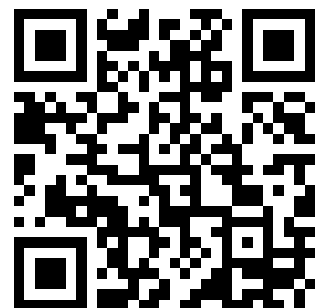

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United States
Environmental Protection
Agency

Region VI
1445 Ross Ave.
Dallas, TX 75202

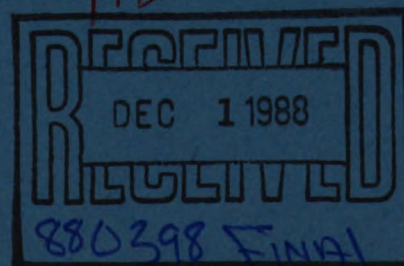
EPA 906/12-88-004
December 1988

EPA

Environmental Impact Statement

Final

Southwest Pass -- Mississippi River Ocean Dredged Material Disposal Site Designation





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**REGION VI
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202**

November 28, 1988

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 Southwest Pass - Mississippi River ocean disposal site for material dredged from the Southwest Pass Channel by the Corps of Engineers, New Orleans District. 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,

A handwritten signature in dark ink, which appears to read "R. Layton", is written over the typed name.

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

Enclosures

**FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR
SOUTHWEST PASS - MISSISSIPPI RIVER
OCEAN DREDGED MATERIAL DISPOSAL SITE DESIGNATION**

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

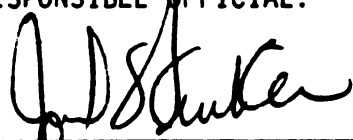
ADMINISTRATIVE ACTION: The purpose of the action is to adhere to the Marine Protection, Research, and Sanctuaries Act of 1972 by providing an environmentally acceptable ocean dredged material disposal site (ODMDS) in compliance with the Ocean Dumping Regulations (40 CFR Parts 220-229).

EPA CONTACT: Norm Thomas (6E-F)
U.S. Environmental Protection Agency
First Interstate Bank Tower
1445 Ross Avenue
Dallas, Texas 75202-2733

ABSTRACT: The proposed action is the final designation of the Southwest Pass - Mississippi River ODMDS. The ODMDS is located off the mouth of Southwest Pass and is adjacent to and west of the Southwest Pass Channel. An average of 14.5 million cubic yards of material is dredged annually from the Southwest Pass Channel and deposited in the existing ODMDS. Adverse impacts of dredged material disposal include the burial of benthic organisms, formation of a mound, and development of a plume.

COMMENTS ON THE FINAL EIS DUE: JAN 09 1989

RESPONSIBLE OFFICIAL:



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

[Handwritten initials]

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PREFACE

The Draft Environmental Impact Statement (EIS) for the Southwest Pass - Mississippi River Ocean Dredged Material Disposal Site Designation was issued by the U.S. Environmental Protection Agency in August 1984. Eight comment letters were received by EPA during the 45-day public review period on the Draft EIS.

This Final EIS consists of four sections which are (1) a summary of the alternatives considered, the proposed action, and an evaluation of the environmental impacts of the proposed action; (2) the comments received and EPA's responses; (3) modifications or corrections to the Draft EIS; and (4) EPA's preferred alternative. The Draft EIS and Final EIS together provide complete environmental analysis of the proposed action.

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

PART I. SUMMARY OF THE DRAFT AND FINAL EIS

A. BACKGROUND

Southwest Pass is the main route to New Orleans from the Gulf of Mexico (Figure I-1). The Mississippi River deposits a heavy sediment load in Southwest Pass. Without annual dredging of the channel, the sediments would decrease operating depths and limit economically important ship traffic utilizing the channel. Approximately 77 million cubic yards (mcy) of sediment enter the Gulf of Mexico through Southwest Pass each year. Dredged material disposal at the existing ocean dredged material disposal site (ODMDS) has ranged from about 1.8 to 33 mcy per year, with an annual average of 14.5 mcy.

Section 102(c) of the Marine Protection, Research, and Sanctuaries Act (MPRSA) authorizes the U.S. Environmental Protection Agency (EPA) to designate ocean disposal sites for dumping of dredged material. In 1977, under the final Ocean Dumping Regulations and Criteria, interim designation was given to 127 ODMDSs, including the Southwest Pass site, for a period not to exceed 3 years. Interim designation was based on historical use of the site for dredged material disposal. In 1980, the interim status of the Southwest Pass site was extended indefinitely.

The Corps of Engineers, New Orleans District is responsible for maintaining Southwest Pass to its authorized depth through maintenance dredging and disposal operations. The CE has requested that EPA permanently designate an ocean disposal site for the material dredged from the Southwest Pass Channel.

B. ALTERNATIVES

EPA's proposed action is the final designation of the interim-designated Southwest Pass - Mississippi River ODMDS. Alternatives that were considered include no action, final designation of the interim-designated site, relocation of the ODMDS to other ocean areas, and land disposal.

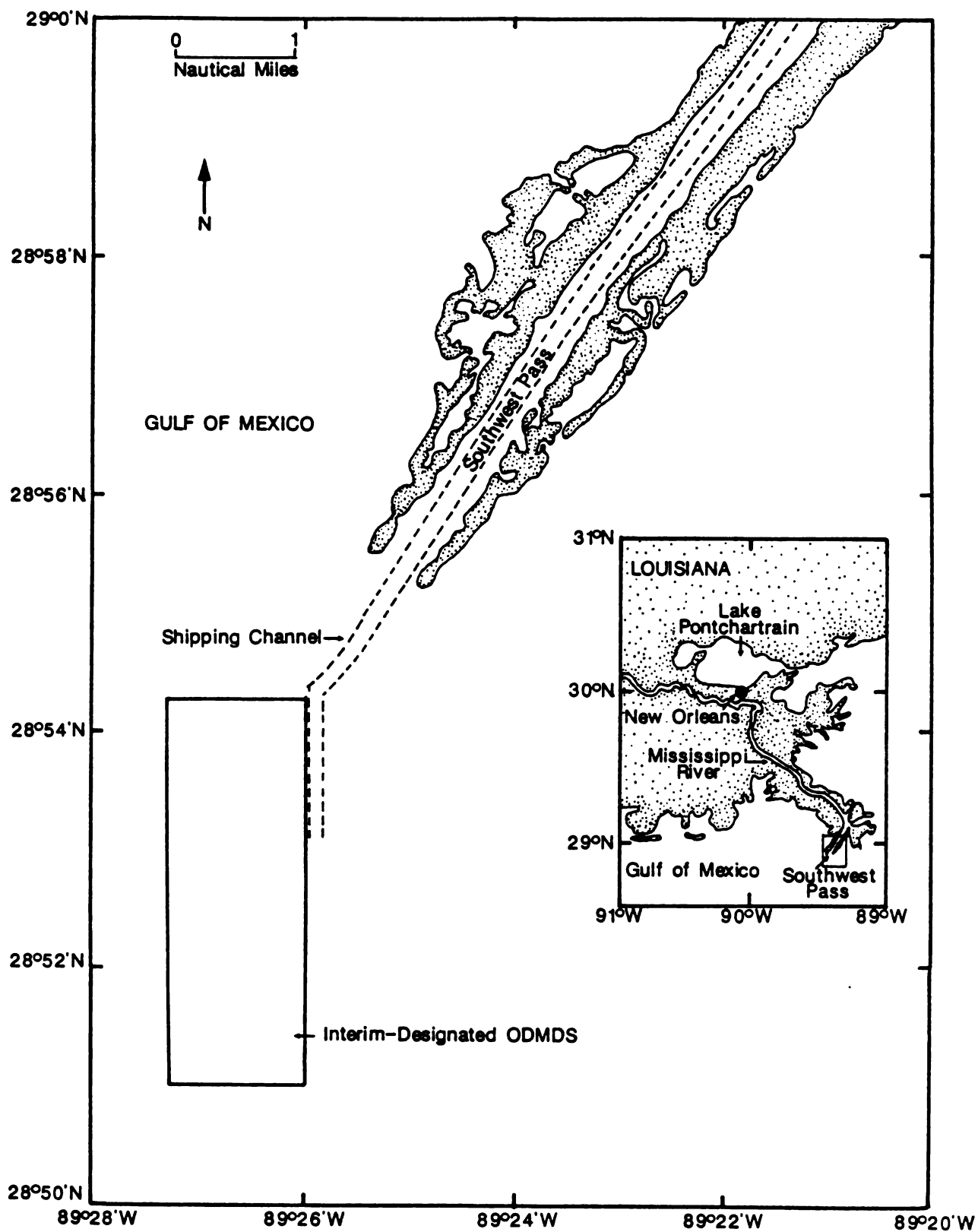


FIGURE I-1. SOUTHWEST PASS - MISSISSIPPI RIVER ODMDS.

Under the no-action alternative, the status of the interim-designated site would remain unsettled. The interim status of the site was indefinitely extended in 1980 pending the completion of any necessary studies and an evaluation of the suitability of the site for dredged material disposal. The no-action alternative is not considered acceptable because the necessary environmental studies have been completed, and therefore a decision to designate or dedesignate the site is required.

Alternative locations at shallow-water, mid-shelf, and deep-water sites were evaluated. Relocation of the site to an alternative shallow-water site would put it to the northeast or northwest of the present site, in more productive biological waters nearer to estuarine areas. Because these sites are less directly impacted by Mississippi River flows, the organisms in these areas may be less adaptable to environmental stresses, and the bottom sediments may not be as similar in composition to the dredged materials as the sediments at the interim-designated site. Monitoring and surveillance activities at an alternative shallow-water site would not be more difficult than at the interim-designated site, but disposal costs would increase with the increased distance from the dredging site.

In the mid-shelf region, a disposal site would have to be located to minimize interference with fishing and oil and gas activities; the most feasible location would be about 10 nautical miles (nmi) south of Southwest Pass. At this deeper, less dynamic site, dredged material would be transported more slowly, which could result in the deposition of sediments to greater thicknesses than occurs at the interim-designated site. The Mississippi River plume influences this site to a lesser degree than the interim-designated site, and some of the sediments dredged from Southwest Pass would probably be coarser than the river plume deposits in the mid-shelf region. The impacts of the dredged material on bottom organisms would be minor and similar to those at the interim-designated site. The greater depths of water and further distance from shore would increase surveillance and monitoring costs and could require the use of larger vessels and special equipment. Dredging costs would also be increased with disposal at a mid-shelf site because of higher transportation costs.

A deep-water site would be located about 22.5 nmi from Southwest Pass. At this site, dredged material would probably disperse over a larger area than at a mid-shelf site, and once on the bottom, erosion and transport of

the sediments would be slow and the sediments would tend to remain in place. The impacts of the dredged material on organisms within the site would be similar to impacts at the interim-designated or mid-shelf sites. The dredged material would have to be transported through areas of open ocean with heavy oil and gas activity, increasing concerns about safety. Surveillance and monitoring would be more difficult and costly due to the greater depths and distance from Southwest Pass, and special equipment would be required for monitoring. The costs of transporting the dredged material to the deep-water site would be higher because of the greater transport distance.

Disposal alternatives other than ocean disposal were evaluated by CE in previous studies. The CE determined that an ocean disposal site was needed for the disposal of dredged material from the Southwest Bar and outer Jetty areas. Beach nourishment and marsh construction and restoration were considered. The CE determined that transport of the dredged material to beach or marsh areas was not feasible due to high costs. Also, the dredged material is considered unsuitable for beach nourishment because it consists of approximately 95 percent fines. A further discussion of land disposal alternatives can be found in Part III.C of this Final EIS.

EPA's preferred alternative is the final designation of the interim-designated site. The interim-designated site is bounded by the following coordinates:

28°54'12" N, 89°27'15" W; 28°54'12" N, 89°26'00" W;
28°51'00" N, 89°27'15" W; 28°51'00" N, 89°26'00" W.

The preferred alternative is based on the following considerations:

- The status of the interim-designated site and its suitability for disposal of dredged material would remain undetermined under the no-action alternative.
- Relocation of the ODMDS offers no environmental advantages, would subject new areas to the effects of dredged material disposal, and would result in increased costs for dredged material disposal.
- Organisms inhabiting the interim-designated site are adapted to natural stresses and are able to recover from environmental stresses.
- No adverse environmental effects have been detected outside the boundaries of the existing site.

- Land disposal alternatives were determined to be unacceptable by the Corps of Engineers.
- Beach nourishment and marsh creation were found to be unacceptable because of costs and the unsuitability of the dredged materials (for beach nourishment).

C. AFFECTED ENVIRONMENT

The Southwest Pass ODMDS is located off the Louisiana coast at the mouth of the Mississippi River. This coastal region is characterized by a subtropical marine climate. The annual mean air temperature in the area is 21.4°C, ranging from 14.2°C in January to 28.2°C in July and August. Precipitation is heaviest in summer and early autumn, with a mean annual precipitation near the interim-designated ODMDS of 148 cm. Coastal fogs are common between January and April. Winds along the coast are variable, with the highest mean wind speeds occurring in the winter, averaging speeds of over 13 knots (kn) from November through March. There are two types of storm systems that occur in the northern Gulf of Mexico. Extratropical cyclones, or northers, occur in late autumn and winter; tropical cyclones, which can escalate into hurricanes, occur in summer and early autumn.

The waters near the Mississippi River Delta are affected by winds, seasonal changes in surface heat flux, freshwater runoff from the Mississippi River and coastal bays, and Gulf of Mexico intrusions. There are three water masses in the Gulf, the Surface Mixed Layer (0-75 m), the Subtropical Underwater Layer (50-250 m), and the Oxygen Minimum Layer (300-600 m). In the nearshore zone, a fourth water mass consisting of Surface Mixed Layer water and fresh water from land runoff exists. The interim-designated ODMDS is characterized by a combination of low salinity water near the surface and Surface Mixed Layer water somewhat deeper.

Salinity patterns in the nearshore zone are complex as a result of the impacts of Mississippi River water discharges. Salt wedges occur in Southwest Pass and South Pass when salt water flows under the fresh water. Vertical mixing between the salt and fresh water layers increases seaward of the mouth of the Southwest Pass. At the interim-designated ODMDS, the water column is typically stratified, with bottom salinity generally highest in mid-summer, decreasing until late autumn, and increasing by early winter to summer levels.

Inshore Gulf waters undergo large and rapid temporal and spatial changes in temperature. Surface temperatures ranging from 18.0°C to 22.0°C in the winter and 22.8°C to 24.1°C in the spring have been reported at the interim-designated site.

Circulation in the Gulf is complex, and is influenced by the Loop Current, tides, winds, and river discharges. Local currents near the interim-designated ODMDS and the mid-shelf and deep-water areas are influenced by salinity and density stratification, wind, river flow, tides, and Loop Current intrusions. Two-layer flows are possible in the area of the interim-designated ODMDS because the strong density gradients resulting from Mississippi River water inflow inhibits vertical transfer of momentum. Surface currents at the interim-designated ODMDS typically flow to the west, with speeds of 0 to 4 kn reported at the Southwest Pass entrance. Tidal currents speeds of 0.4 to 0.6 kn occur up to 5 nmi offshore, and probably influence water motion at the interim-designated site.

Waves in the vicinity of the interim-designated ODMDS are generated by local winds and swell from the open Gulf. Wave heights are greatest from October to March, and range from 0.6 to 1.2 m. Swells are largest from October to April, with swells generally less than 3.7 m. Tides in the Mississippi River Delta area are diurnal, and are affected by wind and weather conditions. The diurnal range is 0.4 m and the mean tide level is 0.2 m above mean low water.

The geology of this area is dominated by sediment discharge from the Mississippi River, which discharges 260 million tons of sediments predominately composed of silt and clay annually. The Mississippi River Birdfoot Delta has developed as a result of Mississippi River sediment deposition. The underlying sediments in the Birdfoot Delta and delta front are characterized by a high water content, underconsolidation, and high organic content with an associated generation of biogenic gas. These factors result in unstable sediments, continual downslope sediment movements, and slope failures. Mudlumps form in the Mississippi Delta as a result of clay upwelling. Mudlump activity in Southwest Pass is concentrated on the west side of the entrance channel within a few thousand feet of the mouth of the Pass. Topography throughout the site area is irregular. Depths at the interim-designated ODMDS range from 2.5 to 22 m with an average bottom slope of 0.30.

The Mississippi River delta is formed by a thin layer of prodelta marine clay overlain by thick wedges of silt clay separated by finger-like bar deposits of fine sand and sandy silt. At the interim-designated ODMDS, the fine components of the sediments increase with distance from the channel and entrance to the Southwest Pass. Sediment grain size ranges from less than 1 percent sand south of the site to 96 percent sand close to the Southwest Pass entrance. The rate of sedimentation decreases with increasing distance from Southwest Pass, ranging from tens of centimeters per year at 50 m to a few millimeters per year at 200 m.

Dissolved oxygen (DO) levels in the vicinity of Southwest Pass are influenced by river and Gulf waters. DO levels west of the Mississippi Delta have been reported to range from 2.8 to 11.5 mg/l in surface water, 4.8 mg/l at mid-depth, and 1.1 to 4.6 mg/l for bottom water. The pH of Louisiana Bight waters ranges from 6.7 to 9.3, averaging 8.1.

The Mississippi River has a major influence on nutrient concentrations, which are low in open Gulf waters and increase near shore. Turbidity and suspended solids concentrations are also influenced by sediments transported to the Gulf by the Mississippi River.

River discharge is the dominant transport pathway for trace metals, and concentrations of dissolved metals are consistent in the Mississippi River and Gulf coastal waters. Sediment samples from the interim-designated ODMDS did not exhibit elevated concentrations of metals as compared to other Mississippi Delta sediment data (Stallworth and Jordan, 1980; Trefrey, 1977). Important sources of chlorinated hydrocarbons (CHCs) are riverine and atmospheric input. The presence of chlorinated and petroleum hydrocarbons in sediments and organic materials is of concern because of potential impacts on marine organisms. CHC concentrations at the interim-designated site are generally low, although total hydrocarbon concentrations at the interim-designated site are generally higher than concentrations reported for similar sediments located off the coast of central and western Louisiana (Boehm and Fiest, 1980). Concentrations of trace metals and CHCs in shrimp and crab collected from the area of the existing ODMDS were low, and all CHC concentrations were below FDA action/tolerance levels. The FDA action/tolerance levels are limits established by FDA for protection of human consumers of seafood.

Plankton communities at the interim-designated ODMDS are typical of nearshore Continental Shelf waters in the Gulf of Mexico. Both fresh- and salt-water phytoplankton species occur at the existing ODMDS because of freshwater inputs from the Mississippi River. The highest numbers of phytoplankton occur in the spring and fall during periods of high runoff. Zooplankton abundance also peaks during spring and fall. Copepods are the numerically dominant zooplankton over the Louisiana shelf.

The two general types of demersal fish communities on the Continental Shelf of the northern Gulf of Mexico are the white shrimp grounds community and the brown shrimp grounds community. The white shrimp grounds community extends from depths of 4 to 22 m; the dominant finfish group in this community is sciaenids and the dominant species is the Atlantic croaker. The brown shrimp grounds community extends from depths of 22 to 82 m; the dominant finfish group is sparids and the dominant species is the longspine porgy.

The most common small cetacean in nearshore Gulf of Mexico waters is the Atlantic bottlenose dolphin, which may occur in the interim-designated ODMDS. The most common larger cetaceans in the Gulf are the short finned pilot whale and the sperm whale.

The benthic species of the northern Gulf of Mexico include gastropods, pelecypods, crustaceans, echinoderms, polychaetes, and cnidaria. The dominant species west of Southwest Pass on the Continental Shelf are polychaetes, representing 69 percent of all species, followed by phoronids (18 percent) and pelecypods (7 percent). Shrimp and crabs are the most abundant epifaunal species at the interim-designated ODMDS; the infauna is dominated by polychaete worms.

Listed endangered mammals in Gulf waters are the sei, sperm, right, humpback, and finback whales. Atlantic (Kemp's) Ridley, leatherback, loggerhead, green and hawksbill turtles are threatened or endangered species that may occur in the Louisiana marine environment.

Important commercial fish and shellfish in the eastern Louisiana district include penaeid shrimp, oysters, blue crabs, mullet, menhaden, black drum, and spotted seatrout. The dominant commercial species in the vicinity of the western Delta are menhaden and shrimp. Important sportfish species include red drum, black drum, Spanish and king mackerel, bluefish, billfish, Gulf kingfish, tuna, snapper, and sharks. In addition to sportfishing, other

coastal recreation activities include crabbing, waterfowl hunting, pleasure boating, and swimming. Fishing is the major recreational activity that occurs near the interim-designated ODMDS.

The Southwest Pass is heavily used for shipping. Crude petroleum and fuel-related cargoes compose 52 percent of all cargo through the Southwest and South Passes. The existing ODMDS overlaps the safety fairway at the entrance to Southwest Pass. The shelf region of the Gulf is intensely developed for oil and gas production, and one production platform is located within the boundaries of the existing ODMDS. There are no marine sanctuaries in the western Mississippi Delta region. Several management areas and wildlife refuges are located in the eastern Delta region.

D. ENVIRONMENTAL CONSEQUENCES

The interim-designated disposal site has been evaluated using the 5 general and 11 specific criteria listed in the Ocean Dumping Regulations. This evaluation is summarized in Tables I-1 and I-2.

E. PROPOSED ACTION

EPA's proposed action is the final designation of the Southwest Pass - Mississippi River Ocean Dredged Material Disposal Site.

TABLE I-1. SUMMARY OF THE SPECIFIC CRITERIA AS APPLIED TO THE PREFERRED DISPOSAL SITE.

Specific Criteria as Listed in 40 CFR §228.6(a)	Preferred Disposal Site
1. Geographical position, depth of water, bottom topography and distance from coast.	See Figure I-1. The water depth ranges from 2.7 to 32.2 meters, the bottom topography is irregular, and the site is approximately 1.75 nmi from the closest point of land.
2. Location in relation to breeding, spawning, nursery, feeding, or passage areas of living resources in adult or juvenile phases.	The northwestern Gulf is a breeding, spawning, nursery, and feeding area for shrimp, menhaden, and bottomfish. Some short term interferences with breeding, spawning, feeding, and passage would occur during disposal operations.
3. Location in relation to beaches and other amenity areas.	Recreation in the area of the ODMDS is limited to sport fishing; the area around Southwest Pass is not readily accessible by land and there are no beaches in the vicinity.
4. Types and quantities of wastes proposed to be disposed of, and proposed methods of release including methods of packaging the waste, if any.	Historically, an average of 14.5 mcy of material is dredged annually, with a range of 1.8 to 32.5 mcy. Similar quantities will continue to be dredged annually using either agitation dredging in high river flows or hopper dredges for transport during low flows.
5. Feasibility of surveillance and monitoring.	Surveillance and monitoring are both feasible at this site. Surveillance can include inspection of logs, observation by ship riders or from aircraft, and observation from the light station at the end of the Pass. The shallow depth of the site and its close proximity to shore would facilitate monitoring at the ODMDS.

TABLE I-1 (CONTINUED).

6.	Dispersal, horizontal transport and vertical mixing characteristics of the area, including prevailing current direction and velocity, if any.	The Mississippi River plume passes through the site in a westerly or southwesterly direction and may mask the dredged material turbidity plume. Prevailing currents at the site are southwest at speeds of 0 to 4 knots. Disposed dredged material fines become mixed with the Mississippi River plume and move generally southwest; net movement of heavier materials which settle is to the west. Mississippi River freshwater discharge results in stratification at the mouth of the Pass; seaward of the pass vertical mixing increases.
7.	Existence and effects of current and previous discharges and dumping in the area (including cumulative effects).	The materials dredged from the Southwest Pass channel are similar to the materials in the Mississippi River flow, and therefore the sediments at the ODMS are similar to the sediments in the broad area off the mouth of the Southwest Pass. Previous site surveys have not detected any effects of disposal at the ODMS.
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.	Some interference with shipping, recreational and commercial fishing, and boating are expected during dredged material disposal operations. There is no fish or shellfish culture within the site, although there will be some impacts on naturally occurring fish and shellfish within the site. The only mineral extraction within the site is oil and gas; past experience has indicated no interference during dredged material disposal.
9.	Existing water quality and ecology of the site as determined by available data or trend assessment of baseline surveys.	Evaluations of water quality and ecology at the ODMS have shown the site to be generally similar to the nearshore region off the Louisiana coast affected by discharges from the Southwest Pass of the Mississippi River.
10.	Potentiality for the development or recruitment of nuisance species in the disposal site.	No nuisance species have resulted from past dredged material disposal at the site.
11.	Existence at or in close proximity to the site of any significant natural or cultural features of historical importance.	No known features of historical importance occur within the site; there are some shipwrecks within 3.5 miles of the site.

TABLE I-2. SUMMARY OF THE GENERAL CRITERIA AS APPLIED TO THE PREFERRED DISPOSAL SITE.

General Criteria as Listed in 40 CFR §228.5	Preferred Disposal Site
<p>(a) The dumping of materials into the 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.</p>	<p>The transport distance to the ODMDS is short, which tends to minimize interference with other activities. Some interference with fishing and navigation may occur during dredging and disposal activities.</p>
<p>(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.</p>	<p>The turbidity plume resulting from the dredged material disposal operations will become intermixed with the Mississippi River plume and will become undetectable from naturally occurring turbidity. No marine sanctuaries are in the immediate vicinity of the site; the nearest wildlife management area is 17 nmi northeast of Southwest Pass. Fisheries and shellfisheries exist throughout the region, but the ODMDS is extremely small in comparison to the total fishing and shellfishing area.</p>
<p>(c) If at any time 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 alternate disposal sites can be designated.</p>	<p>Studies conducted to date indicate that the ODMDS meets the §228.5 and §228.6 requirements.</p>

TABLE I-2 (CONTINUED).

(d) The sizes of ocean disposal sites will be limited in order to localize for identification and control any 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 1.72 nmi ² area of the ODMDS will tend to minimize and localize the area of immediate impact from dredged material disposal. The ODMDS is located adjacent to the Southwest Pass Channel and therefore transport distances are short. The size and location facilitate the implementation of monitoring and surveillance programs.
(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 ODMDS has been historically used for dredged material disposal. Relocation to beyond the continental shelf was considered but found to be infeasible.

PART II. CONSULTATION AND COORDINATION

This section of the Final EIS identifies the public review process on the Draft EIS. It presents the comments received by EPA during the review period and EPA's responses to the comments. In addition, the section presents EPA's biological assessment of endangered species in the area of the proposed action, and summarizes the consultation with the State of Louisiana on cultural resources in the area of the proposed action.

A. PUBLIC REVIEW PROCESS

The Draft EIS for the Southwest Pass - Mississippi River ODMS designation was distributed to the public by EPA in August 1984 for a 45-day review and comment period. 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 Service
Bureau of Outdoor Recreation
Bureau of Land Management
Geological Survey

Department of Transportation

Coast Guard

National Science Foundation

States and Municipalities

State of Louisiana

Governor's Office

Department of Natural Resources

Department of Wildlife and Fisheries

Louisiana State Historic Preservation Officer

Jefferson Parish

Plaquemines 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

B. RESPONSES TO COMMENTS

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

<u>Letter Number</u>	<u>Agency</u>
1	U.S. Department of Commerce, National Oceanic and Atmospheric Administration
2	U.S. Department of Commerce, National Marine Fisheries Service
3	U.S. Department of Defense, Army Corps of Engineers
4	U.S. Department of Health and Human Services, Centers for Disease Control
5	U.S. Department of the Interior, Office of Environmental Project Review
6	U.S. Department of Transportation, Coast Guard
7	National Science Foundation
8	State of Louisiana, Department of Natural Resources

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.

October 9, 1984

Mr. William C. Shilling
Criteria and Standards Division (MH-585)
Office of Water Regulations and Standards
Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

Dear Mr. Shilling:

This is in reference to your draft environmental impact statement entitled "Southwest Pass - Mississippi River Ocean Dredged Material Disposal Site (ODMDS) Designation (EPA-440/5-84-U15)." 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. We would appreciate receiving four copies of the final environmental impact statement.

Sincerely,

Joyce M. Wood
Joyce M. Wood
Chief, Ecology and
Conservation Division

Enclosure

DC:das



1-0. See next page for specific comments and EPA's responses.

1-0.

II-4



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

Southeast Region
9450 Koger Boulevard
St. Petersburg, FL 33702

September 11, 1984 F/SER23:AM:cf

Mr. William C. Shilling
Chief, Ocean Dumping Task
Force - WH-385
U.S. Environmental
Agency
Washington, D.C. 20460

Dear Mr. Shilling:

This responds to your September 4, 1984, letter regarding the final designation for continued use of dredged material disposal sites off the mouth of Calcasieu River, off the coast from the Southwest Pass of the Mississippi River, and off the mouth of the Atchafalaya River. Separate Environmental Impact Statements (EIS's) were provided for the three disposal site designations along with your determination pursuant to Section 7 of the Endangered Species Act that the subject actions would not likely jeopardize the continued existence of threatened and endangered species or adversely modify or destroy their critical habitat.

The Protected Species Management Branch reviewed the EIS for the Southwest Pass disposal site which was received earlier. Our comments will be included in the Department of Commerce response. We recommended some modifications of the sections pertaining to sea turtles and cetaceans. These comments would also apply to the EIS's for the disposal sites off the mouths of the Calcasieu and Atchafalaya Rivers. We urge that the appropriate changes be made in the EIS's.

Regarding the Section 7 Consultations, in view of the lack of information to the contrary, we concur with your determination that populations of threatened and endangered species under our purview would not likely be jeopardized by the proposed actions.

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.

Sincerely yours,

Charles A. Gravetz

Charles A. Gravetz, Chief
Protected Species Management Branch



LETTER NO. 1 (continued)

II-5

- | | |
|------|--|
| 1-1. | Comment noted. Appropriate changes identified in the Department of Commerce comment letter and other comment letters have been incorporated in this Final EIS. |
| 1-2. | Comment noted. |
| 1-3. | EPA concurs. |

1-3.

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

LETTER NO. 2

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

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

Dear Mr. Shilling:

The National Marine Fisheries Service (NMFS) has received the Draft Environmental Impact Statement (DEIS), Southwest Pass - Mississippi River Ocean Dredged Material Disposal Site (ODMDS) Designation (EPA-440/5-84-015) dated August 1984. We have reviewed the DEIS and offer the following comments for your consideration.

General Comments

While the DEIS provides enough information to determine an environmentally acceptable and feasible ODMDS for material from the Southwest Pass Channel area, it would be enhanced by a discussion of disposal alternatives that could benefit the environment rather than only those that are just "environmentally acceptable". The designated ODMDS is in a dynamic nearshore environment (closest land point is 1.75 miles away) and the sediment is 95% fines (silt and clay) with only 5% sand. Thus, it may not be practicable to use all of this river sediment to benefit the Louisiana coastline and estuaries through shore protection and delta accretion. However, we feel that the value of the deposition of river sediments on the shallow continental slope could have been more thoroughly discussed in the DEIS to emphasize that any sediment from the Mississippi River that flows, or is deposited, beyond the continental shelf results in a loss of valuable material that could have provided substrate and nutrients for marine fishery habitats such as marshes and seagrasses.

2-1.

2-1. Land disposal alternatives including marsh creation are addressed in Part III.C of this Final EIS.

2-2.

2-2. Comment noted. The preferred disposal site is not located beyond the Continental Shelf.

2-3.

2-3. Refer to Part III.C of this Final EIS.

Specific Comments

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

Page 2-1, last Paragraph and Page 2-2. It is noted that the U.S. Army Corps of Engineers has determined that an ocean site was needed and that land-based



disposal or any other feasible alternatives in the Environmental Protection Agency's Ocean Dumping Regulations and Criteria are being permanently set aside in favor of ocean disposal. The possibility of marsh creation seems to be ruled out in view of the statement that, "... there are no beaches or marshes in the immediate vicinity..." The initiation of island creation at the northernmost area of the ODMDS should not be dismissed without further discussion and evaluation since the northern area of the channel has more coarse sediment, and the most desirable elevation for marsh creation is just above sea level. Thus, with improved onsite operations, use of some of the sediment to create marsh substrate might be possible.

2-4.

2-4. Water depths at the ODMDS are too great (reaching 32.2 m) for island creation to be feasible. Use of the dredged material for marsh creation was determined to be not feasible (see Part III.C of this Final EIS).

The value of creating substrate for marsh is underscored by the recent studies at Louisiana State University that showed a direct positive relationship between commercial shrimp catches and the area of intertidal vegetation 1/ and at the MIFS Galveston Laboratory that showed an eight time greater use by brown shrimp of the intertidal marsh than the adjacent open waters 2/.

2-5.

2-5. Comment acknowledged.

Page 2-9, last Paragraph. The fact that recreational and commercial fishing occurs throughout the year over the large region is mentioned, but not quantified in this section. Since fishery landings and values are presented on Pages 3-49 through 3-54 in AFFECTED ENVIRONMENT, Present and Potential Activities in the Vicinity of the Existing ODMDS, they should also be referenced or otherwise noted on Page 2-9.

2-6.

2-6. The discussion in Section 3 of the Draft EIS presents fish catches for the Louisiana region of the Gulf. The discussion on page 2-9 is in relation to the specific area of the ODMDS; specific fish catch data are not available for the ODMDS area.

3 AFFECTED ENVIRONMENT

Biology

Marine Mammals

Page 3-41, Paragraph 1. Table 3-13 should be expanded to show all the marine mammals potentially occurring in the Gulf of Mexico. Schmidtly (1981) 3/ referenced in the DEIS contains a more updated list.

2-7.

2-7. See Errata, Part III.A of this Final EIS.

1/ Turner, R.E. 1977. Intertidal vegetation and commercial yields of penaeid shrimp. *Trans. Am. Fish. Soc.* 106: 411-416.

2/ Zimmerman, R. J., T. J. Minello, and G. Zamora, Jr. 1984. Selection of vegetated habitat by brown shrimp, Penaeus aztecus, in a Galveston Bay salt marsh. *Fish. Bull.* 82: 325-336.

3/ Schmidtly, D.J. 1981. Marine mammals of the southeast United States coasts and the Gulf of Mexico. U.S. Fish and Wildlife Service, Office of Biological Services. Washington, D.C. FWS/OBS 80/41. 163 pp.

2-6.

The statement that, "Most records of marine mammals are based on stranded individuals or chance sighting and do not indicate that a large population exists (DOI, 1979)," should be clarified. Population estimates for Turlops truncatus are provided in the attached table from Powers (1983) 4/. Survey activities for other marine mammals are insufficient to form any conclusion on population size.

2-9.

Page 3-42, Paragraph 1. The population estimates of T. truncatus should be updated as provided in the attached table.

2-10.

In view of the statement that, "No direct observations of cetaceans have been recorded in the existing OMDS...", information should also be supplied as to the effort used or the surveys that were conducted to detect marine mammals.

Sea Turtles

2-11.

Page 3-43, Paragraph 1. The loggerhead sea turtle is listed as threatened and the breeding population of the green sea turtle is listed as endangered in Florida, but as threatened throughout the remainder of its range in United States waters.

2-12.

Paragraph 2. Based on the existing data base, we disagree with the statement that, "Both of these species may occur rarely, if at all, in any of the areas under consideration." The loggerhead is a ubiquitous species in the Gulf of Mexico and nesting records are available from Chandeleur Island, Louisiana 5/6/. In view of the lack of studies in the area of OMDS, we do not believe statements relative to frequency of occurrences can be made for sea turtles.

2-13.

Paragraph 3. The statement that sightings of Atlantic ridleys have not been recorded from the OMDS should be accompanied by a statement of the effort made to locate these turtles.

2-14.

Page 3-44, Paragraph 1. Leatherbacks also nest in the continental United States which is not considered the tropics.

Endangered and Threatened Species

2-15.

Page 3-49, Paragraph 1. The information regarding the number of endangered and threatened species in the Gulf of Mexico is incorrect. Six endangered whales have been reported as well as five endangered and/or threatened sea

4/ Powers, J.E. 1983. Report of the Southeast Fisheries Center stock assessment workshop. August 3-6. 1982. NOAA Technical Memorandum, NMFS-SEFC 127, 229 pp.

5/ Carr, A., A. Maylan, J. Mortimer, K. Bjorndal, and T. Carr. 1982. Surveys of sea turtle populations and habitats in the western Atlantic. NOAA Technical Memorandum NMFS-SEFC-91. 91 pp.

6/ Hildebrand, R.H. 1981. A historical review of the status of sea turtle populations in the western Gulf of Mexico. In K.A. Bjorndal (ed.). Biology and Conservation of Sea Turtles. Smithsonian Institution Press, Washington, D.C. pp. 447-453.

2-8. Although actual population sizes can not be identified based on sightings and stranded mammals, the limited numbers of strandings and sightings and the results of studies in the area do not indicate that large populations of these marine mammals exist in the area of the site. The only marine mammal known to utilize the site area is the bottlenose dolphin.

2-9.

See Modifications, Part III.B of this Final EIS.

2-10.

These observations are based on a search of relevant literature and on consultation with authorities on marine mammals; no actual surveys at the site were conducted.

2-11.

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

2-12.

Several species of sea turtles are present off the Louisiana coast during certain portions of the year. However, it has been determined that there will not be adverse impacts on sea turtles from ocean disposal of dredged material (see Part II.C of this Final EIS).

2-13.

Refer to Comment Responses 2-10.

2-14.

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

2-15.

See Part II.C and Modifications, Part III.B of this Final EIS.

turtles (see enclosed list). The DEIS should be updated to provide a discussion of effect on all endangered and threatened species which may potentially occur in the project area.

4. ENVIRONMENTAL CONSEQUENCES

EFFECTS ON THE MARINE ECOSYSTEM

SHORT AND LONG-TERM EFFECTS

Mammals and Reptiles

Page 4-16, Paragraph 2. This section requires reevaluation. Since specific studies on effects of dredged material disposal on marine mammals and reptiles have not been conducted, there is no basis to assume there would be no effect based on large size and mobility. This logic also does not account for potential effects on young marine mammals or juvenile marine turtles which may be considerably smaller than adults. The fact that the project area represents only a small portion of the total range of marine mammals or reptiles cannot be used to justify a negligible effect unless specific information is available that the project area provides little benefit to any mammals and reptiles.

2-16.

2-16. Comment noted. A reevaluation is included on pages II-22 and II-23 of this Final EIS.

II-9

Threatened and Endangered Species

Page 4-16, Paragraph 3. Migratory routes and breeding areas for sea turtles and whales in the Gulf of Mexico are unknown and little information is available on feeding grounds and food sources. Accordingly, the rationale should be provided for the statement that "infrequent and localized dumping...would have no adverse impacts on food source, migratory passage, or breeding areas of endangered whales or turtles." This section should be reevaluated, especially in view of the statement in the previous section that specific effects of dredged material disposal on marine mammals and reptiles have not been studied.

2-17.

2-17. See pages II-22 and II-23 of this Final EIS.

Thank you for the opportunity to review the DEIS and provide these comments.

Sincerely yours,


Richard J. Hoogland
Chief, Environmental Assessment Branch

Enclosure

Table MFT-4. Summary of preliminary population estimates of Tursiops from best available data for areas surveyed.

SURVEY AREA	ANALYSIS SOURCE	YEAR	MEAN ANNUAL POPULATION ESTIMATE
Charlotte Harbor to Crystal River	Odell & Reynolds	1975-1976	385
Charlotte Harbor (270 n.mi. ²)	Thompson	1980-1981	243
Tampa Bay (880 n.mi. ²)	Thompson	1979	449
Indian-Banana Rivers (235 n.mi. ²)	Thompson	1980	281
Destin-Ft. Walton Beach	Odell & Reynolds	1975-1976	78
Apalachicola-St. Joseph's Bays (183 n.mi. ²)	Thompson	1980-1981	48
Mississippi Sound	Leatherwood & Platter	1979	1749
Rockport, Texas	Thompson	1980-1981	263

^a Adapted from table presented in memo from W. Fox to W. Gordon dated May 17, 1982, re: Establishing Interim Quota for the Take of Bottlenose Dolphins (Tursiops truncatus) in the Southeast Region.

Endangered and Threatened Species and Critical Habitats Under
NMFS Jurisdiction

Gulf of Mexico

<u>Listed Species</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Date Listed</u>
blue whale	<u>Balaenoptera musculus</u>	E	12/2/70
fin whale	<u>Balaenoptera physalus</u>	E	12/2/70
humpback whale	<u>Megaptera novaeangliae</u>	E	12/2/70
right whale	<u>Eubalaena glacialis</u>	E	12/2/70
sei whale	<u>Balaenoptera borealis</u>	E	12/2/70
sperm whale	<u>Physeter catodon</u>	E	12/2/70
green sea turtle	<u>Chelonia mydas</u>	Th	7/28/78
hawksbill sea turtle	<u>Eretmochelys imbricata</u>	E	6/2/70
Kemp's (Atlantic) ridley sea turtle	<u>Lepidochelys kempi</u>	E	12/2/70
leatherback sea turtle	<u>Dermochelys coriacea</u>	E	6/2/70
loggerhead sea turtle	<u>Caretta caretta</u>	Th	7/28/78

SPECIES PROPOSED FOR LISTING

None

CRITICAL HABITAT

None

CRITICAL HABITAT PROPOSED LISTING

None



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT CORPS OF ENGINEERS
P O BOX 60267
NEW ORLEANS, LOUISIANA 70160

REPLY TO
ATTENTION OF

October 24, 1984

Planning Division
Environmental Analysis Branch

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

Dear Mr. Shilling:

We have reviewed your Draft Environmental Impact Statement (DEIS) for Southwest Pass-Mississippi River Ocean Dredged Material Disposal Site Designation (ODMDS) and offer the following comments:

a. The DEIS should include the Endangered Species Assessment, the Coastal Zone Management Consistency Determination, and documentation of the coordination with the State Historic Preservation Officer.

b. The address of the New Orleans District Library is P. O. Box 60267, New Orleans, Louisiana 70160-0267.

c. Page 12, line 6. "Outlet Channels" should be "Distributaries."

d. Page 1, line 3. Add to this sentence "except during high discharges from the Mississippi River."

e. Page 2-2, lines 6 and 7. Confined disposal is not used for marsh creation at Southwest Pass.

f. Page 2-2, paragraph 2. Will this paragraph satisfy Section 307, Coastal Zone Management Consistency Determination requirements?

g. Page 2-8, lines 3 and 4. At Southwest Pass, saline water moves offshore in the spring due to high-rise discharge and moves inshore in the late summer and early autumn.

h. Page 2-8, paragraph 1. The statement on bottom salinity distribution is contradictory; it should be rewritten.

II-12

- 3-1. This Final EIS contains an Endangered Species Assessment/Determination (See Part II.C); a Coastal Zone Management Consistency Determination has been prepared and is summarized in Part II.E; the Louisiana State Historic Preservation Officer has been contacted and has indicated that no recorded historical resources or shipwrecks are located in the project area.
- 3-2. See Errata, Part III.A of this Final EIS.
- 3-3. See Errata, Part III.A of this Final EIS.
- 3-4. See Errata, Part III.A of this Final EIS.
- 3-5. See Errata, Part III.A of this Final EIS.
- 3-6. A Coastal Zone Management Consistency Determination has been prepared, refer to Part II.E of this Final EIS.
- 3-7. See Errata, Part III.A of this Final EIS.
- 3-8. See Comment Response 3-7 and Errata, Part III.A of this Final EIS.

-2-

- 3-9. 1. Page 2-12, line 6. Air temperature also significantly affects the water temperature.
- 3-10. j. Page 2-28, paragraph 4. If there is difficulty in separating the natural effects of discharges of the Mississippi River from those of dredged material disposal, there should be no mention of "complex monitoring requirements."
- 3-11. k. Page 3-6, line 23. "Water" should be "Waters."
- 3-12. l. Page 3-18, line 14. Birdfoot Delta is not actively building at present; it lost 57,000 acres of marsh from 1956 to 1978.
- 3-13. m. Page 3-30, paragraph 2. Oxygen depression due to sulfide oxidation of dredged material disposal is a short-term impact.
- 3-14. n. Page 3-40, Table 3-12. The following corrections in spelling should be made: satiferus, ocellata, and Fringed.
- 3-15. o. Page 3-43, line 13. The green sea turtle is among the threatened species, not endangered.
- 3-16. p. Page 3-48, Table 3-15. The correct spelling is hedgepethi.
- 3-17. q. Page 3-49, line 8. Peregrine falcon is among the threatened species, not endangered.
- 3-18. r. Page 3-50, lines 10 and 11. There is repetition on these lines. It should be "cromis and spotted seatrout (Cynoscion nebulosus); (ibid.)."
- 3-19. s. Page 3-52, Table 3-16. Brown shrimp are fished inshore and offshore.
- 3-20. t. Page 3-53, line 3. We doubt that natural oyster reefs exist near Southwest Pass; the water is too fresh.
- 3-21. u. Page 3-58, line 9. The Tiger Pass ODMDS was last used in the early summer of 1963.
- 3-22. v. Page 4-3, line 12. Did not Interstate Electronics Corporation perform elutriate tests near the mouth of Southwest Pass?
- 3-23. w. Page 4-12, paragraph 2, line 4. Change the word "variable" to "unstable" or a more appropriate word. "Variable" could infer "diverse" habitat which could be significantly impacted by dredging and disposal activities.
- 3-9. See Errata, Part III.A of this Final EIS.
- 3-10. Complex studies would be necessary to separate the effects of Mississippi River discharges from those from dredged material disposal; complex monitoring requirements are not planned for this disposal site.
- 3-11. See Errata, Part III.A of this Final EIS.
- 3-12. See Errata, Part III.A of this Final EIS.
- 3-13. Comment acknowledged.
- 3-14. See Errata, Part III.A of this Final EIS.
- 3-15. See Part II.C of this Final EIS.
- 3-16. See Errata, Part III.A of this Final EIS.
- 3-17. Comment noted.
- 3-18. See Errata, Part III.A of this Final EIS.
- 3-19. See Errata, Part III.A of this Final EIS.
- 3-20. See Errata, Part III.A of this Final EIS.
- 3-21. See Errata, Part III.A of this Final EIS.
- 3-22. Elutriate tests were performed for sediments in and around the ODMDS (see page A-28 of Draft EIS); no elutriate tests were performed on dredged materials from the mouth of Southwest Pass.
- 3-23. This comment is acknowledged, however this is a quote from a cited reference and therefore it would be inappropriate to change the terminology.

-3-

x. The DEIS 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."

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

Sincerely,



Cletis R. Weisshoff
Chief, Planning Division

3-24.

3-24. The ocean dumping site designation program is not subject to the National Environmental Policy Act (NEPA); EPA voluntarily decided to prepare EISs on its designation actions. As a result, the EISs do not strictly conform to NEPA regulations on format (e.g., the future without the project action). The basis for assessment and acceptability of an ocean disposal site relates to the 5 general and 11 specific criteria contained in EPA's Ocean Dumping Regulations (40 CFR 228.5 and 228.6).

Center for Disease Control
Atlanta, GA 30333

October 19, 1984

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

Dear Mr. Shilling:

We have reviewed the Draft Environmental Impact Statement (EIS) for Southwest Pass Mississippi River Ocean Dredged Material Disposal Site Designation. We are responding on behalf of the U.S. Public Health Service.

The Draft EIS has stated that no adverse environmental effects due to the dredged material disposal outside the boundaries of the existing site were detected during the surveys, nor were any expected from continued use of this site. The future monitoring program to determine if the dredge material is moving offsite and creating adverse effects has not been described. Even if this monitoring program will require rather complex studies (page 2-28), the Draft EIS should address this in more detail.

We have reviewed this document for potential health effects and have no other comments to offer. We believe that the proposed alternatives have been adequately addressed.

Thank you for the opportunity to review this Draft EIS. Please send us a copy of the final document when it is available.

Sincerely yours,

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

- 4-1. Following final designation of the ODMDS, a site management and monitoring plan is to be developed by EPA and the Corps of Engineers, New Orleans District. This plan should include bathymetric surveys to be conducted prior to each use of the site and periodic sediment, nutrient, and water quality testing for pesticides and heavy metals.
- 4-2. EPA concurs.
- 4-3. EPA will provide a copy of the Final EIS as requested.



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 84/1136

Mr. William C. Shilling
Criteria and Standards Division (WH-585)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Dear Mr. Shilling:

We have reviewed the draft environmental impact statement for designation of the Southwest Pass-Mississippi River Ocean Dredged Material Disposal Site offshore Louisiana and have both general and specific comments.

General Comments

The impacts of the ocean dredged material disposal site designation at Southwest Pass and Mississippi River 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.

The impact of removal of sediments from the natural hydrologic regime of the project area is not adequately discussed. Studies have identified sediment deprivation as a major factor affecting the loss of estuarine emergent wetlands along the Louisiana coast. As stated in the draft impact statement, disposal of dredged material will be utilized for marsh creation in the river section of Southwest Pass. We support this wise use of dredged material. It is further stated that use of the disposal site would only occur with material dredged from the Gulf portion of Southwest Pass. If it becomes feasible to utilize this material for marsh creation, we recommend that the proposed ocean disposal site be used only on an emergency basis. This should be discussed in the appropriate sections of the statement.

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.

Specific Comments

Page 1-1, paragraph 2, last sentence. It is stated that "the site has an average depth of about 18 m . . ." This statement, however, appears to be

5-1. EPA concurs.

5-2. Sediments which are dredged and disposed at this ODMDS are from the southernmost section of Southwest Pass. Removal of sediments from this area will not result in loss of emergent wetlands. Marsh creation was found to be not feasible; refer to Part III.C of this Final EIS.

5-3. A biological assessment of effects on listed threatened and endangered species is presented in Part II.C of this Final EIS.

5-4. The sentence on page 2-3 states that the depth of water ranges from 2.7 to 32.2 meters, consistent with an average depth of 18 m as stated on page 1-1 of the Draft EIS.

a contradiction with a similar statement on page 2-3, paragraph 4, first sentence, which states "the depth of water at the Southwest Pass ODMS ranges from 2.7 m to 2 m."

Page 4-17, last paragraph. We suggest adding a discussion of mitigative measures for the proposed project to help minimize potential adverse impacts on environmental factors other than commercial and recreational fishing. For example, in the Supplement to the final EIS - Final Designation Georgetown ODMS, page 43, several mitigative measures are suggested, such as centered dumping of spoil with Loran-C coordinates provided and routine detailed bathymetric profiles to assess sediment movement.

Page A-47, paragraph 3, last sentence. Effects of dredged material disposal on ODMS benthic communities "could not be identified" by IEC; yet, direct effects and short-term alterations on the benthos are discussed on pages 4-11 and 4-12. This discrepancy should be clarified.

We appreciate the opportunity to comment on this statement.

Sincerely,

Raymond P. Churan

Raymond P. Churan
Regional Environmental Officer

5-6.

Following site designation, EPA and CE will prepare a site management and monitoring plan to ensure the protection of the environment at the disposal site.

5-7.

The discussion in Section 4 is based on other work describing possible impacts on the benthos; the Appendix describes the results of the IEC survey. The discussion in Section 4 concludes that impacts at the ODMS should be minimal (page 4-12), and this is supported by the findings of the IEC survey.



COMMANDER
EIGHTH COAST GUARD DISTRICT
HALE BOGGS FEDERAL BLDG

900 CAMP ST.
NEW ORLEANS, LA 70130
STAFF SYMBOL (dpl)
PHONE FTS 682-2961

16475
5 September 1984

Mr. William C. Shilling
Criteria and Standards Div. (WH-585)
Office of Water Regulations and Standards
Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

SOUTHWEST PASS, MISSISSIPPI RIVER OCEAN DREDGED MATERIAL DISPOSAL SITE
DESIGNATION

Thank you for the opportunity to review the Draft EIS for the Southwest Pass disposal site.

The Coast Guard has no objections to granting final designation status to this site.

Sincerely,

T. A. TANSEY
Lieutenant, U. S. Coast Guard
Assistant District Planning Officer
By direction of the District Commander

Copy: Commandant (G-WP-3)
U. S. Coast Guard

6-1.

6-1. Comment acknowledged.

NATIONAL SCIENCE FOUNDATION

WASHINGTON, D. C. 20550

September 14, 1984



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

Dr. William C. Shilling
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. Shilling:

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

Sincerely,

Barbara O. Patala
(1984)

Barbara O. Patala, Acting Chairman
Committee on Environmental Matters

7-1. Comment acknowledged.

7-1.



EDWIN W. EDWARDS
GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

WILLIAM C. HULS
SECRETARY

September 25, 1984

Mr. William C. Shilling, Chief
Ocean Dumping EIS Task Force
U.S. Environmental Protection Agency
Washington, D.C. 20460

RE: C840463
Southwest Pass - Mississippi River COMDS
Draft EIS

Dear Mr. Shilling:

The Louisiana Department of Natural Resources appreciates the opportunity to comment on the above referenced project for consistency with the Louisiana Coastal Resources Program (LCRP) under the authority of the Coastal Resources Management Act of 1972 Section 307 (c) (1) and NOAA Consistency Regulations 15 CFR 930 subpart C. This project has been determined to be inconsistent with the LCRP at this time due to lack of information. In order that this information can be evaluated, please respond to the following questions and comments concerning the Southwest Pass - Mississippi River Ocean Dredged Material Disposal Site Designation:

- | | | | |
|------|---|------|---|
| 8-1. | 1) Address the use of dredged material for beach nourishment and shoreline stabilization or marsh creations in the vicinity of the dredge site. A marsh creation project has been proposed for the South Pass Bulk Terminal project which is close to this COMDS. | 8-1. | Refer to Part III.C of this Final EIS. |
| 8-2. | 2) Please provide information on the periodic monitoring of water quality. How will the necessity for a monitoring program be established? | 8-2. | Refer to Comment Response 4-1. |
| 8-3. | 3) In order to facilitate our review and concurrence with your determination of consistency, please address the LCRP Coastal Use Guidelines, particularly those for dredged spoil deposition. | 8-3. | A Louisiana Coastal Zone Management Consistency Determination has been prepared and will be coordinated with the Louisiana Department of Natural Resources. See Part II.E of this Final EIS for a summary of EPA's determination. |

Mr. William Shilling, Chief
Ocean Dumping EIS Task Force
September 25, 1984
Page 2

8-4.

If you have any questions concerning this, please do not hesitate to call
Mr. Frank Monteferrante of my staff at (504) 342-7591. We anticipate your
response and look forward to working with you in achieving consistency with
the UCRP.

8-4. EPA concurs.

Sincerely,

William C. Huls

By:


Dr. Charles G. Groat

WCH/CCG/jmb

cc: Ms. Ann Berger-Blundon
Mr. Peter Tweedt
Ms. Debra Walker

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 Louisiana marine environment and might be impacted by the designation of the proposed site:

<u>LISTED SPECIES</u>	<u>SCIENTIFIC NAME</u>	<u>STATUS</u>	<u>DATE LISTED</u>
Finback whale	<u>Balaenoptera physalus</u>	Endangered	12/02/70
Humpback whale	<u>Megaptera novaeangliae</u>	Endangered	12/02/70
Right whale	<u>Eubaleana glacialis</u>	Endangered	12/02/70
Sei whale	<u>Balaenoptera borealis</u>	Endangered	12/02/70
Sperm whale	<u>Physeter catodon</u>	Endangered	12/02/70
Green sea turtle	<u>Chelonia mydas</u>	Threatened	07/28/78
Hawksbill sea turtle	<u>Eretmochelys imbricata</u>	Endangered	06/02/70
Kemp's (Atlantic) ridley sea turtle	<u>Lepidochelys kemp</u>	Endangered	12/02/70
Leatherback sea turtle	<u>Dermochelys coriacea</u>	Endangered	06/02/70
Loggerhead sea turtle	<u>Caretta caretta</u>	Threatened	07/28/28

Although rare off Louisiana, the five 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 five listed whales, in contrast, are found in deep oceanic waters off the Continental Slope. See Modifications, Part II.B of this Final EIS for a discussion of sightings and strandings of endangered species off coastal Louisiana.

The effects of disposing dredged material at the proposed sites include (1) potential collision with the dredge vessel; (2) deposition of dredged material on food sources; and (3) possible deposition of trash and debris from the dredging operation.

No adverse effect on listed whale species would result from EPA's proposed action because the disposal of dredged material would take place in shallow water, and the whale species prefer deep water. 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 factors in the marine environment (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 dredged material disposal. 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.

D. CULTURAL RESOURCES--DETERMINATION OF EFFECT

U.S EPA Region VI has coordinated with the Louisiana State Historic Preservation Officer (SHPO) to ascertain if there are any cultural resources located near the Southwest Pass - Mississippi River ODMDS. By letter dated August 15, 1988, the Louisiana SHPO stated that no historical resources or shipwrecks are recorded in the project area. Accordingly, EPA has determined that site designation will have no effect on cultural resources.

E. DETERMINATION OF CONSISTENCY WITH LOUISIANA'S COASTAL USE GUIDELINES

Section 307 of the Coastal Zone Management Act of 1972, 16 U.S.C. 1451 et seq. requires that "each Federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." In accordance with Section 307, a consistency determination has been made for EPA's designation of the existing Southwest Pass - Mississippi River Ocean Dredged Material Disposal Site.

EPA has evaluated the project relative to the Coastal Use Guidelines and has determined that designation of the site is consistent, to the maximum extent practicable, with the State of Louisiana's approved Coastal Zone

Management Program. EPA will coordinate its determination with the Louisiana Department of Natural Resources during the 30-day review period on this Final EIS.

PART III. MODIFICATIONS AND CORRECTIONS TO THE DRAFT EIS

The Southwest Pass Draft EIS was reviewed by the public and internally by U.S. Environmental Protection Agency (EPA). This section of the Final EIS corrects errors or omissions identified during the review process, and presents revisions to the Draft EIS based on new or more complete information obtained since the release of the Draft EIS. Minor changes are incorporated into a list of errata and are presented in Section A. Section B presents a brief description of recent studies conducted in the area of the ODMS as well as changes to the Draft EIS based on data from these studies. Section C presents a brief description and evaluation of land disposal alternatives in response to a number of review comments.

A. ERRATA

This section of the EIS presents minor revisions to the Draft EIS. For each correction, the page, paragraph, and line of the Draft EIS requiring revision is identified, the necessary correction is indicated, and the actual corrected text is presented in boldface type.

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

Page ix, paragraph 1, line 6. Replace the words "Outlet Channels" with **Distributaries.**

Page x, paragraph 1, line 2. The sentence beginning " However, the dominant" should read **However, the dominant species are primarily marine except during high discharges from the Mississippi River.**

Page 2-2, paragraph 2, line 2. The sentence beginning "Confined and unconfined" should read **Unconfined beach disposal of dredged material is used for marsh creation in the river section of the Southwest Pass.**

Page 2-8, paragraph 1, line 3. Delete the sentence beginning "Bottom salinity distribution" and replace it with **At Southwest Pass, saline water**

moves offshore in the spring due to high-rise discharge and moves inshore in the late summer and early autumn.

Page 2-12, paragraph 2, line 4. After the sentence ending "probably reflective of the river runoff," add the sentence Air temperature also has a significant effect on water temperature.

Page 2-27, paragraph 3, line 3. The boundary coordinates of the ODMDS should read: 28°54'12" N, 89°27'15" W; 28°54'12" N, 89°26'00" W; 28°51'00" N, 89°27'15" W; 28°51'00" N, 89°26'00" W.

Page 3-2, paragraph 2, line 8. After the reference "Brower, et al., 1972," add the reference Fernandez-Partagas and Estoque, 1981.

Page 3-2, paragraph 4, line 4. After the reference "DOC, 1980a," add the reference Dinnel and Wiseman, 1986.

Page 3-6, paragraph 3, line 2. Replace the word "Water" with Waters.

Page 3-6, paragraph 3, line 5. After "Loop Inc., 1976," add the reference Dagg, 1988.

Page 3-7, paragraph 1, line 1. Change "water masses in the Gulf" to read water masses in the open Gulf.

Page 3-7, paragraph 1, line 10. Replace "below 3.9 mg/l" with of 2.5 to 4.0 mg/l.

Page 3-9, paragraph 1, line 3. After the reference "Holle, 1951," add the reference Dinnel and Wiseman, 1986.

Page 3-9, paragraph 3, line 2. At the end of the sentence beginning "The water column at the existing ODMDS," add the reference Pequegnat et al., 1976.

Page 3-10, paragraph 2, line 13. After the reference "Loop, Inc., 1976," add the reference Pequegnat et al., 1976.

Page 3-11, paragraph 3, line 3. At the end of the paragraph, add the sentence **These temperatures are also within the range reported by Thompson and Leming (1978).**

Page 3-12, paragraph 1, line 3. After the reference "LOOP, Inc., 1976," add the reference Pequegnat et al., 1976.

Page 3-12, paragraph 3, line 5. After the reference "LOOP Inc., 1976," add the reference Sail, 1976.

Page 3-13, paragraph 3, line 1. The first sentence in the paragraph should read **Surface current patterns near Southwest Pass have been derived from drift bottle data, aerial photographs tracing the turbid Mississippi River plume, salinity measurements, and direct current measurements (Ouellette, 1970; Rouse and Coleman, 1976; LOOP Inc., 1976; SAIC, 1986).**

Page 3-13, paragraph 3, line 9. Delete the sentence beginning "It is likely that these currents... ."

Page 3-14, paragraph 4, line 1. The first sentence in the paragraph should read **The Loop Current, through derived cyclonic or anticyclonic eddies, may affect circulation off Southwest Pass.**

Page 3-14, paragraph 4, line 8. The sentence beginning "All three areas under consideration" should read **All three areas under consideration may experience easterly flow if the Loop Current or one of its anticyclonic rings is in the area; however, flow could be westerly if a cyclonic eddy is affecting the area (SAIC, 1986).**

Page 3-18, paragraph 1, line 6. Delete the sentence beginning "The lead-like mass of," and add the sentences **The leaf-like mass of the Birdfoot Delta has developed during the past 450 years. Birdfoot Delta is not**

actively building at present; it lost 57,000 acres of marsh from 1956 to 1978.

Page 3-22, paragraph 3, line 5. Change sentence to read Hypoxic (low DO) bottom water (within 1 to 3 m of the bottom) occurs periodically...

Page 3-23, paragraph 1, line 3. After the reference "Weissberg, 1979," add the reference Pokryfki and Randall, 1987.

Page 3-26, paragraph 1, line 6. Delete the sentence beginning "Turbid plumes have been observed," and replace it with Low salinity, turbid water attributable to the Mississippi River has been reported as far west as the Texas-Louisiana border (Rezak et al., 1985).

Page 3-35, paragraph 2, line 4. The sentence beginning "Information relating to " should read Information relating to the Mississippi Delta Region is, for the most part, limited to studies reported by Hulbert and Corwin (1972), El-Sayed et al. (1972), Simmons and Thomas (1962), Bogdanov et al. (1969), USCG (1976) and El-Sayed and Fusik (1979).

Page 3-37, paragraph 3, line 11. Correct units from 98.56 mgC/m³/hr to 98.56 mgC/m²/hr.

Page 3-39, paragraph 1, line 7. After the reference "Chittenden and McEachran, 1976," add the references Darnell et al., 1983; Darnell and Kelypas, 1987.

Page 3-40, Table 3-12. Correct misspellings; "seriferus" should be setiferus, "Micropogon" should be Micropogonias, "acellata" should be ocellata, and "Fringer" should be Fringed.

Page 3-40, Table 3-12. After C. nebulosus, add C. nothus Silver Seatrout.

Page 3-40, Table 3-12. After the reference "Chittenden and McEachran, 1976, add the references Darnell et al., 1983; Darnell and Kelypas, 1987.

Page 3-42, Table 3-13. Add to the list of species the whale Blaineville's beaked Mesoplodon densirostis, add the dolphin Short-snouted spinner Stenella clymene, and the manatee West Indian manatee Trichechus manatus.^{*} Correct the scientific name of the black right whale to Eubalaena glacialis,^{*} correct the scientific name of the Bryde's whale to B. edeni, correct the scientific name of the pygmy killer whale to Feresa attenuata, change the common name of Gray's dolphin to Striped, and after "Risso's" add (Grampus). The reference cited after "*Endangered species" should be (USFWS, 1987). The references cited after "Sources" should be USDOl-MMS, 1988; Schmidly, 1981; Fritts, 1983).

Page 3-43, paragraph 5, line 2. At the end of the first sentence of the paragraph add and two were observed off Marsh Island, Louisiana, by Fritts et al. (1983).

Page 3-43, paragraph 5, line 2. Correct the sentence to read This turtle ranges widely throughout the Gulf and nests mainly in the tropics (Fritts et al., 1983).

Page 3-43, paragraph 1, line 4. Delete the sentence beginning "All of these species are endangered," and replace it with the sentence The National Marine Fisheries Service lists the green and loggerhead sea turtles as threatened, and the hawksbill, Kemp's ridley, and leatherback sea turtles as endangered.

Page 3-48, Table 3-12. Correct misspelling; "hedgepethi" should be hedgepethi.

Page 3-49, paragraph 2, line 2. The second sentence of the paragraph should read In 1987, over 1.8 billion pounds of fish and shellfish valued at over 316 million dollars were landed in Louisiana; this represents the largest landings and the highest dollar value by any state except Alaska (NMFS, 1988).

Page 3-50, paragraph 1, line 8. The sentence beginning "Other commercial species" should read Other commercial species include menhaden (Brevoortia patronus), black drum (Pogonias cromis), and spotted seatrout (Cynoscion ocellata).

Page 3-51, paragraph 4, line 2. Replace the reference "USCG, 1976" with NMFS, 1988.

Page 3-52, Table 3-16. Under "Areas Fished" for "Shrimp," the text should say Brown: inshore and offshore.

Page 3-53, paragraph 1, line 2. Delete the sentence beginning "Natural oyster beds or reefs may exist" and replace it with the sentence Because the water near Southwest Pass is too fresh, it is doubtful that natural oyster reefs exist in the area.

Page 3-53, paragraph 5, line 3. Delete the phrase "There are 17" from the beginning of the third sentence so that it begins Charter boats located...

Page 3-54, paragraph 2, line 1. The first two sentences of the paragraph should read Ship tonnage through Southwest Pass and South Pass increased between 1974 and 1983 from 113 million tons to 167 million tons; however, the high of 223 million tons occurred in 1981. The decrease from 1981 to 1983 reflects the drop in petroleum production (CE, 1985). After the sentence beginning "Sixty-five percent...", add the sentence In 1983, ship traffic was down to 30,713 vessels (CE, 1985).

Page 3-56, paragraph 4, line 5. Replace the reference "Huges, 1982" with USDOJ-MMS, 1988.

Page 3-58, paragraph 1, line 4. Delete the sentence beginning "There are no protected areas... ."

Page 3-58, paragraph 2, line 3. Delete the sentence beginning "The Tiger Pass was last used" and add the sentence The Tiger Pass ODMDS was last used in the early summer of 1983.

Page 3-58, paragraph 2, line 8. The last sentence should read The 17-foot channel over the bar at South Pass is considerably shallower and less heavily used than the 40-foot channel over the bar at Southwest Pass (NOS, 1987); there are no plans to dredge South Pass in the near future (Pendergraft, 1982*).

B. MODIFICATIONS TO THE DRAFT EIS

Since the issuance of the Draft EIS in 1984, additional information about the biological environment near the Southwest Pass - Mississippi River ODMDS has been presented in the literature. The following modifications represent more recent information that has become available since the Draft EIS was prepared.

1) Circulation and Currents

Page 3-12, paragraph 2. Delete paragraph 2 and replace it with the following:

The major feature of broad scale circulation in the Gulf is the Loop Current, an extension of the Yucatan Current, which enters the Gulf through the Yucatan Strait, makes a "looping" turn to the right, and exits the Gulf through the Florida Straits. The presence of the Loop Current in the eastern Gulf dominates surface circulation in this area; whereas it affects the western Gulf through the 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, during far north penetration, 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 (USDOI, 1986; MMS, 1986). When it reaches the western border of the Gulf, the life span of the ring is about three to five months. As many as three of these rings at one time have been detected in the western Gulf (SAIC, 1986). These rings carry momentum, high salinity, and nutrients onto the Texas-Louisiana shelf (Sturges and Horton, 1981).

Page 3-14, paragraph 2. Delete paragraph 2 and replace it with the following:

SAIC (1986) reports current measurements taken approximately 8 mi east of the existing ODMDS at 13, 25, 45, and 70 m in a water depth of 81 m. Measurements were recorded from 23 February to 8 November; however, all meters were not working all of the time. Results showed currents fluctuated essentially between southwest and northeast, with an overall average to a westerly direction. Sustained speeds up to 110 cm/s were recorded in the upper part of the water column. These faster speeds may have resulted from cyclonic eddies that can form on the edge of the Loop Current or an anticyclonic ring (SAIC, 1986). Near bottom currents, recorded 11 m above the bottom, normally ranged from 8 to 10 cm/s, but speeds in the 25 to 30 cm/s range occurred occasionally. As with currents near the surface, near bottom currents fluctuated, but the average was predominantly to the west.

2) Trace Metals

Page 3-27, paragraph 1, line 3. Delete all text starting with the phrase "Studies conducted at South and Southwest Pass..." through the section titled "Organics" on page 3-28, and replace it with the following:

Table 3-8 lists recent data on the dissolved trace metal concentrations in Mississippi River water. Also given, for comparative purposes, are recent estimates of world average dissolved riverine waters. It can be seen that trace metal concentrations in the Mississippi River are generally less than or equal to those in world average rivers, in spite of the large and highly industrialized drainage basin of the Mississippi. The Mississippi river data are thought to be typical of the river in that the Trefry and Presley (1976) data are weighted averages of four sampling periods seasonally spaced through 1974 and 1975, and the Shiller and Boyle (1987) data are weighted averages of six sampling times during 1982 to 1984.

IEC surveys (Appendix A) within and around the existing ODMDS measured concentrations of dissolved and particulate trace metals, and found no consistent differences in levels between stations or surveys. These surveys found somewhat higher levels than those shown in Table 3-8 for cadmium, lead, and zinc, but lower levels for copper and manganese. Values were similar for chromium and nickel.

Site-specific information is unavailable for the mid-shelf and deepwater site. Dissolved metal concentration from open Gulf surface waters were reported by Boyle et al. (1984). These surface samples gave concentrations of 0.082 ppb for copper, 0.11 ppb for nickel, and 0.0005 ppb for cadmium-- values much lower than those reported by previous investigators (for example Slowey and Hood, 1971) and much lower than those predicted by Barnard and Froelich (1981). Samples collected by Boyle et al. (1984) off the Mississippi coastline gave higher values, averaging 0.5 ppb for copper and nickel and 0.02 ppb for cadmium. These coastal concentrations are similar to values obtained by Shiller and Boyle (1983) in the Mississippi River plume.

Page 3-28, Table 3-8. Delete this table and replace it with the table on Page III-11.

3) Marine Mammals

Page 3-41, paragraph 4, line 2. Delete the last two sentences of the paragraph and the first sentence of paragraph 5 and replace them with the following:

Records for the majority of the species are based upon stranded individuals or chance sightings (Schmidly, 1981). In a one-year, bimonthly survey off Marsh Island, Louisiana, the Atlantic bottlenose dolphin accounted for 79 percent of all mammals seen. The sperm whale, short-finned pilot whale, and spotted dolphin were seen on one or two occasions and accounted for 5 percent of the mammals seen. The remaining 16 percent consisted of unidentified dolphins (Fritts et al., 1983). The Atlantic bottlenose dolphin, the only marine mammal to occur in numbers large enough to calculate population estimates, was calculated to have a density of approximately 0.1 individual/km² (Fritts et al., 1983).

4) Sea Turtles

Page 3-43, paragraph 2-5. Delete these paragraphs and replace with the following:

TABLE 3-8. DISSOLVED TRACE METAL CONCENTRATIONS IN MISSISSIPPI RIVER WATER AND "AVERAGE" RIVER WATER.

	Metal										
	Cd	Co	Cr	Cu	Fe	Mn	Mo	Ni	Pb	V	Zn
	Dissolved Metal Concentration (g/l)										
MISSISSIPPI RIVER											
-(Trefry and Presley, 1976)	0.1	--	0.5	2	5	10	--	1	0.2	--	--
-(Trefry et al., 1986)	0.013	--	0.28	1.9	--	--	--	1.4	0.11	--	--
-(Shillet and Boyle, 1987)	0.013	--	0.07	1.5	1.7	--	1.1	1.4	--	1.2	0.2
"AVERAGE" RIVER WATER											
-(Martin and Whitfield, 1983)	0.002	0.2	1	1.5	40	8	0.5	0.5	0.1	1	30

III-11

Five species of sea turtles exist in the northern Gulf of Mexico: loggerhead (Caretta caretta), green (Chelonia mydas), Atlantic (Kemp's) Ridley (Lepidochelys kempii), leatherback (Dermochelys coriacea), and hawksbill (Eretmochelys imbricata). Off Louisiana, the loggerhead and green turtles are threatened, while the Atlantic (Kemp's) Ridley, leatherback, and hawksbill sea turtles are endangered (USFWS, 1987).

Loggerhead turtles nest on beaches of all coasts of the south Atlantic and Gulf coasts from North Carolina to Texas. Carr et al. (1982) reports nesting records for the Chandeleur Islands, Louisiana. Green turtles have been sporadically sighted in Louisiana waters. The range of the green turtle includes all areas of the Gulf of Mexico, including infrequent visits to Louisiana waters, but they are most frequently observed near Florida (Fritts et al., 1983).

The Atlantic (Kemp's) Ridley turtle nests along the Gulf coast of northern Mexico. The northern Gulf is a primary feeding area for this turtle; feeding sites may be located off Louisiana (DOI, 1977). Although Kemp's Ridley turtles occasionally wander into open water, they are fairly restricted to shallow coastal waters, which supports the theory that they migrate along coastal waters (Fritts et al., 1983).

Leatherback turtles have been caught in shrimp nets off Louisiana (DOI, 1977) and two were observed off Marsh Island, Louisiana, by Fritts et al. (1983). This turtle ranges widely throughout the Gulf and nests mainly in the tropics (Fritts et al., 1983). Leatherback turtles may occasionally appear in the existing ODMDS, mid-shelf or deepwater areas.

Hawksbill turtles are present throughout the Caribbean Sea but are rarely encountered in the northern Gulf (Rerbel, 1974) Although a rare occurrence, the endangered hawksbill turtle has been reported in Louisiana waters (CE, 1973).

5) Benthos

Page 3-47, paragraph 5. Delete this paragraph and replace it with the following:

Pequegnat et al. (1983) describe the benthos of the Gulf slope within the depth range (311 to 474 m) of the deepwater site as being in the lower end of the Shelf/Slope Transition Zone (150 to 450 m). This zone and the next deeper zone [Archibenthal Zone--Horizon A (475 to 750 m)] is characterized by a very large number of demersal fish species, 90 and 79 species in each zone, respectively. The Shelf/Slope Transition Zone is noted as being very productive partially due to the fact that, in addition to the large number of fish species, there are a large number of predatory invertebrates. Including the fishes, the list of benthic species for this zone numbers over 400.

6) Endangered Species

Page 3-49, paragraph 1. Delete this paragraph and replace it with the following:

Five mammal species (four whales and one manatee), three turtle species, and five bird species are Federally listed as endangered and are known to occur or have been reported in the coastal or offshore region of Louisiana (USFWS, 1987; USDI-MMS, 1988; Schmidly, 1981; Fritts et al., 1983). In addition, another two turtle species, two bird species, and the American alligator are Federally listed as threatened in the Louisiana region. The whales include the blue, sei, sperm, and finback. The only Louisiana record of the blue whale is that of an individual beached near the mouth of Sabine Pass in 1924 (Schmidly, 1981). Schmidly (1981) reported two strandings of sei whales and four strandings of finback whale around the Delta region. Several Louisiana records of capture, strandings, and sightings of sperm whales have been reported by Schmidly (1981) and Fritts et al. (1983). Manatees are concentrated along the coast of Florida from about Titusville (east coast) to Crystal River (west coast), but a few records exist for as

far away as Mississippi and Louisiana (Fritts et al., 1983; Powell and Rathbun, 1984).

Several sightings of the endangered Atlantic (Kemp's) Ridley and the leatherback turtles have been made off Louisiana, and Kemp's Ridley is considered common in the Delta region. Although a rare occurrence, the endangered hawksbill turtle has been reported in Louisiana waters (CE, 1973). Two threatened turtle species, the green and loggerhead turtles, also occur in Louisiana offshore waters. Once common off Louisiana, the loggerhead turtle was only seldomly observed and the green turtle was not sighted off Louisiana or Texas during the survey by Fritts et al. (1983).

7) Oil and Gas Development

Page 3-56, paragraph 1. Delete paragraphs 1 and 2 and replace with the following:

The Gulf of Mexico Outer Continental Shelf (OCS) is the most intensively developed offshore oil and gas producing region of the world. Risotto and Collins (1986) present the summary statistics for oil and gas production in this area. As of December 1985, 687 oil and gas fields had been discovered in the Gulf. Through the end of 1985, these fields produced 6.6 billion barrels of oil and condensate and 71 trillion cubic feet of gas. Remaining recoverable resources in these fields are estimated at 4.1 billion barrels of oil and 45.6 trillion cubic feet of gas. In 1985, over 350 million barrels of oil and about 4 trillion cubic feet of gas were produced on the Louisiana and Texas OCS.

The offshore Louisiana area accounts for 98% and 90%, respectively, of the current oil and gas production in the Gulf of Mexico. The West Delta, Viosca Knoll, and South Pass areas, which include the existing ODMDS and mid-shelf area, contain 34 oil and gas fields with original recoverable reserve estimates of 2,030 million barrels of oil and 7,200 billion cubic feet of gas.

8) References

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

The New Orleans District CE has historically disposed of most dredged materials in large confined upland areas or at open-water disposal sites. Recently, increased attention has been focused on using dredged materials for environmentally beneficial uses such as beach nourishment, marsh creation, and island creation. A variety of factors must be considered in evaluating the feasibility of these alternatives, including the nature of the dredged material, engineering design considerations, environmental impacts, and cost considerations.

Dredged materials from the Southwest Pass north of the jetty areas near the mouth of the Pass are used both for marsh creation and bank nourishment (personal communication, S. Hawes, New Orleans District CE, August, 1988). Marshes are created in West Bay on the west side of Southwest Pass using a pipe placed over the existing marsh. Over 1,200 acres of marshes have been built along the Southwest Pass using dredged material (CE, 1987).

Dredged materials disposed of at the Southwest Pass - Mississippi River ODMDS are primarily dredged from the jetties near the mouth of the Pass and south of these jetties. The CE has determined that use of these materials for marsh creation is not feasible because of technical and cost considerations. Long pipelines would be required to transport the material, and the CE determined that pipeline dredges in this area were impractical and unsafe (CE, 1976) because of the length of pipe and cable required, concerns over pipe breakage in rough seas, and difficulties with currents in the area. All of these considerations would result in much higher costs than are associated with ocean disposal of these materials at the ODMDS.

Consideration was also given to use of these materials for beach nourishment. There are no beaches near the Gulf portion of the Southwest Pass, so the same difficulties associated with transport of the materials by pipeline discussed above for marsh creation would apply to use of the material for beach nourishment. In addition, the materials consist primarily of fines, and are therefore considered to be generally unsuitable for beach nourishment.

Disposal of these dredged materials at upland sites is also not feasible. There are no upland disposal sites in the vicinity of the Gulf

portion of the Southwest Pass. It would be economically impractical to transport materials dredged from these section of Southwest Pass to a distant upland site.

Recently, increased attention has been focused on using dredged materials for environmentally beneficial uses such as beach nourishment, marsh creation, and land creation. A variety of factors must be considered in evaluating the feasibility of these alternatives, including the nature of the dredged material, engineering design considerations, environmental impacts, and cost considerations.

Dredged materials from the Southwest Pass north of the Jetty areas near the mouth of the Pass are used both for marsh creation and bank nourishment. (General communication, S. Hawes, New Orleans District CE, August, 1988). Material was created in West Bay on the west side of Southwest Pass using a cutter suction dredger over the existing marsh. Over 1,200 acres of marshes have been created along the Southwest Pass using dredged material (CE, 1987).

Dredged materials disposed of at the Southwest Pass - Mississippi River Delta are primarily dredged from the Jetty near the mouth of the Pass and south of these Jetties. The CE has determined that use of these materials for marsh creation is not feasible because of technical and cost considerations.

Long pipelines would be required to transport the material. The CE determined that pipeline dredges in this area were impractical and expensive (1975) because of the length of pipe and cable required, concerns about pipe leakage in rough seas, and difficulties with currents in the area. These considerations would result in much higher costs than are

associated with ocean disposal of these materials at the DDND. Consideration was also given to use of these materials for beach nourishment. There are no beaches near the Gulf portion of the Southwest Pass and the same difficulties associated with transport of the materials by pipeline discussed above for marsh creation would apply to use of the material for beach nourishment. In addition, the materials consist primarily of fine sand and are therefore considered to be generally unsuitable for beach

creation. These dredged materials at upland sites is also not feasible. There are no upland disposal sites in the vicinity of the Gulf

PART IV. EPA'S PREFERRED ALTERNATIVE

The U.S. Army Corps of Engineers (CE) has requested final designation of an ocean dredged material disposal site (ODMDS) for disposal of material dredged from the Southwest Bar and lower jetty areas of Southwest Pass so that the CE can continue to maintain necessary operating depths in Southwest Pass. Based on the Draft EIS, comments received on the Draft EIS, and this Final EIS, EPA's preferred alternative is the final designation of the existing Southwest Pass - Mississippi River ODMDS.

The no-action alternative is not considered acceptable because if no action is taken, the status of the interim-designated site remains undetermined. The Southwest Pass - Mississippi River ODMDS was given interim approval in 1977, based on historical use of the site and pending completion of necessary environmental studies. These studies have been completed, and therefore an action must be taken to either designate the site or terminate its use.

Land disposal, marsh creation, and beach nourishment alternatives were considered by the Corps of Engineers but found to be unacceptable. Ocean disposal of the dredged material was determined to be the most acceptable alternative. Nearshore and mid-shelf sites as well as sites off the Continental Shelf were evaluated. No environmental advantages would be associated with relocation of the site, but relocation would increase monitoring and transportation costs as well as concerns over safety.

Surveys conducted at the interim-designated site have indicated only minimal environmental effects within the site boundaries and none outside the site boundaries. Organisms inhabiting this site are affected by the Mississippi River plume and therefore are adapted to natural stresses and able to recover from environmental stresses. Limited interferences with nearshore fisheries, nekton passage, and navigation may occur during dredged material disposal; however these interferences would be of short duration.

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