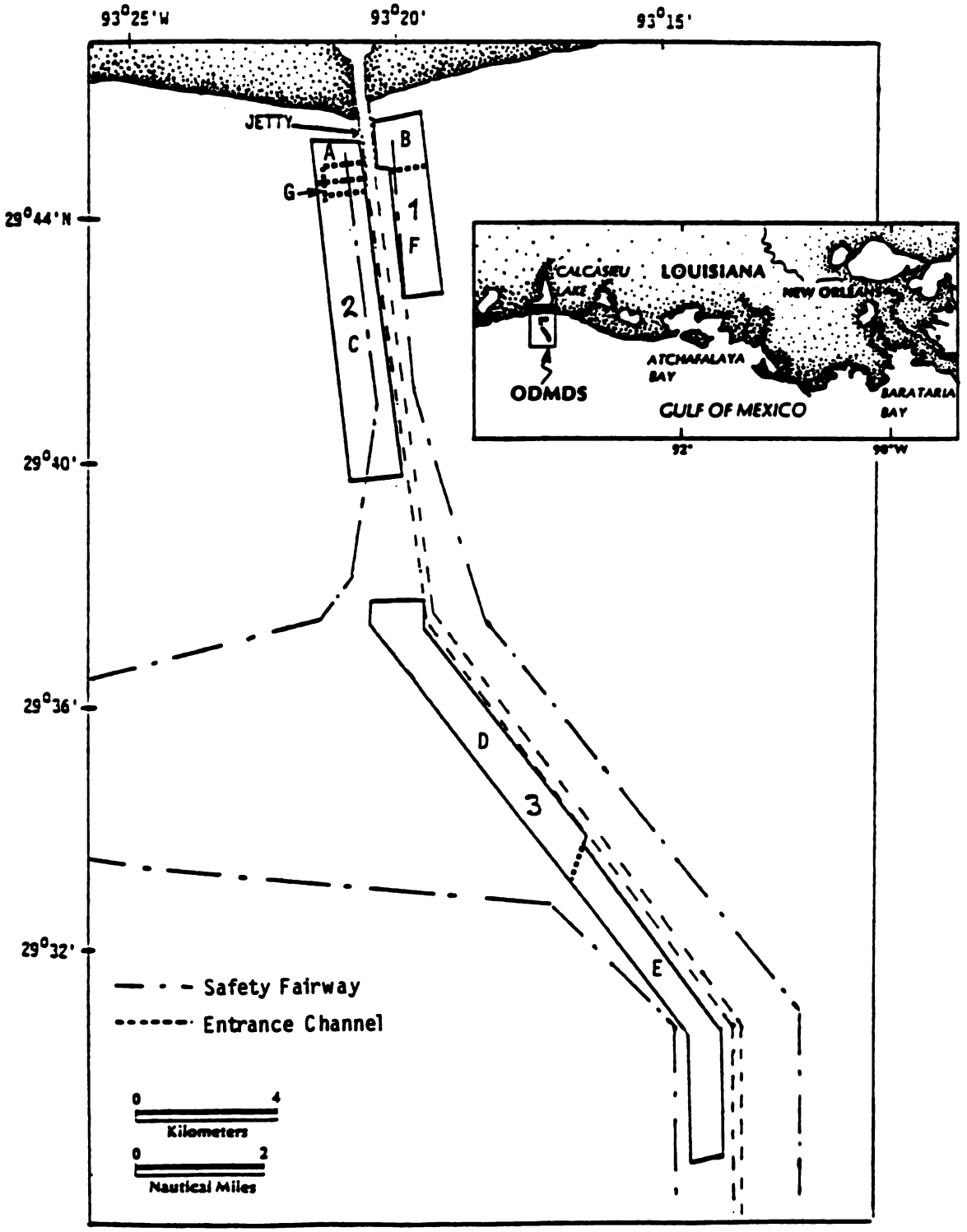

Figure I-1. Interim Designated Sites for Disposal of Dredged Material from Calcasieu Bar and Entrance Channel Showing Sites A through G Consolidated into Sites 1 thorugh 3 (from EPA, 1984).

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TABLE I-1

BOUNDARY COORDINATES OF HISTORIC
INTERIM SITES AND EXISTING SITES AS AMENDED

Interim Sites as listed in the ODR	Boundary Coordinates (approximate)	Existing Sites (amended)	Boundary Coordinates (approximate)
B	29°45'27"N, 93°20'33"W	1	29°45'39"N, 93°19'36"W
	29°44'42"N, 93°20'24"W		29°42'42"N, 93°19'06"W
	29°44'45"N, 93°19'30"W		29°42'36"N, 93°19'48"W
	29°45'39"N, 93°19'36"W		29°44'42"N, 93°20'12"W
			29°44'42"N, 93°20'24"W
F	29°44'42"N, 93°20'12"W		29°45'27"N, 93°20'33"W
	29°42'36"N, 93°19'48"W		
	29°42'42"N, 93°19'06"W		
	29°44'48"N, 93°19'24"W		
A	29°45'09"N, 93°20'42"W	2	29°44'31"N, 93°20'43"W
	29°44'39"N, 93°20'36"W		29°39'45"N, 93°19'56"W
	29°44'36"N, 93°21'33"W		29°39'34"N, 93°20'46"W
	29°45'12"N, 93°21'42"W		29°44'25"N, 93°21'33"W
G	29°44'54"N, 93°20'36"W		
	29°44'42"N, 93°20'36"W		
	29°44'42"N, 93°20'48"W		
	29°44'30"N, 93°20'42"W		
	29°44'24"N, 93°21'30"W		
	29°44'48"N, 93°21'30"W		
C	29°44'30"N, 93°20'36"W		
	29°39'48"N, 93°19'48"W		
	29°39'42"N, 93°20'48"W		
	29°44'24"N, 93°21'30"W		
D	29°37'48"N, 93°19'24"W	3	29°37'50"N, 93°19'37"W
	29°37'24"N, 93°19'24"W		29°37'25"N, 93°19'33"W
	29°34'12"N, 93°16'18"W		29°33'55"N, 93°16'23"W
	29°33'06"N, 93°16'36"W		29°33'49"N, 93°16'25"W
	29°37'24"N, 93°20'24"W		29°30'59"N, 93°13'51"W
	29°37'48"N, 93°20'24"W		29°29'10"N, 93°13'49"W
			29°29'05"N, 93°14'23"W
E	29°33'54"N, 93°16'24"W		29°30'49"N, 93°20'25"W
	29°31'00"N, 93°13'48"W		29°37'26"N, 93°20'24"W
	29°29'00"N, 93°13'42"W		29°37'44"N, 93°20'27"W
	29°28'54"N, 93°14'24"W		
	29°30'54"N, 93°14'24"W		
	29°33'12"N, 93°16'36"W		

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B. ALTERNATIVES

The proposed action is the final designation of the existing Calcasieu River and Pass ODMDSs. Alternatives to the proposed action include no action, relocation of the ODMDSs to alternate ocean areas, land disposal, and beach nourishment.

The interim designation of the existing Calcasieu ODMDSs does not have a specific termination date. If no action is taken, the status of the designation of the ODMDSs will remain unsettled. The site was approved for dredged material disposal pending completion of any necessary studies and evaluation of its suitability for continued use. Environmental studies and evaluation have been completed and, in accordance with Ocean Dumping Regulations, a decision regarding designation is required.

The location of an alternative shallow-water site was determined by avoiding locations of conflicting activities including oil and gas lease tracts, pipelines, fishing banks, shipwrecks, and areas of scientific significance such as waterfowl production areas. An alternative shallow-water ODMDS could be located approximately 10 nmi east of Site 3. The alternative shallow-water site would be deeper than Sites 1 and 2, and approximately equivalent in depth to the deeper section of Site 3. Environmental effects of dredged material disposal on the physical, chemical, and biological environment at the alternate shallow-water site would be similar to those at the existing ODMDSs. There are no environmental benefits for moving the disposal site and costs would increase due to the longer transportation time.

Selection of an alternative mid-shelf site was based principally on avoidance of oil and gas lease tracts and pipelines. An alternative site located 15 nmi south of Site 3 would not interfere with commercial or recreational activities occuring in mid-shelf waters. Because of its greater depth, the mid-shelf area is less dynamic than the shallow-water area

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containing the existing ODMDSs. Dredged material disposed in this area would be dispersed at a slower rate, resulting in the deposition of thicker layers of mixed sediments and dredged material. The effects on bottom organisms would be minor and similar to those at the existing site. The mid-shelf area is farther from the dredging area than the existing site. The cost of transporting the dredged material to the disposal site would be greater than the transportation cost to the existing site. Safety hazards resulting from transporting the dredged material for greater distances through areas of active oil and gas development and deeper water would be increased. Surveillance methods would be similar to those necessary for the existing sites, but site surveillance would be more expensive because of the additional time required to travel to the site. Monitoring would be more time consuming and expensive because of the greater distances and water depths involved.

The deep-water region is the area seaward of the 92 m depth contour. It is beyond the white and brown shrimp grounds, but contains the royal red shrimp grounds and major fish banks. A deep water ODMDS could be located off the continental shelf about 150 nmi southwest of the existing sites. No specific site was selected for evaluation but the characteristics of a deep water site were considered. Dredged material would probably be dispersed over a larger area because of breakup of the descending plume. Sediments reaching the bottom would tend to remain in place with slow erosion and transport. Effects of the material on bottom organisms would be similar to those at the existing site or the mid-shelf alternate site. Safety hazards of dredged material disposal would be increased. Surveillance and monitoring could be accomplished, but they would be more difficult and costly, requiring special equipment because of the deeper water. Annual dredged material disposal costs would be increased due to greater distance involved. Special deep-water barges would be required, and the round-trip time would be increased. With the equipment currently in use, it is not feasible to dredge

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and transport the necessary volume of material within the available time.

Land disposal alternatives were evaluated by the Corps in its ocean dumping assessment for the Calcasieu River and Pass (CE, 1976). Land disposal into diked areas, land disposal by floating pipeline, and land disposal via submerged pipeline were determined unacceptable because of technical feasibility or excessive costs (See Part III.C for additional information).

With regard to beach nourishment, several comments were received on the Draft EIS suggesting beach nourishment as an alternative to ocean disposal at the existing ODMDSs. Although such comments may be highly relevant to determinations about the need for ocean dumping in relation to a specific dredging project, EPA does not regard these comments as being relevant to the issue now before the Agency: whether or not to designate ocean disposal sites to serve those dredging projects for which ocean disposal may be approved. Issues relevant to this site designation are the sites' relationship to marine resources, coastal amenities, historical resources, and other factors included in the eleven criteria (40 CFR § 228.6).

EPA's ocean disposal site designation does not authorize any dredging project nor permit disposal of any dredged material. Decisions about whether to permit ocean disposal of dredged material are made on a case-by-case basis through the application of the permitting criteria (40 CFR Part 227) to individual projects. These permitting criteria, which include the evaluation of the need for ocean dumping, are applied in the course of the CE's public interest review of permit applications for projects involving ocean disposal of dredged material. Accordingly, EPA believes that beach nourishment should be addressed during the Corps' project review process (for additional information see Part III.C). With regard to federal projects, it should be noted that the Corps does not administratively issue itself a permit. However, the requirements that must be met before dredged material derived from federal projects can be discharged into ocean waters are

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the same as where a permit would be required. Beach nourishment with the material to be placed in the existing Calcasieu ODMDSs is not feasible because of excessive costs and small grain size of most of the dredged material available (personal communication, G. Breerwood, New Orleans District CE, August 1987).

Based on the evaluations summarized in the foregoing, it was concluded that

- There is no economic or environmental advantage to transporting dredged materials in excess of 150 nmi from the dredge site for disposal.
- An alternate ODMDS could feasibly be located in the shallow-water or mid-shelf area.
- No environmental or economic advantage would result from relocation of the existing sites to alternate shallow-water or mid-shelf areas.
- Use of the mid-shelf and deep-water sites would remove sediments from the nearshore environment making them unavailable for movement and deposition by longshore currents.
- Surveillance and monitoring could be accomplished at all sites, but there would be increased time and costs required in relation to the increased distance from the channel.
- Annual costs of transporting the dredged material to the disposal site would increase without a corresponding environmental benefit with distance. The increased annual cost could be prohibitive.
- Land disposal alternatives were determined unacceptable by the Corps of Engineers.
- Beach nourishment is not feasible due to excessive costs and the small grain size of the dredged material.

EPA's preferred alternative is the final designation of the interim Designated Calcasieu ODMDSs as combined into three sites described in Table I-1 for disposal of dredged material. The foregoing conclusion is based on the following points regarding the final designation of the interim ODMDSs for

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dredged material disposal.

1. No action would leave the status of the ODMDSs undetermined.

2. Relocation of the ODMDSs would subject new ocean areas to the effects of dredged material disposal without resulting in environmental advantages over continued use of the existing sites.

3. The interim ODMDSs have been historically used with minimal environmental effects.

4. No adverse environmental effects outside the boundaries of the existing sites were detected during environmental surveys, nor are any expected from continued use of the sites.

C. AFFECTED ENVIRONMENT

The Calcasieu River and Pass ODMDSs are located off the western Louisiana coast in the Calcasieu Basin of the Chenier Plain physiographic region. The Chenier Plain is a highly productive and complex mixture of wetlands, uplands, and open water created by sediment deposition from the Mississippi and Atchafalaya Rivers. The coast is marked by many inlets that allow connection with numerous shallow water lakes and estuaries. The Calcasieu Basin is characterized by a gently sloping submarine plain with small intermittent ridges aligned parallel to shore. Salt domes and mud diapirs are scattered across the shelf bottom. Numerous hard-bottom banks are present along the outer shelf region, some of which contain the only hermatypic corals in the northern Gulf of Mexico. Louisiana's coastal zone is predominantly covered by late Quartenary sediments of terrigenous origin. Two major types of deposition occur in the area. One is a result of sediment input from present and former Mississippi River tributaries and the other is a result of coastal sediment transport processes. Variations in sediment composition off Calcasieu can be attributed to transport of sediments by coastal rivers and marshes and by suspension and redistribution of sediments by

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currents and wave action.

The climate of the Louisiana coast is a mixture of tropical and temperate conditions. The mean air temperature in the area is 23°C. Air temperatures range from an average 29°C in July and August to about 17°C in January. Annual rainfall along coastal Louisiana typically is 150 to 155 cm/yr, and is generally heaviest during tropical storms in summer and early autumn. Heavy fog is most common from December to April. Spring and summer winds are weak and consistently from the east and southeast. Stronger north and northeast winds predominate during late autumn and winter. Tropical storms occur most frequently between June and October, and peak in September. Hurricanes occur in the area on an average of one in four years.

Water masses in the nearshore area are influenced by freshwater discharge from the Mississippi and Atchafalaya Rivers, and locally, from coastal estuaries, and by intrusions of open Gulf water. In nearshore waters, river and tidal discharges influence temperature, salinity, nutrient concentrations, trace metals, and suspended sediments. The mean monthly combined discharge from the Mississippi and Atchafalaya Rivers ranges from approximately 34,000 m^3/sec in April to approximately 11,000 m^3/sec in July. Density stratification resulting from river discharges of low salinity water overlying colder saline bottom water occurs seasonally. Prolonged stratification during the summer can promote oxygen depletion in bottom waters, resulting in mass mortalities of bottom organisms.

Circulation in the Gulf is complex and influenced by the Loop Current, tide, winds, and river discharge. Local currents near the Calcasieu ODMDSs are predominantly influenced by wind, and to a lesser degree, tides, river discharge, and broad circulation patterns. Shallow-water wind and density-driven currents tend to flow parallel to the bottom contours. Mid-depth and bottom currents generally flow in the same direction as the surface currents. Waves in the northern Gulf

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are a combination of wind-generated waves and swells entering from the open Gulf. Wave direction generally follows wind direction. In the area of the ODMDSs, waves usually approach from the east or southeast and are generally less than 2 m in height. Tides near the sites are small, having a maximum range of 0.7 m.

Water temperatures in the area of the ODMDSs closely follow seasonal air temperature changes, and also are influenced by volume of freshwater discharge, thermal heating and cooling, wind-induced mixing, and the coastal boundary layer. Water temperatures range from 30°C in the summer to 12°C in the winter. Vertical temperature stratification may occur periodically during the summer following intrusions of cooler, more saline Gulf waters.

Salinity varies considerably in the nearshore area, reflecting the input and mixing of freshwater runoff from coastal rivers and estuaries. Surface salinities range from about 20°/oo to about 31°/oo, and are about 6°/oo lower than bottom salinities. The intensity of salinity gradients varies with seasonal changes of freshwater discharge volumes. Lowest salinities occur in spring, corresponding to the period of high freshwater runoff. Highest salinities are found in summer reflecting low freshwater input. Salinity stratification resulting from river discharge of low salinity water over highly saline bottom water is most common in the nearshore area during late spring and early summer. In winter, wind and wave turbulence keep the waters well mixed.

Dissolved oxygen (DO) concentrations vary seasonally and with depth. Density and temperature stratification may lead to anoxic or hypoxic conditions. The DO minimum generally occurs approximately two months after the peak river discharge in spring and early summer.

Nutrient concentrations, turbidity, and suspended solids depend primarily on river and estuarine discharge and vary in localized nearshore areas. Low river discharge volumes, and consequently lower nutrient concentrations, turbidity and

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suspended solids occur during the summer. Levels increase through winter and spring as freshwater runoff and resuspension of bottom sediments occurs.

The major source of dissolved and particulate trace metals in the area of the ODMDSs is discharge from the Atchafalaya River and to a lesser extent, from coastal embayments. Synthetic organic pollutants in the area derive from river discharge, atmospheric input, and dumping of industrial pollutants. In general, hydrocarbon levels will be higher near input sources (e.g., river mouths and oil rigs). Levels of pollutants in the water column near the ODMDSs are generally below federal criteria.

Plankton communities at the ODMDSs are typical of nearshore Continental Shelf waters in the Gulf of Mexico. Vertical mixing and retention of nutrients discharged from coastal rivers result in a relatively high phytoplankton standing stock. Marine and freshwater phytoplankton species are indicative of influx from rivers and estuaries. Marine diatoms generally dominate the phytoplankton, accounting for 70 to 100 percent of the standing crop. Dinoflagellates and blue-green algae contribute small and seasonally variable numbers to the assemblage. Copepod species (e.g., Acartia tonsa, Paracalanus crassirostis, and Eucalanus pileatus) dominate the zooplankton of the ODMDSs.

Two general types of fish communities occur on the continental shelf of the northern Gulf of Mexico: the white shrimp grounds community and the brown shrimp grounds community. The white shrimp grounds community extends from depths of 3 to 22 m. Species in the white shrimp community generally depend upon coastal estuaries during the larval or juvenile stage of their life cycle. The Atlantic croaker, and other sciaenids, including sand seatrout, silver seatrout, and various species of drums, are the dominant demersal fish.

The brown shrimp community generally occurs in depths from 22 to 90 m. The longspine porgy, inshore lizardfish, blackfin searobin, and spot are typical species of the brown shrimp

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community. There can be considerable intermingling of fish and shellfish between the two communities.

Waters off central and western Louisiana shoreward of the 36-m (20-fathom) isobath comprise one of the most heavily fished areas in the world. The most valuable resource species in this area are penaeid shrimp, menhaden, blue crab, oysters, and several species of bottom fish. In 1984, the Gulf menhaden catch was 2.7 billion pounds and was valued at $ 85.2 million (Pechmann et al., 1985).

The benthic community is characterized by low diversity and a rapid turnover rate. Dominant organisms are small, opportunistic species capable of rapid recolonization of disturbed sediments. Polychaetes and, to a lesser extent, phoronids and pelecypods generally are the most abundant macrofaunal groups comprising approximately 95 percent of the benthic population off Louisiana. Nearshore benthic organisms respond to seasonal changes in the hydrologic regime, especially to winter and summer pulses of dissolved nutrients, which result in increases in plankton populations and subsequent increases in food supply.

The diversity of marine mammals and reptiles is typically lower in nearshore regions than in the adjacent offshore regions of the northern Gulf. Several migratory bird species overwinter, breed, and nest in the area. The only species of marine mammal common to the ODMDS area is the Atlantic bottlenosed dolphin, which occurs in the greatest numbers within tidal passes feeding on shrimp and larger fish. Five species of endangered or threatened sea turtles [green, Kemp's (Atlantic) Ridley, hawksbill, leatherback, and loggerhead] occur in the northern Gulf, but are relatively rare in the area of the ODMDSs.

The shelf region adjacent to Calcasieu Pass contains a large percentage of the active oil and gas lease blocks in the Gulf. Most of the production of these blocks is of natural gas.

No existing or proposed marine sanctuaries occur near

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Calcasieu Pass. The nearest important ecological areas are the Flower Garden Banks, the northernmost coral reef in the Gulf.

D. ENVIRONMENTAL CONSEQUENCES

The existing disposal sites have been evaluated using the 5 general and 11 specific criteria listed in the Ocean Dumping Regulations. This evaluation is summarized in Tables I-2 and I-3.

E. PROPOSED ACTION

EPA's proposed action is the final designation of the Calcasieu River and Pass Ocean Dredged Material Disposal Sites.

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TABLE I - 2
SUMMARY OF THE SPECIFIC CRITERIA AS APPLIED TO THE INTERIM DESIGNATED SITES

Specific Criteria as Listed in 40 CFR § 228.6	Interim Designated Sites
1. Geographical position, depth of water, bottom topography and distance from coast.	See Figure 1-2; depth is 2-8 m in Site 1, 2-11 m in Site 2, and 11-14 m in Site 3; gently sloping submarine plain with small intermittent ridges running parallel to shore and a number of hills composed primarily of salt domes and mud diapirs; shoreward boundaries of Sites 1 and 2 are 0.5 nmi from coast, extending out approximately 3.0 or 6.0 nmi, respectively; Site 3 ranges from 8.0 nmi at nearest boundary to 17.5 nmi at farthest boundary.
2. Location in relation to breeding, spawning, nursery, feeding, or passage of living resources in adult or juvenile phases.	Northwestern Gulf of Mexico is a breeding, spawning, nursery and feeding area for shrimp, menhaden, and bottom fish; seasonal migration between estuaries and Gulf is most intensive in spring and fall. Calcasieu ODMDSs represent small area of total range of fisheries resource.
3. Location in relation to beaches and other fishing amenity areas.	Shoreward boundary of Sites 1 and 2 is 0.5 nmi from shore; recreational beaches located between Calcasieu Pass and Holly Beach (4.5 nmi west). Entrance jetties and surrounding nearshore waters are fishing and boating areas.
4. Types and quantities of wastes proposed to be disposed of, and proposed methods of release including methods of packing the waste, if any.	Varying proportions of sand, silt and clay. Annual volume averages 14 million cubic yards (mcy). Material discharged at Sites 1 and 2 by agitation dredging. Other sediments transported to Site 3 and discharged through subsurface doors in bottom of dredge. No material will be packaged.
5. Feasibility of surveillance.	Surveillance possible at Site 1 by shore-based radar, at Sites 2 and 3 by aircraft, shipriders, and day use boats.
6. Dispersal, horizontal transport, and vertical mixing characteristics of the area, including prevailing current direction and velocity, if any.	Current patterns primarily influenced by wind, particularly in late autumn through early spring. Water column well-mixed in winter; stratification in late spring and summer. Surface currents predominantly west at 0.8 to 1.0 kn; bottom currents predominantly west at less than 0.8 kn.
7. Existence and effects of current and previous discharges and dumping in the area (including cumulative effects).	Over 30 years of dredged material disposal has caused no major adverse impacts.
8. Interference with shipping, fishing, recreation, mineral extraction, desalination, fish and shellfish culture, areas of special scientific importance and other legitimate uses of the ocean.	Sites are adjacent to Calcasieu navigational channel and extend into safety fairway. Some interference with fishing and boating during disposal operations. Active oil and gas development in and around sites. No overlap of areas of special scientific interest; no interference with other legitimate uses of ocean.

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TABLE I – 2 (Continued).

9. The existing water quality and ecology of the site as determined by available data or by trend assessment of baseline surveys.	Water quality and ecology generally reflective of nearshore region of Louisiana coast affected by Atchafalaya River discharges. Variations in water quality depending on mixture of freshwater runoff at time of sample.
10. Potentiality for the development or recruitment of nuisance species in the disposal sites.	No nuisance species have developed.
11. Existing at or in close proximity to the site of any significant natural or cultural features of historical importance.	No known features of historical importance within the sites.

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TABLE I - 3
SUMMARY OF THE GENERAL CRITERIA AS APPLIED TO THE INTERIM DESIGNATED SITES

General Criteria as Listed in 40 CFR § 228.5	Interim Designated Sites
(a) The dumping of materials into the ocean will be ocean will be permitted only at sites or in areas selected to minimize the interference of disposal activities in the marine environment, particularly avoiding areas of existing fisheries or shellfisheries and regions of heavy commercial or recreational navigation.	Existing ODMDSs are located adjacent to and along the Calcasieu Channel. Location involves only short transport of dredged material and tends to minimize any interferences with other activities. May be some interference with fishing and navigation during dredging and disposal activities.
(b) Locations and boundaries of 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 ambient seawater levels or to undetectable contaminant concentrations or effects before reaching any beach, shoreline, marine sanctuary, or known geographically limited fishery or shellfishery.	Turbidity plume during dredged material disposal should be quickly dispersed to point where it is undetectable from naturally occurring turbidity. No marine sanctuaries in immediate vicinity. Fishery and shell fishery exist throughout region. ODMDSs small in comparison with total fishing and shellfishing area.
(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 and § 228.6, the use of such sites will be terminated as soon as suitable alternate disposal sites can be designated.	Studies to date indicate ODMDSs meet requirements of both § 228.5 and § 228.6. No adverse environmental effects outside 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.	Proximity of ODMDSs to Calcasieu Channel led to establishment of long narrow sites paralleling Channel. Location accommodates surveillance of dredged material disposal and long-term monitoring. Because most use of sites will be for disposal of materials dredged from adjacent channel, sediments should be similar, minimizing effects.
(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.	ODMDSs have been historically used for disposal of dredged material; no advantage to locating sites beyond the continental shelf.

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PART II.

CONSULTATION AND COORDINATION

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PART II. CONSULTATION AND COORDINATION

Part II of the Final EIS summarizes the public process by which the Draft EIS was reviewed (A), presents responses to comments on the Draft EIS received through the public review process (B), presents EPA's biological assessment for endangered species in the area of the proposed action (C), and presents consultation with the State of Louisiana on cultural resources in the area of the proposed action (D).

A. PUBLIC REVIEW PROCESS

The Draft EIS for the Calcasieu River and Pass Ocean Dredged Material Disposal Site Designation was filed by EPA in August 1984 (EPA-440/5-84-016). Comments on the Draft EIS were requested from the following agencies and organizations:

Federal Agencies and Offices

Council on Environmental Quality
Department of Commerce
- National Oceanic and Atmospheric Administration
- National Marine Fisheries Service
- Maritime Administration

Department of Defense
- Army Corps of Engineers

Department of Health, Education, and Welfare
Department of the Interior
- Fish and Wildlife Services
- Minerals Management Service

Department of Transportation
- Coast Guard

National Science Foundation

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States and Municipalities

State of Louisiana
- Governor's Office
- Department of Natural Resources
- Department of Wildlife and Fisheries
- Louisiana Historic Preservation Office

Cameron Parish

Private Organizations

American Littoral Society
Audubon Society
Center for Law and Social Policy
Environmental Defense Fund, Inc.
National Academy of Sciences
National Wildlife Federation
Sierra Club
Water Pollution Control Federation

Academic/Research Institutions

Louisiana State University

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B. RESPONSES TO COMMENTS

Nine comment letters concerning the Draft EIS were received from the following federal and state agencies:

Letter Number	Agency
	Federal
1 & 2	U.S. Department of Commerce
	o National Oceanic and Atmospheric Administration
3	U.S. Department of the Interior
	o Office of Environmental Project Review
4	U.S. Department of Health and Human Services
	o Center for Environmental Health
5	U.S. Department of Transportation
	o U.S. Coast Guard
6	National Science Foundation
7	Corps of Engineers, New Orleans District
	State of Louisiana
8	Department of Culture, Recreation, and Tourism
	o Office of Cultural Development Division of Archaeology
9	Department of Natural Resources

All comment letters are reproduced in this section. Each comment letter is numbered in the upper left-hand corner. Individual comments within each letter are numbered in the left-hand margin and a corresponding response to each comment appears in the right-hand margin of each letter.

A major theme that appeared in several of the letters

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concerned the use of dredged material from the Calcasieu Entrance Channel for marsh restoration or beach nourishment projects. EPA's response to this concern is contained in Part I.B of this Final EIS.

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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 2, 1984 F/SER11/JL
813-893-3503

Janis T. Jeffers
Criteria and Standards Division (WH-585)
Office of Water Regulations and Standards
Environmental Protection Agency
401 M Street SW
Washington, D.C. 20460

Dear Ms. Jeffers:

The National Marine Fisheries Service has received the Draft Environmental Impact Statement (DEIS) for the Calcasieu River and Pass Ocean Dredged Material Disposal Site (ODMDS) Designation (EPA-440/5-84-016) dated August 1984. We have reviewed the DEIS and offer the following comments relative to the document's consideration of living marine resources and alternatives.

General Comments

1-1. Three probable sites for ocean disposal of dredge material were considered in the DEIS (i.e., nearshore, midshelf, and off the continental shelf). We also prefer the nearshore ODMDS since use of the other two sites would result in the unnecessary loss of sediment that could help maintain the integrity of the shoreline just west of the channel. Hopefully, some beach nourishment would occur from placing the dredged material on the west side of Calcasieu Pass. We, therefore, believe that the DEIS should point out the benefits of maintaining the beach shore instead of wasting sediment. Specifically, preventing the beach west of Calcasieu Pass from eroding would protect many thousands of acres of marsh, located behind the shoreline, that support marine fishery resources.

Specific Comments

ALTERNATIVES INCLUDING THE PROPOSED ACTION

1-2. Page 2-1, paragraph 2. This paragraph states that a specific study would be necessary to determine the feasibility of a beach nourishment project. The shoreline erosion west of Calcasieu Pass is so severe that state highway #87 paralleling the shoreline had to be rebuilt and reinforced with concrete facings on the beach side. Rock groins are proposed to be built out into the Gulf of Mexico at Peveto Beach to slow the erosion rate by trapping sediment transported along the shore. The ODMDS could provide some of that sediment. The DEIS reference to Van Beek and Meyer-Arendt (1982), suggesting such a beach nourishment project, was not included in the listed references. The Final EIS should note the benefits of such a project over alternatives that are just considered "environmentally acceptable".

1-1. EPA's response is included in Part I.B of this Final EIS (Page I-6).

1-2. See pages I-6, III-17, and III-18.

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PREFERRED ALTERNATIVE

1-3. Page 2-30, paragraph 1. Rather than just stating that, "... the preferred alternative is the final designation...," this paragraph should also address the feasibility of a site designed to enhance beach nourishment to sustain the coastline just to the west that is rapidly eroding. Also, such a beach nourishment site could be used repeatedly during future maintenance dredging cycles.

1-4. In conclusion, the DEIS provides sufficient information to justify the proposed disposal site, but should also discuss using the spoil to replenish the eroding western shoreline of Cameron Parish, Louisiana. This would mitigate for some loss of shoreline resulting from the past channelization of the Calcasieu River.

Thank you for the opportunity to review and comment on the DEIS.

Sincerely yours,

Richard J. Hoegland
Chief, Environmental Assessment Branch

1-3. See Part I.B of this Final EIS

1-4. See Part I.B of this Final EIS.

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Washington D.C. 20710

Rec'd PP2 10/24/84

OCT 22 1984

TO: PP2 - Joyce M. Wood

FROM: N - Paul M. Wolff

SUBJECT: DEIS 8409.05 - Calcasieu River and Pass, Ocean Dredged Material Disposal Site Designation

2-1. The subject statement has been reviewed within the areas of the National Ocean Service's (NOS) responsibility and expertise, and in terms of the impact of the proposed action on NOS activities and projects.

Geodetic control survey monuments may be located in the proposed project area. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for this project include the cost of any relocation required for NOS monuments. For further information about these monuments, please contact Mr. John Spencer, Chief, National Geodetic Information Branch (N/CG17), or Mr. Charles Novak, Chief, Network Maintenance Section (N/CG162), at 6001 Executive Boulevard, Rockville, Maryland 20852.

2-1. No geodetic control survey monuments are located in the project area.

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United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Project Review
Post Office Box 2088
ALBUQUERQUE, NEW MEXICO 87103

October 22, 1984

ER 84/1144

Ms. Janis T. Jeffers
Criteria and Standards Division (WH-585)
Office of Water Regulations and Standards
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Dear Ms. Jeffers:

We have reviewed the draft environmental impact statement for the Calcasieu River and Pass Ocean Dredged Material Disposal Site Designation, Louisiana and have the following comments.

3-1. The impacts of the ocean dredged material disposal site designation at Calcasieu River and Pass on the open water, fish and wildlife resources, and bottom environment of the Gulf of Mexico are adequately described. The major impact of the proposed action in the Gulf of Mexico is the covering of the ocean bottom and associated biota with dredged material.

3-2. We note that the alternatives included in this statement relate specifically to alternative ocean disposal sites. It is stated that land-disposal of dredge material or other feasible alternatives for disposal should be considered as part of the planning for each federal project or permit application. We believe this statement would be improved if it were expanded to briefly discuss these other feasible alternative disposal methods for dredged material such as use of the material for marsh restoration or shoreline nourishment.

3-3. We note that under the authority of the Louisiana Coastal Area Study, the U.S. Corps of Engineers is currently studying the feasibility of utilizing dredged material from Calcasieu Pass to reduce shoreline erosion in the vicinity of Holly Beach, Louisiana. In Calcasieu Lake, marsh creation with dredged material is also being evaluated as a feature of the Corps' Lake Charles Ship Channel project. We believe it should be acknowledged in this statement that the use of an ocean disposal site should be evaluated as part of individual Federal project or permit application work only after it has been clearly demonstrated that environmental enhancement alternatives are not practical for the use of dredge materials. In light of the excessive land loss rate in coastal Louisiana (exceeding 40 square miles annually), we believe the use of dredged material for marsh restoration or shoreline nourishment should be fully evaluated and implemented whenever feasible.

3-4. Records of our U.S. Fish and Wildlife Service indicate that no endangered, threatened, or proposed species, or their critical habitat, occur in the project area. Therefore, no further endangered species consultation will be required for this project.

We appreciate the opportunity to comment on this statement.

Sincerely,

Raymond P. Churan
Regional Environmental Officer

3-1. Comment noted.

3-2. See Part I.B of this Final EIS.

3-3. See Part I.B of this Final EIS.

3-4. Comment noted.

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta GA 30333
October 19, 1984

Ms. Janis T. Jeffers
Criteria and Standards Division (WH-585)
Office of Water Regulation and Standards
Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Ms. Jeffers:

We have reviewed the Draft Environmental Impact Statement (EIS) for the Calcasieu River and Pass Ocean Dredged Material Disposal Site Designation (ODMDS) off of the Louisiana Coast near Cameron. We are responding on behalf of the U.S. Public Health Service and are offering the following comments for your consideration.

4-1. According to the EIS, bioaccumulation tests (referenced in two 1980 reports by EG&G and Horne and Swirsky) from the Calcasieu Channel revealed no significant accumulation of metals or organic compounds in edible fish or shellfish. The penaeid shrimp (P. duorarum) that were used in the bioaccumulation tests (EG&G, 1980) do not appear to be the most valuable penaeid shrimp species caught in the local waters (p. 3-21, EIS). Nevertheless, these tests indicated no significant uptake "of cadmium, mercury, organochlorides, pesticides, PCB, or aliphatic and aromatic hydrocarbons" (p. 4-11, EIS). Body burdens in test animals were below FDA action levels. As a result of the Environmental Protection Agency (EPA)/ Interstate Electronics Corporation (IEC) Survey during November-December 1980 and May-June 1981, additional testing of penaeid shrimp and crabs collected within and around the existing ODMDS appear to confirm earlier findings that bioaccumulation of heavy metals and chlorinated hydrocarbons is not significant. The EPA/IEC study results also suggest that previous disposal has not caused significant degradation of the water or sediment quality.

4-2. Based on these studies, it does not appear that previous dumping at the Calcasieu ODMDS has caused any detectable impacts on public health and safety. Therefore, we believe that the use of this facility for dredged material disposal should have minimal public health impacts provided dredged materials are free of hazardous and toxic materials that would pose an environmental health hazard. We trust that tests will be conducted to ensure the quality of dredged material before it is placed at the ODMDS. Furthermore, it is important that the ODMDS be periodically monitored for (1) potential uptake of contaminants in the benthos and in commercial fish and shellfish species and (2) any adverse encroachment of the ODMDS sediments upon local commercial shellfish beds.

We appreciate the opportunity to review this Draft EIS. Please send us one copy of the final document when it becomes available. Should you have any questions about our comments, please contact Mr. Robert L. Kay, Jr., at FTS 236-4161.

Sincerely yours,

Stephen Margolis

Stephen Margolis, Ph.D.
Chief, Environmental Affairs Group
Environmental Health Services Division
Center for Environmental Health

4-1. Comment noted.

4-2. The comment that use of the Calcasieu ODMDSs will have minimal public health impacts provided the dredged materials are free of hazardous materials is noted. As stated on page 2-30 of the Draft EIS, use of the Calcasieu ODMDSs for disposal of dredged material must comply with the EPA Ocean Dumping Regulations (40 CFR Parts 220-229).

Because dredged material from the Calcasieu River is considered environmentally acceptable, uptake of contaminants in the benthos and commercial fish and shellfish is not expected. There is little chance for the ODMDS sediments to encroach on local commercial shellfish beds because the nearest oyster beds would not receive sediment.

EPA is currently coordinating with the Corps regarding development of a site management/monitoring plan.

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US Department of Transportation
United States Coast Guard

Commandant
United States Coast Guard

Washington DC 20593
Staff Symbol (G-WP-3)
Phone (202) 426-3300

16477.4b(0028)
10 Oct 84

Mr. William C. Shilling
Environmental Protection Agency
Office of Water Regulations and Standards
Criteria and Standards Division
401 M Street
Washington, D. C. 20460

Dear Mr. Shilling:

5-1. We have reviewed the Draft Environmental Impact Statement concerning the Calcasieu River and Pass Ocean Dredged Materials Disposal Site Designation. We have no comments at this time.

We appreciate the opportunity to assist your efforts in the development of this documentation. We look forward to continued mutual cooperation and coordination of these projects.

Sincerely,

W. M. McGOVERN
Chief, Environmental Compliance and Review Branch
Planning and Evaluation Staff
By direction of the Commandant

5-1. "No comment" acknowledged.

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NATIONAL SCIENCE FOUNDATION
WASHINGTON D C 20550

September 14, 1984

OFFICE OF THE
ASSISTANT DIRECTOR
FOR ASTRONOMICAL
ATMOSPHERIC EARTH
AND OCEAN SCIENCES

Dr. Janis T. Jeffers
Criteria and Standards Division (WH-585)
Office of Water Regulations and Standards
Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

Dear Dr. Jeffers:

6-1. The National Science Foundation has no comments on the Draft Environmental Impact Statement for the Calcasieu River and Pass Ocean Dredged Material Disposal Site Designation.

Sincerely,

Barbara O. Patala (acting)
Barbara O. Patala, Acting Chairman
Committee on Environmental Matters

6-1. "No comment" acknowledged.

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October 10, 1984

Planning Division
Environmental Analysis Branch

Mr. William C. Schilling, Chief
Ocean Dumping Task Force (WH-585)
Office of Water Regulations and Standards
Environmental Protection Agency
401 M Street, SW
Washington, D. C. 20460

Dear Mr. Schilling:

Reference is made to your request to review the Draft EIS for the Calcasieu River and Pass Ocean Dredged Material Disposal Sites.

Our comments are as follows:

7-1. The EIS does not discuss conditions in the future without the project, nor does it compare such conditions to the impacts of the various alternatives. Such comparisons are suggested in Paragraph 1.3.6 of "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies." The mailing list does not
7-2. appear adequate. It should include U. S. Senators and Representatives from the affected area, the Advisory Council on Historic Preservation, the State Historic Preservation Officer, Louisiana Department of Transportation and Development, Louisiana Department of Natural Resources, and Cameron and
7-3. Calcasieu Parishes. No Endangered Species Assessment, as mandated by Section 7 of the Endangered Species Act, appears to have been completed. You mention the Queen Bess Island brown pelican colony several times, yet it is over 180 nautical miles east and would not be impacted. Generally, the U. S. Fish & Wildlife Service, Office of Endangered Species, does not demand discussion of species so far removed from the project area or project impacts. Also, there is no record of any coordination with agencies concerned with archeological resources.

The scope of the EIS seems excessive. The brown shrimp community in
7-4. the 22-90-meter area would not be affected by the proposed disposal. On the other hand, the deep water alternative site is even beyond the 90-meter contour. Since neither the mid-shelf nor the deep water alternatives are economically feasible, it would seem to be more meaningful to confine the project area to the vicinity of the proposed sites. Then it would be possible to discuss the site-specific data that exist instead of attempting to characterize the entire northern Gulf.

7-1. The no-action alternative (i.e., conditions in the future without the project) is discussed on page 2-3 of the Draft EIS. Conditions at the site are discussed in the Affected Environment Chapter of the Draft EIS.

7-2. EPA concurs. The offices identified will be sent copies of this Final EIS.

7-3. A current endangered species assessment is presented on page II-17 of this Final EIS. The Louisiana Office of Cultural Development was consulted regarding archaeological resources near the ODMDSs (see page II-19 of this Final EIS).

7-4. Comment noted.

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7-5. The following are specific comments:

a. Page [redacted] 1: change 1/4 228.5(c) to §228.5(c).

b. Page 3-8, para 2: change 1/4 228.6 and 1/4 228.5 to §228.6 and §228.5.

c. Page 2-12, para 1: There are no universally recognized contaminant levels for sediment analyses. Sediment analyses merely reveal the presence of contaminants and are a poor indicator of their actual availability to the water column or the biota.

d. Page 3-17, para 2: It should be further delineated that depressed oxygen levels due to oxidation of sulfides immediately following dredged material disposal is a short-term impact.

e. Page 3-28, para 3: The brown pelican colony at Queen Bess Island is more than 100 miles from the disposal site.

f. We notice a lack of information on the geology of the area.

g. Corrections of coordinates in Table 1-1 are indicated on enclosure 1.

h. Other miscellaneous and editorial comments are indicated on enclosure 2.

We appreciate the opportunity to review and comment on this document. Additional information may be obtained from Mrs. Sue Hawes at (504) 838-2518.

Sincerely,

Cletis R. Wagshoff
Chief, Planning Division

Enclosures

Copies Furnished: with enclosures

DAEN-CWP-V
LMVPD-R

7-5. a. See Errata, Part III.A of this Final EIS.

b. See Errata, Part III.A of this Final EIS.

c. EPA concurs.

d. See Errata, Part III.A of this Final EIS.

e. See Errata, Part III.A of this Final EIS.

f. Some general information is contained on page 3-11 of the Draft EIS.

g. See Errata, Part III.A of this Final EIS.

h. See Errata, Part III.A of this Final EIS.

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State of Louisiana

DEPARTMENT OF CULTURE, RECREATION AND TOURISM
OFFICE OF CULTURAL DEVELOPMENT
ROBERT B. DEBLIEUX
Assistant Secretary

October 15, 1984

Ms. Janis T. Jeffers
Environmental Protection Specialist
United States Environmental Protection
Agency, Office of Water
Criteria and Standards Division
Washington, D.C. 20460

Re: Draft Environmental Impact Statement
Calcasieu River and Pass Ocean Dredged
Material Disposal Site Designation
EPA-440/5-84-016
Calcasieu Parish Offshore, Louisiana

Dear Ms. Jeffers:

8-1. Reference is made to the Draft Environmental Impact Statement for the referenced project, dated August, 1984. We note that there is no discussion of cultural resources in the document. For your records, we have no recorded cultural resources (i.e., shipwrecks or submerged archaeological sites) in the project vicinity. The F.E.I.S. should contain a discussion of project effects on such resources.

Should you have any questions, do not hesitate to contact my staff in the Division of Archaeology.

Sincerely,

Robert B. DeBlieux
State Historic Preservation Officer

RBD:PGR:tb

P.O. BOX 44247 BATON ROUGE, LOUISIANA 70804 (504) 922 0368

8-1. Comment noted.
See also Part II.D

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EDWIN W. EDWARDS
GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

WILLIAM C. HULS
SECRETARY

October 9, 1984

Mr. Patrick Tobin, Director
Criteria and Standards Division
Office of Water Regulations and Standards
Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

RE: C840136
DEIS - Calcasieu River and Pass ODMDS

Dear Mr. Tobin:

The Louisiana Department of Natural Resources/Coastal Management Division (DNR/CMD) appreciates the opportunity to review and comment on the above referenced project. Maintenance dredging projects of this nature are of a vital interest to the State of Louisiana, not only for the economic benefits which result, but also for the physical and environmental enhancement which can occur through coordination and cooperation among agencies.

According to the DEIS, the EPA approved the ODMDS for interim use in 1977 based on historical use of the site by the Corp of Engineers. Because this was before the initiation of the Louisiana Coastal Resources Program (LCRP) the CMD had no input into the final decision for the interim site designation. However, this latest EPA action in accordance with the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972, allows the CMD the opportunity to review and comment on this action in accordance with the Coastal Zone Management Act of 1972 under the authority of the NOAA Regulations on Federal Consistency (15. CFR 930 Subpart C). Under provisions of the NOAA consistency regulations no permitting is required for direct federal actions such as this, however it must be consistent to the maximum extent practicable with the LCRP. Therefore, this is CMD's only avenue for reviewing and commenting on the final designated disposal areas for this dredged material.

9-1 For this reason, we must request that for all ODMDS's serious consideration be given to the placement of dredged material in areas of erosion and retreating shorelines which are so common along the Louisiana Gulf coast. A good example of this is the recently proposed disposal of dredged material along eroding shorelines adjacent to the Mermentau River - Gulf of Mexico

NATURAL RESOURCES BUILDING P.O. BOX 44396 BATON ROUGE, LOUISIANA 70804

9-1. See Parts I.B and III.C of this Final EIS.

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Navigation Channel, an area east of Calcasieu Pass.

Similarly, at Calcasieu Pass, the shoreline is clearly retreating on the eastern side of the jetty as seen on the attached copy of 1983 aerial photography. The effects of the jetty are clearly evident with the western side accreting, while starving the eastern side of sediment from longshore transport. Consequently, as presented at this time in the DEIS, the interim designated site is not consistent to the maximum extent practicable with the LCRP.

If you have any questions concerning this matter, please do not hesitate to contact Mr. Frank Monteferrante of my staff at (504) 342-7591.

Sincerely,

William C. Nuls

By: Virginia Van Sickle

WCH/ct

cc: Peter Tweedt
Ms. Ann Berger
Ms. Debra Walker
Cletis Wagahoff

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C. ENDANGERED SPECIES - DETERMINATION OF EFFECT

The National Marine Fisheries Service (NMFS) provided the following list of threatened and endangered species that may be present in the project area:

LISTED SPECIES	SCIENTIFIC NAME	STATUS	DATE LISTED
finback whale	Balaenoptera physalus	E	12/2/70
humpback whale	Megaptera novaeangliae	E	12/2/70
sei whale	Balaenoptera borealis	E	12/2/70
green sea turtle	Chelonia mydas	Th	7/28/78
Kemp's (Atlantic) ridley sea turtle	Lepidochelys kempi	E	12/2/70
leatherback sea turtle	Dermochelys coriacea	E	6/2/70
loggerhead sea turtle	Caretta caretta	Th	7/28/78

Although rare off Louisiana, the four listed species of sea turtles are present during certain portions of the year. In addition, these species inhabit inland and shallow waters to feed. The three listed whales, in contrast, are found in deep oceanic waters off the continental slope.

The effects of disposing dredged material at the proposed sites include (1) the potential collision from the dredge vessel; (2) the deposition of dredged material on food sources; and (3) the possible deposition of trash and debris from the dredge operation. Regarding the deposition of dredged material, mounding at Sites 1 and 2 is unlikely because the agitation dredging method precludes such problems; temporary mounding may, howvever, occur within Site 3.

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Based on the shallow-water locations of the dredged material disposal sites and the deep water preference of the whale species, no adverse effect on these listed species would result from EPA's proposed action.

There are recognized effects, as mentioned above, on the listed sea turtles. Turbidity and/or mounding of material is temporary or short term and would not result in a serious loss of food sources. Regarding the vessel and trash deposition, it is the combined effect of many marine activities (e.g., oil spills, oil and gas exploration, commercial fishing, trash, marine transportation, etc.) that constitutes a hazard and not a single activity such as a hopper dredge operation. All of these activities, combined with natural predation and development on land, contribute to and result in a cumulative adverse impact on sea turtles (DOI, 1987).

Based on this assessment, EPA has determined that the proposed site designation does not constitute an adverse impact on endangered or threatened sea turtles.

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D. CULTURAL RESOURCES - DETERMINATION OF EFFECT

Mr. Duke Rivet of the State of Louisiana's Office of Cultural Development was consulted regarding the possibility of cultural resources near the Calcasieu ODMDSs. We were advised that there are no recorded cultural resources at the sites (see letter following this paragraph). Therefore, no discussion of the effects of site designation on cultural resources is included.

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Edwin W. Edwards
Governor

Noelle LeBlanc
Secretary

Robert B. DeBlieux
Assistant Secretary

State of Louisiana ◆ Department of Culture, Recreation and Tourism ◆ Office of Cultural Development

September 16, 1987

Mr. Mark D. Curran
Battelle Ocean Sciences
397 Washington Street
Duxbury, Massachusetts 02332

Re: Environmental Impact Statement
Calcasieu River & Pass Ocean
Dredged Material Site Designation
Gulf of Mexico, Louisiana

Dear Mr. Curran:

Reference is made to your letter dated August 14, 1987, concerning the above. In response to your request, we have reviewed our files for updated information on the site under consideration and found that we have no additional data from that contained in our original response letter of October 15, 1984.

Thank you for checking back with us.

Sincerely,

Robert B. DeBlieux
State Historic Preservation Officer

RBD:PGR:s

◆ Division of Archaeology
Kathleen M. Byrd, Ph.D., Director
666 N. Foster Dr.
P. O. Box 44247
Baton Rouge, LA 70804
(504) 922-0368

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PART III.

MODIFICATIONS AND CORRECTIONS TO THE DRAFT EIS

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PART III. MODIFICATIONS AND CORRECTIONS TO THE DRAFT EIS

This Part of the Final EIS contains revisions made to the Draft EIS based on new or more complete information obtained since the release of the Draft, errors and omissions identified through the public review process, and internal review by EPA and the EIS consultant. Minor changes are incorporated into a list of errata, Section A. In response to review comments, Section B presents a discussion of land disposal alternatives. A brief description of recent studies conducted in the area of the ODMDS is presented in Section C. Changes to the draft based on data presented in these studies are also listed in Section C.

A. ERRATA

The following changes in the Draft EIS are relatively minor. In each case the erratum identifies the page, paragraph, and sentence which has been revised, and then lists (in boldface) the changes which should be made to correct the Draft EIS.

Pages iv-v, line 19. Add the following offices to the comment request list: **U.S. Senators and Representatives, Advisory Council on Historic Preservation, State Historic Preservation Office, Department of Natural Resources, Cameron Department of Transportation and Development, and Calcasieu Parish.**

Page vi, paragraph 5, lines 4-5. Correct address should read: **P.O. Box 60267, New Orleans, Louisiana 70160-0267.**

Page 1-2, Table 1-1 and page 2-2, Table 2-1. Boundary

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coordinate for Sites 1, 2, and 3 should be corrected to match Table I-1 of this Final EIS.

Page 2-3, paragraph 1, line 7. Replace 1/4 with: $

Page 2-3, paragraph 2, line 3. Replace 1/4 with: $

Page 2-25, paragraph 1, lines 3-7. The last sentence should read: Although erosion and transport would occur over a period of time, the slower rate of transport could result in greater deposition of thicker layers of mixed site sediments and dredged material outside the site than occurs at the exisitng sites.

Page 3-2, paragraph 1, line 7. At the end of the sentence ending "... and polar air masses." add the reference: (DOI, 1983).

Page 3-5, paragraph 2, line 11. At the end of the paragraph add the sentence: Over a 100-year period it is estimated that 1.7 tropical storms and hurricanes will pass within 5 nmi of the Calcasieu ODMDS (Neumann et al., 1981).

Page 3-6, paragraph 2, line 3. Replace "... of Loop Current water (Comiskey and Farmer, 1981)." with: open Gulf water (Cochrane and Kelley, 1986).

Page 3-6, paragraph 2, line 7. At the end of the paragraph add the reference: (Rezak, et al., 1983)

Page 3-6, paragraph 3, lines 3-6. The sentence beginning "Maximum combined seasonal discharge..." should read: The mean monthly combined discharge from the Mississippi and Atchafalaya Rivers ranges from approximately 34,000 m^3/sec in April to a low of approximately 11,000 m^3 in October (Cochrane and Kelly, 1986).

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Page 3-6, paragraph 3, lines 6-7. The sentence beginning "Runoff from other tributaries ..." should read: **Runoff volumes from the Vermilion and Calcasieu Rivers range from a monthly mean of 374 m^3/sec in March to 63 m^3/sec in July (ibid).**

Page 3-7, paragraph 2, line 2. Replace (c.f., Turgeon, 1981; Fotheringham and Weissberg, 1979) with: **(Wiseman et al., 1986).**

Page 3-7, paragraph 2, line 5. After the reference (Fotheringham and Weissberg, 1979 add: **; Pokryfki and Randall, 1982; Wiseman et al., 1986).**

Page 3-7, paragraph 2, line 9. At the end of the paragraph add the reference: **; Pokryfki and Randall, 1987**

Page 3-8, paragraph 1, line 3. At the end of the paragraph add the reference: **(Cochrane and Kelly, 1986)**

Page 3-10, paragraph 1, line 7. After Weissberg et al., 1980a, 1980b insert the references: **; Kelly et al., 1983, 1984, 1985**

Page 3-10, paragraph 1, line 10. After Weissberg et al., 1980a add: **; Pokryfki and Randall, 1987).**

Page 3-13, paragraph 3, line 2. After Landry and Armstrong, 1980 add: **; Pokryfki and Randall, 1987**

Page 3-13, paragraph 3, lines 6-8. Sentences should read: **Anoxic or hypoxic conditions in the shelf bottom waters have been reported to be an annual phenomenon off Louisiana. The dissolved oxygen minimum generally occurs approximately two months after the peak river discharge in spring or early summer (Pokryfki and Randall, 1987).**

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Page 3-14, paragraph 1, line 3. At the end of the paragraph add the sentence: **Mean pH values for waters of the ODMDS area are expected to range between 7.4 and 8.6 (Jeffrey et al., 1983; Slowey and Jeffrey, 1985).**

Page 3-14, paragraph 2, line 7. Delete: the sentence beginning "Typical nutrient concentrations..." and add the sentence: **Results of monthly surface and bottom measurements taken from May 1981 through April 1982 at water quality stations in Calcasieu Pass and 2.5 nmi offshore are listed in Table 3-4.**

Page 3-15, paragraph 1, line 5. Change the beginning of the sentence to read: **During winter and spring,**

Page 3-15, paragraph 2, line 2. Correct misspelling, last word should be: **anthropogenic**

Page 3-15, paragraph 2, line 10. At the end of the paragraph add the sentence: **Trace metal concentrations in samples collected at the Calcasieu ODMDS are typical of Louisiana coastal waters and reveal no effects of dredged material disposal (IEC, 1984).**

Page 3-17, paragraph 2, line 6. At the end of the paragraph add the sentence: **Depressed oxygen levels due to oxidation of sulfides, immediately following dredged material disposal, is a short-term impact.**

Page 3-17, paragraph 4, line 11. At the end of the paragraph add: **Concentrations of trace metals in sediments in and adjacent to the Calcasieu ODMDS are contained in Appendix A.**

Page 3-19, paragraph 1, line 8. Change the sentence

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beginning "Euphausids, chaetognaths..." to read: Euphausids, chaetognaths, larval fish (mostly anchovy and menhaden), and crustaceans also contribute substantial numbers to the zooplankton communities on the shelf (Wolf et al., 1984).

Page 3-20, Table 3-6, line 32. Add to the list of fish species the following: shoal flounder (common name) and Syacium gunteri (scientific name)

Page 3-21, paragraph 2, line 3. Change 1980 to: 1986

Page 3-21, paragraph 2, line 5. Change 11th to: 12th and replace (NMFS, 1981b) with: (DOC, 1987).

Page 3-21, paragraph 3, line 7-9. The sentence beginning "Most of the fishing..." should read: Most of the fishing for white shrimp off Louisiana occurs shoreward of the 11 fm (20 m) depth contour (Darnell et al., 1983).

Page 3-21, paragraph 3, line 13. Delete the words the greatest

Page 3-21, paragraph 3, line 14. Delete: "from the saline nearshore waters south of Tibalier and Terrebonne bays" and add: seasonally abundant all along the Texas-Louisiana Shelf (Darnell et al., 1983).

Page 3-22, paragraph 3, lines 4-7. Change sentence starting with "In 1980 ..." to the following: In 1984, the Gulf menhaden catch was 2.17 billion pounds. All individuals were taken from waters within 3 miles of the coast; the value of the catch was $85.2 million (Pechmann, et al., 1985).

Page 3-24, paragraph 3, line 4. Replace (DOI, 1977) with: (Schmidly, 1981).

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Page 3-24, paragraph 3, line 3-4. Reword sentence to read: ... and feeds on shrimp, mollusks, and larger fish (Schmidly, 1981).

Page 3-24, paragraph 4, line 9. Replace (DOE, 1978) with: (Schmidly, 1981)

Page 3-25, Table 3-7, line 5. Scientific name for the Black right whale should be: Eubalaena glacialis.

Page 3-25, Table 3-7, line 7. Scientific name for the Bryde's whale should be: B. edeni.

Page 3-25, Table 3-7, line 15. Misspelled word, should be: attenuata.

Page 3-25, Table 3-7, line 31. Change 1979 to: 1986

Page 3-25, Table 3-7, line 32. Replace DOI, 1977a with: Schmidly, 1981

Page 3-26, paragraph 1, line 5. Replace 1980 with: 1986

Page 3-26, paragraph 4, line 6. Change sentence to read: ... records in the Gulf, a sighting off the coast of Florida and a stranding off the coast of Texas (Fritts et al., 1983).

Page 3-27, Table 3-8, line 6. Change fin whale to: finback whale

Page 3-27, Table 3-8, lines 6-11. Replace 12/2/70 with: 6/2/80

Page 3-27, Table 3-8, line 13. Change E to: Th*

Page 3-27, Table 3-8, At the bottom of the page add:

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* The green sea turtle is listed as threatened everywhere except for the endangered status of breeding populations on the Pacific coast of Mexico.

Page 3-27, Table 3-8, Source should be: CFR-50, 1986.

Page 3-28, paragraph 1, line 1. Change Fin Whale to: Finback Whale.

Page 3-28, paragraph 3, line 3. Replace (DOC,1978) reference with: (DOI, 1986).

Page 3-28, paragraph 3, lines 4-5. The last sentence in the paragraph should read: A colony of brown pelicans, introduced from Florida, presently exists at Queen Bess Island, located approximately 100 miles from the disposal site (Schrieber, 1980; Blus et al., 1979).

Page 3-29, paragraph 3, line 2-6. Paragraph should read: No existing or proposed marine sanctuaries occur in the vicinity of the Calcasieu Pass area. The nearest important ecological areas are the Flower Garden Banks. The National Oceanic and Atmospheric Administration has plans to designate the Flower Garden Banks as a marine sanctuary in late 1988 (personal communication, Thomas Bright, Director of Sea Grant, Texas A&M University, August 1987).

Page 4-11, paragraph 2, line 5. Change at an ODMDS to: at a disposal site.

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B. MODIFICATIONS TO THE DRAFT EIS

Since the issuance of the Draft EIS in 1984, a large volume of information describing the biological environment near the Calcasieu ODMDS has been presented in both published and unpublished literature. Most of the information has come from studies conducted by the Department of Energy for the West Hackberry Strategic Petroleum Reserve Project. This project involved leaching large storage caverns in an underground salt dome near Cameron, Louisiana, and then using these caverns to store oil. The brine from the leaching process was discharged six miles off the Louisiana coast. In conjunction with this discharge, environmental monitoring stations were sited in Calcasieu Lake, Calcasieu Pass, and offshore. The DOE environmental studies of the West Hackberry area began in January 1981, and continued through 1985. The multidisciplinary study included measurements of currents, tides, and winds; water and sediment quality; and communities of nekton, phytoplankton, zooplankton, and benthos. Special studies were also conducted on concentrations of selected heavy metals, pesticides, herbicides, and aromatic hydrocarbons in water, sediment, and selected biota.

Over half of the references used to update the affected environment portion of the Draft EIS were DOE studies. The remaining references were used to fill data gaps and supply more recent information on meteorology, fisheries, and endangered and threatened species.

1) Circulation and Currents

Page 3-7, paragraph 3, line 2-11. Delete the paragraph after the first sentence and add:

The major feature of broad-scale circulation in the Gulf is the Loop Current, an extension of the Yucatan Current, which enters

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the Gulf through the Yucatan Strait, makes a "looping" turn to the right, and exits the Gulf through the Florida Straits. The Loop Current dominates surface circulation in the eastern Gulf by its very presence; whereas, it affects the western Gulf through formation of large anticyclonic (clockwise) eddies in the eastern Gulf that may subsequently migrate to the western Gulf. The average position of the northern edge of the Loop Current is about 26°N, and penetration north or south of this line can occur in any season (Molinari and Festa, 1978). About once or twice a year, as the current moves north, the central part of the Loop Current pinches inward and gives rise to a detached ring or eddy. For the next six to eight months this 300 to 400 km diameter eddy may travel to the west at a speed of 2 to 5 km/day (DOI, 1986). Once it reaches the western border of the Gulf, the life span of the ring is about three to five months. As many as three rings at a time have been detected in the western Gulf (SAIC, 1986). These rings carry energy, high salinity, and nutrients onto the shelf off Texas-Louisianna (Sturges and Horton, 1981).

Page 3-8, paragraph 3, line 12. At the end of the paragraph insert the following information:

From January 1981 through November 1984, at a location approximately 5 nmi from the Calcasieu ODMDS, maximum current speeds ranged from 0.9 to 1.1 kn; however the mean monthly current speeds commonly ranged from 0.1 to 0.2 kn (Kelly, et al., 1983, 1984, 1985). Current direction was predominantly along shore and to the west. Notable current reversals (flow to the east) were present in the summers of 1982 and 1984 (ibid).

2) Salinity

Page 3-10, paragraphs 2-3, line 3. Delete lines 3 to 16 beginning with "Open Gulf salinities..." and add:

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Open Gulf surface salinities are generally around 36 parts per thousand (ppt) (DOI, 1986). Considerable variations in salinity occur in the nearshore area. Salinity gradients reflect the input and mixing of freshwater runoff from coastal rivers and estuaries. The intensity of salinity gradients varies seasonally with respect to freshwater discharge volumes (DOI, 1978).

Salinities in the Mid-Shelf area of Louisiana normally range from about 20 to 35 ppt (Kelly et al., 1985). Differences between surface and bottom salinities commonly reach up to 6 ppt. Lowest salinities occur in spring, corresponding to the period of high freshwater runoff. Conversely, highest salinities are found in summer reflecting low freshwater input (Cochrane and Kelly, 1986). Salinity stratification, resulting from a brackish layer of mixed river and Gulf water overlying highly saline Gulf water, is common in the Louisiana nearshore zone during late spring and early summer (Pokryfki and Randall, 1987). In winter, wind and wave induced turbulence mixes the shallow waters, disrupting summer haloclines (Kelly, et al., 1983).

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3) Nutrients

Page 3-14, Table 3-4. Replace existing Table 3-4 with the following:

TABLE 3-4
NUTRIENTS CONCENTRATIONS (mg/L)
CALCASIEU ODMDS AREA

	CALCASIEU PASS		2.5 MILES OFFSHORE	
	Range	Mean	Range	Mean
PO_4-P				
S	<0.01 - 0.06	0.03	0.01 - 0.04	0.02
B	<0.01 - 0.06	0.03	0.02 - 0.10	0.04
SiO_2				
S	0.60 - 5.5	2.6	0.20 - 4.8	1.5
B	0.50 - 5.8	2.2	0.20 - 9.5	3.2
NO_3-N				
S	<0.01 - 0.45	0.06	<0.01 - 0.16	0.05
B	<0.01 - 0.29	0.06	<0.01 - 0.23	0.06

S = near surface
B = near bottom

Source: Jeffrey, et al., 1983.

4) Turbidity and Total Suspended Solids

Page 3-15, paragraph 1, line 6. At the end of the paragraph add the following:

From May 1981 through April 1982, monthly turbidity values for waters in Calcasieu Pass ranged from 5 to 50 NTU in surface waters and from 5 to 64 NTU in bottom waters; average turbidity values were 11.6 and 16.3 NTU respectively. Turbidity values for samples collected 2.5 nautical miles offshore ranged from 2

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to 23 NTU in surface waters and from 5 to 57 NTU in bottom waters with average values of 7.5 and 19 NTU respectively (Jeffrey, et al., 1983).

5) Organics

Page 3-15, paragraph 3, line 7. At the end of the paragraph add the following:

Waters from the Calcasieu ODMDS were analyzed for dieldrin, DDE, and PCBs (IEC, 1980). Dieldrin and PCB concentrations were below EPA's minimum water quality criteria. DDE concentrations exceeded EPA's 24-hr criterion for total DDT of 1 ng/L, but all DDE measurements were well below the single measurement criterion of 130 ng/L (IEC, 1984).

6) Sediment Hydrocarbons

Page 3-17, paragraph 3, line 6. At the end of the paragraph add:

Monthly values of total organic carbon (TOC) in sediments collected in 1981-1982 at the mouth of Calcasieu Pass ranged from 0.31 to 1.86 mg/g for an average of 0.92 mg/g. At a station approximately five nautical miles offshore, TOC values ranged from 0.80 to 1.34 mg/g and had an average value of 1.02 mg/g (Jeffrey, et at., 1983). Sediment TOC concentrations for samples collected in and adjacent to the Calcasieu ODMDS ranged from 0.18 to 8.2 mg/g with a mean (n = 30) of 3.2 mg/g. Hydrocarbons in the regions sediments are derived from petrogenic and biogenic sources (IEC, 1980). Total hydrocarbon concentration decreased with increasing distance from shore. At the nearshore station concentrations ranged from 60 to 114 ug/g in contrast to 35 to 48 ug/g a few miles farther offshore (IEC, 1980).

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7) Phytoplankton

Page 3-18, paragraph 2, line 12-15. Delete the last two sentences of the paragraph and add:

Studies conducted near the Calcasieu ODMDS from May 1982 through August 1984 reported 141 phytoplankton taxa in which 31 were identified as dinoflagellates, 83 as diatoms, and the remainder divided between green and blue-green algae and unidentifiable species (Fay and Schnitzer, 1984, 1985). Diatoms tended to dominate through 1982 but in 1983 dominance varied between diatoms, small flagellates and dinoflagellates. Density of phytoplankton in the region of the ODMDS ranged from 4,000 to 26,500,000 cells/L with a mean (n = 16) of 77,000 cells/L. Chlorophyll values also exhibited considerable temporal variability. Values ranged from 1.4 to 43 mg/m^3 with a mean of 6.2 mg/m^3 (Fay and Schnitzer, 1984, 1985).

8) Benthos

Page 3-24, paragraph 1, line 10. At the end of the paragraph add:

In contrast to the above studies, the survey conducted in and adjacent to the Calcasieu ODMDS spanned a greater inshore-offshore gradient and included sediments ranging from silty clays (inshore) to silty and clayey sands (offshore) (IEC, 1984). Despite sediment differences, the composition of the microfaunal assemblages in the two study areas was very similar (IEC, 1984).

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9) Bibliography

These references should be inserted alphabetically into the list of references beginning on page 6-1 of the Draft EIS.

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C. LAND DISPOSAL ALTERNATIVES

Historically, the New Orleans District CE has disposed of most dredged material by placing the material in large confined areas (upland sites) or in open-water disposal sites. Over the past decade the New Orleans District (as have other districts) has made efforts to consider and incorporate, whenever possible, environmentally beneficial uses for dredged material. As a part of its project planning studies, the CE currently evaluates dredged material for marsh creation, marsh nourishment, borrow pit filling, and island construction (CE, 1987).

The feasibility of land disposal for the Calcasieu Project centers on several factors including the nature of the dredged material, site selection, engineering design, cost of alternatives, environmental impacts, and public input. All of these factors must be considered in evaluating land disposal alternatives.

In 1976, the New Orleans District examined land disposal alternatives its ocean dumping assessment for the Calcasieu River and Pass (CE, 1976). The land-based alternatives considered (e.g., land disposal into diked areas) were rejected because of technical feasibility or excessive costs. Land disposal by floating pipeline was considered not feasible because the floating pipeline could not be used in the surf zone. Land disposal via submerged pipeline (with an estimated 30 miles of pipeline needed) was determined possible, but costs would be triple those of normal dredging. Also such a disposal plan would require additional material handling (pumping) as compared to conventional ocean dumping. In addition, submerged pipes are sometimes lost and can pose a hazard to navigation.

VanBeek and Meyer-Arendt (1982) suggested a beach nourishment project using dredged material from the Calcasieu Project. This study recommended the use of dredge spoil to reduce erosion to the west of Site 1, at beaches such as Holly Beach. At present, costs to transport dredged material to

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beaches away from the Calcasieu Project area make this alternative impractical (personal communication, G. Breerwood, New Orleans District CE, August 1987). In addition, dredged material from the Calcasieu Project area is often made up of more silt than sand, making it less suitable for beach nourishment projects. No site specific feasibility studies on beach nourishment are being conducted for the Calcasieu ODMDSs. However, a feasibility study is scheduled to start in fiscal year 1989 to look at beach restoration near Holly Beach (personal communication, R. Gunn, New Orleans District CE, August 1987).

Upland disposal sites are currently used for the inland reaches of the Calcasieu River Project. In 1983, approximately 590,000 yd^3 of dredged material were pumped into the disposal areas creating 80 acres of marsh. In 1985, 650,000 yd^3 were pumped into two additional areas to create 125 acres of marsh (CE, 1987). These sites, however, cannot accommodate the dredged material from the channel. Use of these upland sites for material which has traditionally been dumped at sea would quickly decrease the lifetime of the sites. Additionally, the only available upland sites are miles upstream from the channel (well beyond Calcasieu Lake) making the use of these sites economically impractical (personal communication, S. Hawes, New Orleans District CE, August 1987).

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PART IV.

EPA'S PREFERRED ALTERNATIVE

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PART IV. EPA'S PREFERRED ALTERNATIVE

Based on a thorough review of the Draft EIS, written comments on the Draft EIS, and this Final EIS, EPA's preferred alternative is the final designation of the Calcasieu River and Pass ODMDSs as described in Part I of this EIS. The Calcasieu ODMDSs, as combined into three sites (Sites 1, 2, and 3), were designated on an interim basis because of past use of the sites by CE for the disposal of materials resulting from the maintenance dredging of the channel. This is anticipated to the primary source of dredged material disposed of at the site in the future.

The CE has requested that EPA designate ocean disposal sites for continued disposal of dredged material from the Calcasieu River and Entrance Channel. A need exists for locating and designating environmentally acceptable ocean dredged material disposal sites if the CE's responsibilities under the MPRSA and other Federal statutes are to be carried out.

The need for continued dredging in the Calcasieu River and Pass area has been demonstrated. Taking no action regarding final designation of the sites for continued use, or terminating their future use, would result in no final designation of an EPA-approved site for dredged material disposal. The no-action alternative is not considered acceptable. Land disposal or beach nourishment alternatives are not practical. Ocean disposal of dredged material is considered the most acceptable action for several reasons. The existing ODMDSs have been used for more than 30 years. Surveys of the disposal sites by Interstate Electronics Corporation (IEC) have not detected any substantial degradation in water or sediment quality or adverse impacts on the the biota relative to the adjacent control stations.

In contrast, no previous dumping has occurred in the alternative mid-shelf or deep-water areas. Consequently, the impacts of dumping in these regions are unknown. Monitoring and surveillance at these sites would be more difficult and

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expensive because of deeper water. Increased transportation costs would be appreciable because of greater distances travelled, and use of these areas during rough weather would be hazardous.

After reviewing all reasonable alternatives, EPA and CE have determined that continued ocean dumping at interim-designated Sites 1, 2, and 3 offers an acceptable solution for disposal of dredged materials for the Calcasieu area. The proposed action would amend the 1977 interim designation by making final designations of each of the ODMDSs. The proposed action does not exempt the dredged materials from compliance with the Ocean Dumping Regulations and Criteria prior to disposal at a designated site.

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