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WETLAND MITIGATION: A STUDY OF MARSH MANAGEMENT

VOLUME I

LEGAL REQUIREMENTS AND ADMINISTRATIVE FRAMEWORK  
AFFECTING MARSH MANAGEMENT IN LOUISIANA

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WETLAND MITIGATION: A STUDY OF MARSH MANAGEMENT

VOLUME I

LEGAL REQUIREMENTS AND ADMINISTRATIVE FRAMEWORK  
AFFECTING MARSH MANAGEMENT IN LOUISIANA

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## ABSTRACT

This report describes the permitting and regulatory process for Louisiana marsh management activities that use structures to manipulate local hydrology. Landowners wishing to implement such marsh management plans must obtain both a coastal use permit from the Louisiana Department of Natural Resources' Coastal Management Division, which administers the Louisiana Coastal Resources Management Act, and a U.S. Army Corps of Engineers §10 and/or §404 permit. Restrictions in local coastal management programs may supercede the Coastal Management Division requirements for activities in the coastal zone defined as "uses of local concern." In some situations a permit also may be required from the Division of State Lands, Louisiana Department of Natural Resources (now the State Lands Office of the Division of Administration).

Several state agencies have commenting authority on coastal use permit applications through memoranda of understanding with the Coastal Management Division. They include the Division of State Lands, Office of Conservation, the Department of Environmental Quality, the Department of Health and Hospitals, the Department of Culture, Recreation and Tourism, the Department of Agriculture, and the Department of Wildlife and Fisheries. Under the memoranda the Coastal Management Division is required to condition its permits so that they comply with the regulatory requirements of any of the agencies that has jurisdiction over the permitted activity. The memorandum between the Coastal Management Division and Department of Wildlife and Fisheries requires that the Department of Wildlife and Fisheries' comments be given full consideration and responded to in the permit file.

The Corps of Engineers is the federal permitting authority for marsh management activities. The Corps of Engineers operates under the Rivers and Harbors Act of 1899 and the Federal Water Pollution Control Act. These federal statutes regulate structures blocking navigable waters and dredging and filling in wetlands, respectively. The Department of Wildlife and Fisheries, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the U.S. Environmental Protection Agency have authority to comment on the §10 and §404 permit applications under federal statutes such as the Fish and Wildlife Coordination Act, the Federal Water Pollution Control Act, and the Endangered Species Act. Memoranda of agreement with the three federal agencies give them the authority to request "elevation" to a higher level of review if their comments are not responded to satisfactorily. Because elevation delays permit decisions, interagency meetings are usually held to settle differences. Section 404(c) gives the Environmental Protection Agency the authority to veto Corps of Engineers §404 permit decisions.

Under federal requirements the Corps of Engineers' permit decisions also must be consistent with approved state coastal management programs. This includes the local coastal management programs. The Division of State Lands can "veto" a Corps of Engineers permit by raising a valid objection either to a coastal use permit application or directly to a Corps permit application. The Department of Environmental Quality can veto a Corps of Engineers permit by withholding the required water quality certification.

Louisiana property laws are designed to distinguish state and private property ownership rights and also to protect the state's interest in its property. These laws limit certain marsh management activities. Two recent cases, Phillips Petroleum and Lafourche Realty (Tidewater Canal), may signal changes in state and private ownership in wetlands.

Other activities that affect marsh management are mariculture, boat barricades, marsh burning, hunting, trapping, and the use of chemicals. Regulating mariculture and boat barricades, in particular, is proving problematic. The regulatory process for obtaining a marsh management permit can be long and cumbersome, because of interagency checks and balances and the widely varying policies and mandates.

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## INTRODUCTION

Over the last 15 years much attention has been focused on Louisiana's coastal erosion problems. One outgrowth of concern for the state's coastal resources has been the idea of using marsh management to help control land loss and to prevent further depletion of fish and wildlife populations. This paper examines how marsh management practices fit within federal and state regulatory frameworks that affect the coastal areas, identifies potential conflicts in regulatory mandates and policies, and discusses the status of state property law as it affects both public and private ownership of wetlands.

Because a myriad of activities is carried out in the name of marsh management, the first step is to define the term. A tentative definition developed for this project is ". . . marsh management is the use of structures to manipulate local hydrology for the purpose of reducing or reversing wetland loss and/or enhancing productivity of natural renewable resources."

Although this definition does not encompass all the activities that have traditionally been associated with marsh management, it does address most of the current policy considerations and goals. This definition is now or likely will become standard for the regulatory agencies that evaluate proposed marsh management plans; therefore, it will be the focus here, although other management techniques will be examined in less detail.

This discussion is also limited to marsh management plans that are to be carried out on privately owned land. Because different laws apply to federal and state wildlife refuges, marsh management in these areas will not be discussed.

Certain terms that will be used repeatedly in this report are defined as follows:

Legislation--enactments of a legislature that become laws.

Law--statutes established by enactments of a legislature or court decisions which have binding legal precedent. In Louisiana, statutory law is supreme over judicial decisions.

Regulations--a rule or order of an administrative agency that has been established and promulgated in accordance with the required state or federal administrative procedures. The rule or order may establish internal operating procedures for the agency or substantive requirements for those affected by the agency's actions. Regulations duly established and promulgated are essentially laws. Regulations differ from laws in that regulations may be changed or amended by the administrative agency (following proper administrative procedure and, in Louisiana, subject to legislative approval) while laws may only be changed or amended by the legislature. Additionally, when there is a direct conflict between a law and a regulation, the law takes precedence.

Formal procedures--agency procedures and requirements that are regulations.

Informal procedures--agency procedures and requirements that have not been established and promulgated in accordance with the required state or federal administrative procedures. These are customary operations of the agency.

Guidance--information and advice provided by an administrative agency to a member of the public. The guidance may either explain agency procedure or provide technical information.

## AGENCY ROLES AND RESPONSIBILITIES

### Permitting and Commenting Agencies

This section will discuss the roles and responsibilities of the various agencies affecting marsh management as mandated by the laws they administer and under which they operate. Other roles and responsibilities of these agencies that do not affect marsh management will not be covered. Most of the agencies discussed herein can be classified as either permitting or commenting agencies. Permitting agencies are those that have been given the authority to regulate activities associated with marsh management by requiring permits for those activities. These agencies may either grant or deny permits based on statutorily mandated requirements and guidelines.

Commenting agencies are those that are given the authority, either by statute or interagency agreement, to comment favorably or unfavorably on whether or not permits should be granted for proposed activities. Although it is usually required that permitting agencies consider the comments of the commenting agencies, they are not required, with a few exceptions, to follow the recommendations in the comments. The interaction between permitting and commenting agencies can be complex and is discussed in more detail in the section entitled "Permit Requirements and Application Procedures."

## Federal Agencies

### U.S. Army Corps of Engineers

The Corps of Engineers' general mandate is the planning, construction, maintenance, and operation of certain federal civil works, such as flood control, navigation improvement, surveying, and mapping.

The Corps of Engineers is the permitting agency for §9 and §10 of the Rivers and Harbors Act of 1899, 33 U.S.C. §401 & 403 (1989), and for §404 of the Federal Water Pollution Control Act of 1972, as amended in 1977 and 1987 (also known as the Clean Water Act), 33 U.S.C. §1344 (1989).

The agency also has responsibilities under the Rivers and Harbors Act of 1899: to review and decide whether or not to approve plans for the building of bridges, causeways, dams, dikes, wharfs, piers, dolphins, booms, weirs, breakwaters, bulkheads, jetties, or other structures, or to excavate or fill or make other alterations in the navigable waters of the United States.

The Corps of Engineers' responsibilities under §404 of the Federal Water Pollution Control Act are to review applications and issue permits for the disposal of dredged or fill material into navigable waters with guidance from the Environmental Protection Agency.

### Environmental Protection Agency

The agency's general mandate is to permit coordinated and effective governmental action to assure the protection of the environment by abating and controlling pollution on a systematic basis through research, monitoring, setting standards, and enforcement activities related to pollution abatement and control. It provides for the treatment of the environment as a single interrelated system,

and administers, among other laws, the Federal Water Pollution Control Act and the Clean Air Act.

The Environmental Protection Agency's responsibilities under the Federal Water Pollution Control Act are to administer the provisions of the Act (permitting agency), including the setting and enforcement of water quality standards and effluent limitations. It is also responsible for the establishment of guidelines to be used by the Corps of Engineers in the permitting decisions for the disposal of dredged or fill material, the authority to veto Corps of Engineers dredge-and-fill permitting decisions, and oversight authority for federally approved state water quality programs.

#### U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service's general mandate is to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people by providing leadership for the protection and improvement of land and water environments which directly benefit the living natural resources and adds quality to human life.

The agency's responsibilities as a commenting agency under the Fish and Wildlife Coordination Act (16 U.S.C. §662 and §663 (1989)), are to review proposed alterations to any water body by an agency of the federal government and to make comments and recommendations on the proposed alteration. The comments, usually directed to §404 Federal Water Pollution Control Act permits and §9 and §10 Rivers and Harbors Act permits, must be given full consideration by the permitting agency and incorporated into any reports to Congress or any other overseeing agency. The comments concern a project's effect on fish and wildlife resources for which the service has responsibility.

The service's responsibilities under the Endangered Species Act of 1973, as amended in 1988, 16 U.S.C. §1531-1543 (1989), are to act as the permitting agency responsible for designating species of animals and plants as threatened or endangered, promulgating regulations to protect them, enforcing such regulations and prohibitions of the act, and permitting exceptions. The responsibilities are shared with the National Marine Fisheries Service, which has jurisdiction over marine fish and wildlife.

#### National Marine Fisheries Service

The service's general mandate is "to achieve a continued optimum utilization of living marine resources for the benefit of the Nation" and to hold "Federal responsibility for the conservation, management, and development of living marine resources and for the protection of certain marine mammals and endangered species under numerous Federal laws." 489 Fed. Reg. 53142 (1983).

Under the Fish and Wildlife Coordination Act, its commenting authority is identical to that of the U.S. Fish and Wildlife Service (see above), but is limited to its own area of jurisdiction. Under the Endangered Species Act, its permitting authority is the same as that of the U.S. Fish and Wildlife Service (see above), but is limited to its area of jurisdiction (marine fish, mammals, birds, reptiles, and other wildlife during the aquatic phase of their life cycles).

The service's responsibilities under the Magnuson Fishery Conservation and Management Act of 1976, as amended in 1986, 16 U.S.C. §§1801-1882 (1989), are to serve as a voting member of the regional fishery management councils established under the act (see below) and, through such representation, to promote policies (including habitat protection) fostering the conservation and

protection of the marine species for which it is responsible. The National Marine Fisheries Service is also the primary agency responsible for enforcement (permitting) of the regulations established by the councils.

#### National Oceanic and Atmospheric Administration

As parent organization for the National Marine Fisheries Service, the National Oceanic and Atmospheric Administration oversees the responsibilities of that agency (see above). 35 Federal Reg. 15627 (1970). The general mission of the National Oceanic and Atmospheric Administration is to "explore, map, and chart the global ocean and its living resources and to manage use and conserve those resources, to describe, monitor, and predict conditions in the atmosphere, ocean, sun, and space environment; to issue warnings against impending destructive natural events; to assess the consequences of inadvertent environmental modification over several scales of time and to manage and disseminate long term environmental information."

Specific statutory responsibilities are provided by the Coastal Zone Management Act of 1972, the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Magnuson Fishery Conservation and Management Act of 1976.

#### Regional Fishery Management Councils

The councils were established by the Magnuson Fishery Conservation and Management Act of 1976, as amended in 1986, 16 U.S.C. §1801-1882 (1989), to develop fishery management plans for their respective regions. The plans may include permit requirements, restrictions on fishing zones, species and numbers to be taken, gear and other equipment to be used. Enforcement of the substantive provisions in the plans is carried out by the National Marine Fisheries Service.

## U.S. Soil Conservation Service

This agency is a subdivision of the U.S. Department of Agriculture, and its mandate is to exercise the powers of the Secretary of Agriculture under the Soil Conservation and Domestic Allotment Act. The policy of that act is:

"to provide permanently for the control and prevention of soil erosion and thereby to preserve natural resources, control floods, prevent impairment of reservoirs, and maintain the navigability of rivers and harbors, protect public health...and the Secretary of Agriculture from now on shall coordinate and direct all activities with relation to soil erosion in order to effectuate this policy is authorized from time to time to conduct surveys, investigations, and research relating to the character of soil erosion and the preventative measures needed to publish the results of any such surveys, investigations or research, to disseminate information concerning such methods, and to conduct demonstrational projects in areas subject to erosion by wind or water." 16 U.S.C. 590(a) (1989).

Among the additional policies and purposes of the act is the "promotion of the economic use and conservation of land." 16 U.S.C. 590(g) (1989).

Under the Soil and Water Resources Conservation Act of 1977, the Soil Conservation Service is recognized as an agency which "possesses information, technical expertise, and a delivery system for providing assistance to land users with respect to conservation and use of soils; plants; woodlands; watershed protection and flood prevention; the conservation development, utilization and disposal of water, animal husbandry, fish and wildlife management; recreation; community development; and related resources uses." Among the duties of the Soil Conservation Service under this act are "developing and updating periodically a program for furthering the conservation, protection, and enhancement of the

soil, water, and related resources of the Nation consistent with the roles and program responsibilities of other Federal agencies and State and Local governments." 16 U.S.C. 2001(2) and 2003(c) (2) (1989).

#### National Environmental Policy Act requirements

All federal agencies are required by the National Environmental Policy Act "to use all practicable means and measures, including financial and technical assistance in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans." 42 U.S.C. §4331 (1989). One of the requirements of this act is that there be included in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment a detailed statement by the responsible official. The statement must include the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, alternatives to the proposed action, the relationship between local short term uses of the human environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented 42 U.S.C. §4332 (1989).

#### Coastal Zone Management Act of 1972 Requirements

Under this act, all "Federal agencies conducting or supporting activities directly affecting the coastal zone" are required to "conduct or support those activities in a manner which is to the maximum extent practicable, consistent with approved state management programs." 16 U.S.C. §1456 (1989). This means

that in a state with an approved coastal management program, as in Louisiana, a federal agency cannot issue a permit for an activity that directly affects the coastal zone of the state unless the state coastal management program certifies that the activity is consistent with the state's program. The consistency determination may come with the issuance of a coastal use permit for the activity if one is required, or a statement of consistency if the activity does not require a coastal use permit (e.g., an outer continental shelf activity).

#### State Agencies

The Coastal Management Division of the Louisiana Department of Natural Resources is the permitting agency responsible for administering the provisions of the State and Local Coastal Resources Management Act of 1978. The Coastal Management Division carries out its mission by regulating certain activities in the statutorily defined coastal zone of Louisiana in a way consistent with the policy of the act. That policy is, in part, "to protect, develop, and where feasible, restore or enhance the resources of the state's coastal zone," La. Rev. Stat. 49:213.2 (1989), and "to encourage full use of coastal resources while recognizing it is in the public interest of the people of Louisiana to establish a proper balance between development and conservation." (La. Rev. Stat. 49:213.8(C)(1)) (1989). The primary method the Coastal Management Division uses to fulfill its mandate is the coastal use permitting process, under which permits are required for certain activities in the coastal zone.

The Department of Environmental Quality is the permitting agency which is the "primary agency in the state concerned with environmental protection and regulations". . . with "jurisdiction over matters affecting the regulation of the environment within the state, including but not limited to the regulation

of air quality, noise pollution control, water pollution control, the regulation of solid waste disposal, the protection and preservation of the scenic rivers and streams of the state, the regulation and control of radiation, the management of hazardous waste, and the regulation of those programs which encourage, assist, and result in the reduction of wastes generated within Louisiana." La. Rev. Stat. 30:2011(A)(1) (1989).

In the area of water pollution control, the Department of Environmental Quality exercises its mission by establishing water quality standards and effluent limitations and prohibiting discharges (except by permit from the department), and by decisions concerning certifications of consistency with the Federal Water Pollution Control Act for activities under federal permit or license. The Department of Environmental Quality also has commenting authority on coastal permit decisions under a memorandum of understanding with the Coastal Management Division.

The Division of State Lands, Department of Natural Resources, has numerous functions relating to administration of state-owned property (land). La Rev. Stat. 41:1-14 (1989). Among those functions is the administration of and permitting authority over state owned water bottoms under La. Rev. Stat. 41:1701-1714 (1989). Under those provisions, the Division of State Lands is responsible for preventing unauthorized encroachments on state waterbottoms and issuing leases for authorized encroachments. The Division of State Lands is also responsible for overseeing reclamation of private land lost through erosion and has commenting authority on coastal use permit decisions under a memorandum of understanding with the Coastal Management Division.

The Department of Wildlife and Fisheries is the permitting agency with respect to state wildlife and fisheries laws (including the Natural and Scenic Rivers System) and the commenting agency under the Fish and Wildlife Coordination Act and the Louisiana State and Local Coastal Resources Management Act. Under state law the department is directed to "control and supervise all wildlife of the state, including fish and all other aquatic life, and shall execute the laws enacted for the control and supervision of programs relating to the management, protection, conservation, and replenishment of wildlife, fish, and aquatic life in the state, and the regulation of the shipping of wildlife, fish, furs, and skins." La. Rev. Stat. 36:602 (1989).

Under the Fish and Wildlife Coordination Act, the Department of Wildlife and Fisheries has the same commenting authority as the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Under a memorandum of understanding with the Coastal Management Division of the Department of Natural Resources, the Department of Wildlife and Fisheries has the authority to comment on coastal use permit applications.

#### Local Agencies

The local (parish) coastal management programs are established, as is the state program, by the Louisiana State and Local Coastal Resources Management Act of 1978. The local coastal management programs have permitting authority in the coastal zone within the respective parish over activities which have been designated by the act as "uses of local concern." Uses of local concern include some marsh management plans, which would therefore be subject to a local coastal use permit. The local coastal management programs also have the authority under

the Louisiana State and Local Coastal Resources Management Act and its regulations to comment on state coastal use permit decisions.

#### LAWS AND ADMINISTERING AGENCIES

Tables 1 and 2 list the state and federal laws affecting marsh management activities and the agencies that administer them or are affected by them.

#### INFORMAL PLANNING AND GUIDANCE

##### Definition

In this report, "informal planning and guidance" refers to the dissemination of information by an agency to a prospective applicant, often before the permitting process has begun, designed to help the prospective applicant through the permitting process. There are no requirements in law or regulation for the procedures described here, hence the designation as "informal." The designation of planning and guidance as informal does not mean that it is on a less professional level than the agencies' formal interactions with the public.

##### Federal Agencies

##### U.S. Soil Conservation Service

This agency provides some of the most extensive informal planning and guidance of any of the agencies involved in marsh management. The Soil Conservation Service provides initial technical assistance to prospective applicants and this assistance continues throughout the development of the marsh management plan, which the Soil Conservation Service actually writes for marsh managers. During the permitting phase and implementation of the marsh management plan, the Soil Conservation Service continues to provide technical assistance for marsh managers. The technical expertise of this agency is an invaluable

Table 1. Federal laws, regulations, and case law and administering agencies.

Federal Authority	Type	Purpose	Administering Agencies
Federal Water Pollution Control Act 33 U.S.C. §1342 (§402) (1989)	Statute	Prohibits unpermitted discharges into waters of the U.S.	Environmental Protection Agency or oversees state administration of federally approved state program
33 U.S.C. §1344(a), (§404(a)) (1989)	Statute	Grants authority to the U.S. Army Corps of Engineers to regulate and issue permits for discharge of dredged or fill material into the waters of the U.S.	U.S. Army Corps of Engineers with Environmental Protection Agency oversight authority
40 C.F.R. §122.2 (1989)	Regulation	Defines waters of the U.S. for §402 purposes	Environmental Protection Agency
33 C.F.R §328.3 (1989)	Regulation	Defines waters of the U.S. for §404 purposes	U.S. Army Corps of Engineers
33 U.S.C §1344(b)(1) and (c) (1989)	Statute	Grants authority to the Environmental Protection Agency to establish guidelines to be used by the Corps of Engineers when issuing permits for the discharge of dredged or fill material and to veto such permits if the guidelines are not addressed	Environmental Protection Agency
40 C.F.R. §230-230.80 (1989)	Regulation	Establishes guidelines (by authority of 33USC §404(b)(1)) for permitting the discharge of dredged or fill material by the Corps of Engineers	Environmental Protection Agency and applied by U.S. Army Corps of Engineers
33 U.S.C. §401 (1989)	Statute	Requires anyone conducting activities under federal license or permit which may result in any discharge into the waters of a state to obtain certification that the discharge complies with the provisions of the Federal Water Pollution Control Act	State administrative authority responsible for administering Federal Water Pollution Control Act or federally approved state program

Table 1 (continued)

Federal Authority	Type	Purpose	Administering Agencies
<b>Rivers and Harbors Act of 1899</b>			
33 U.S.C. §§401 and 403 (§§9 and 10) (1989)	Statute	Prohibits the creation of obstructions or dredging or filling in the waters of the U.S. without a permit from the U.S. Army Corps of Engineers	U.S. Army Corps of Engineers
33 C.F.R. §§322.2(a) (1989)	Regulation	Defines navigable waters of the U.S. for 33 USC §§401 and 403 purposes	U.S. Army Corps of Engineers
<b>Coastal Zone Management Act of 1972</b>			
16 U.S.C. §1454 (1989)	Statute	Provides for funding and guidelines under which state coastal management programs are established. See state coastal management law	National Oceanic and Atmospheric Administration
16 U.S.C. §1456 (1989)	Statute	Requires federal activities and activities requiring federal license or permit conducted in the coastal zone of a state to be consistent with that state's federally approved coastal management program	National Oceanic and Atmospheric Administration
15 C.F.R. §§930.1-930.134 (1989)	Regulation	Implement federal consistency provisions of the Coastal Zone Management Act, 33 U.S.C. §1456 (1989)	Federally approved state coastal management programs
<b>Fish and Wildlife Coordination Act</b>			
16 U.S.C. §662 and 663 (1989)	Statute	Grants authority to the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and state wildlife agencies to comment on alteration to water bodies by federal agencies or under federal license or permit	U.S. Fish and Wildlife Service, National Marine Fisheries Service, Louisiana Department of Wildlife and Fisheries

Table 1 (continued)

Federal Authority	Type	Purpose	Administering Agencies
Endangered Species Act of 1973 16 U.S.C. §§1531-1543 (1989)	Statute	Regulates and prohibits activities which affect endangered or threatened species	U.S. Fish and Wildlife Services, National Marine Fisheries Service, Louisiana Department of Wildlife and Fisheries
50 C.F.R. §171 et seq. (1989)	Regulation	Implements provisions of the Endangered Species Act	U.S. Fish and Wildlife Services, National Marine Fisheries Service
Magnuson Fishery Conservation and Management Act of 1976 16 U.S.C. §§1801-1882 (1989)	Statute	Establishes conservation and management regimes for marine fisheries stocks through the regional fishery management councils, including habitat protection considerations such as wetland protection	National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Regional Fishery Management Councils
National Environmental Policy Act 42 U.S.C. §4321-4370(a) (1989)	Statute	Directs all federal agencies to consider environmental impacts of major federal actions significantly affecting the human environment and to prepare a detailed statement of the findings	The provisions of the act are the responsibility of all federal agencies
Memoranda of agreement between various agencies	Interagency agreements	To facilitate interactions between agencies involved in permitting process	Signatory agencies including U.S. Army Corps of Engineers, Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service
<u>Phillips Petroleum Company v. Mississippi</u> 108 S. Ct. 791 (1988)	Judicial (case law)	Interpreted federal grants of land to states at statehood under the "equal footing doctrine" to include all lands subject to the ebb and flow of the tide	Ruling of the U.S. Supreme Court to be followed by all lower federal courts and state courts as well as appropriate administrative agencies

Table 1 (continued)

Federal Authority	Type	Purpose	Administering Agencies
<u>Vaughn v. Vermillion Corporation</u> 444 U.S. 206 (1979)	Judicial (case law)	Held that private canals constructed on private property were private things with no right of public use except possibly in limited situations	Ruling of the U.S. Supreme Court to be followed by all lower federal courts and state courts as well as appropriate administrative agencies

Table 2. State laws, regulations, and case law and administering agencies.

State Authority	Type	Purpose	Administering Agencies
<b>State and Local Coastal Resources Management Act of 1978</b> La. Rev. Stat. 49:213.21-213.41 (1989)	Statute	To protect, develop, and where feasible, restore, or enhance the resources of the state's coastal zone and to encourage full use of coastal resources while recognizing it is in the public interest of the people of Louisiana to establish a proper balance between development and conservation.	Coastal Management Division, Department of Natural Resources
<b>Rules and regulations (coastal use guideline); Louisiana Coastal Resources Program Final Environmental Impact Statement</b>	Regulations	Implement the provisions of the Louisiana State and Local Coastal Resources Management Act of 1978	Coastal Management Division, Department of Natural Resources
<b>State Water Bottom Management</b> La. Rev. Stat. 41:1701-1714 (1989)	Statute	States that the beds and bottoms and the banks or shores of bays, arms of the sea, the Gulf of Mexico, and navigable lakes are public lands belonging to the state and shall be protected, administered, and conserved to best insure full public navigation, fishery, recreation and other interests. Prohibits unregulated encroachments on state water bottoms. Provides for leasing of state owned water bottoms	Division of State Lands, Department of Natural Resources

Table 2 (continued)

State Authority	Type	Purpose	Administering Agencies
<b>Louisiana Civil Code Property Provisions</b>			
Article §450	Statute	Defines public things	Division of State Lands, Department of Natural Resources
Article §451	Statute	Defines seashore	Division of State Lands, Department of Natural Resources
Article §456	Statute	Defines banks of navigable rivers and streams, provides for ownership and public use	Division of State Lands, Department of Natural Resources
Article §499	Statute	Defines alluvion and dereliction and provides for ownership	Division of State Lands, Department of Natural Resources
Article §500	Statute	Provides that there is no right of alluvion or dereliction on the seashore or the shore of navigable lakes	Division of State Lands, Department of Natural Resources
Article §506	Statute	Provides for ownership of nonnavigable rivers and streams	Division of State Lands, Department of Natural Resources
<b>Louisiana Revised Statutes Property Provisions</b>			
La. Rev. Stat. 9:1101 (1989)	Statute	Provides that the waters and beds of all rivers, streams, bayous, lagoons, lakes, and bays not directly owned by August 12, 1910 whether or not navigable belong to the state	Division of State Lands, Department of Natural Resources
La. Rev. Stat. 49:3 (1989)	Statute	Provides that Louisiana owns the water beds and shores to the high tide mark of the Gulf of Mexico and its arms that lie within the boundaries of the state	Division of State Lands, Department of Natural Resources

Table 2 (continued)

State Authority	Type	Purpose	Administering Agencies
Article XI§3 of the Louisiana Constitution of 1974	Constitution	Prohibits private ownership of the beds of natural navigable water bodies in Louisiana	Division of State Lands, Department of Natural Resources
<u>Miami Corporation v. State</u> 173 So. 315 (1936)	Judicial (case law)	Held that the state owns the banks of navigable lakes to the high water mark and that areas adjacent to the banks that erode to become part of the bed or banks are lost to the private owner (if any) and become state property	Division of State Lands, Department of Natural Resources
<u>Gulf Oil Corporation v. State Mineral Board</u> 317 So.2d 576 (La. 1975)	Judicial (case law)	Held that the state may assert ownership to navigable water bodies that it has alienated	Division of State Lands, Department of Natural Resources
<u>Hunter Company v. Ulrich</u> 8 So.2d 531 (La. 1942)	Judicial (case law)	Held that canals constructed on private land pursuant to a right of way servitude are private property subject to public use (but see the caveat in <u>Vaughn v. Vermillion Corporation</u> in federal law table)	Division of State Lands, Department of Natural Resources
<b>State Wildlife and Fisheries Laws</b>			
La. Rev. Stat. 56:107 (1989)	Statute	Prohibits setting fire to marsh land except when an owner of the land does so to improve food conditions for wildlife and then only under permit and supervision of the Department of Wildlife and Fisheries	Louisiana Department of Wildlife and Fisheries
La. Rev. Stat. 56:329 (1989)	Statute	Prohibits the obstruction of the free passage of fish in any body of water except for water control structures or dams used for the retention of water for conservation purposes	Louisiana Department of Wildlife and Fisheries

Table 2 (continued)

State Authority	Type	Purpose	Administering Agencies
La. Rev. Stat. 56:579.1 (1989)	Statute	Allows mariculture in a limited number of approved marsh management areas under strict guidelines	Louisiana Department of Wildlife and Fisheries
Louisiana Scenic Rivers Act La. Rev. Stat. 56:1840-1856 (1989)	Statute	To protect the ecological and esthetic qualities of certain free-flowing rivers streams	Louisiana Department of Wildlife and Fisheries

resource for marsh managers, many of whom have no experience and no idea of where to begin in managing their marsh lands. If it were not for the services provided by this agency there would be fewer marsh management plans proposed. The following is the Soil Conservation Service's statement regarding assistance to coastal land users:

General Statement--Soil Conservation Service Assistance  
to Coastal Land Users

The Soil Conservation Service supports the multi-use concept of management in coastal wetland areas and encourages private land users to incorporate this approach into resource management objectives. The overall objective of Soil Conservation Service in the planning process is to work with the land user in a systematic analysis of problems and practical alternatives concerning his resource management decisions. The resulting conservation plan addresses the management objectives of the land user while providing essential protection of the resource base. Soil Conservation Service does have broad resource management objectives as indicated in our environmental policies and guidelines described in Appendix A of Volume II. These policies and guidelines are not unique to the coastal area, but are applicable to all Soil Conservation Service activities as described.

Soil Conservation Service has a unique working relationship with private landowners and land users relative to resource conservation planning and application. This relationship involves landowners, local soil and water conservation districts (ten in coastal parishes), and the Louisiana Soil and Water Conservation Committee.

Soil Conservation Service is obligated to assist coastal landowners requesting assistance to protect their marshlands from erosion and resulting land loss. The priority for this assistance has been previously established in individual conservation districts and cooperating state agencies. All agencies recognize the need for full cooperation and involvement of private landowners in a successful initiative (Craft 1988:2).

U.S. Fish and Wildlife Service

This agency provides technical assistance to prospective marsh managers at several stages in the process. First, a prospective marsh manager may contact the Fish and Wildlife Service before developing a marsh management plan to

request technical assistance in managing a marsh area to improve wildlife habitat for one or more species. Second, the Fish and Wildlife Service may assist the Soil Conservation Service during the development of a marsh management plan by providing technical advice to the Soil Conservation Service and the applicant. Finally, the Fish and Wildlife Service participates in interagency meetings (described on pages 37-38 of this report) that are usually held before the permit application (but sometimes after application public notice has been submitted and issued) to discuss possible conflicts of the plan with various regulatory requirements and solutions to those conflicts. Also, the Fish and Wildlife Service will continue to work individually with an applicant during the permitting process.

#### National Marine Fisheries Service

This agency provides informal guidance primarily through the interagency meeting described above. Occasionally, applicants will interact individually with the National Marine Fisheries Service after the interagency meeting to receive assistance in meeting the agency's regulatory requirements.

#### U.S. Army Corps of Engineers

The Corps of Engineers participates in informal planning and guidance both in the interagency meeting and individually with the applicant during the permitting process. As one of the permitting agencies, the Corps of Engineers provides assistance to aid the applicant in meeting regulatory requirements and helping the applicant coordinate with other permitting agencies as well as the commenting agencies.

### Environmental Protection Agency

The Environmental Protection Agency provides informal guidance through participation in the interagency meeting process. This participation, however, is infrequent and sporadic.

### State Agencies

#### Coastal Management Division, Department of Natural Resources

This agency provides mostly regulatory assistance but also some technical assistance to prospective marsh managers. This assistance is provided by the Coastal Management Division at all phases of the process including pre-application and the implementation phase. The Coastal Management Division provides several documents to prospective marsh managers describing regulatory requirements and providing technical assistance. One document, the "Louisiana Coastal Resources Program Marsh Management Manual," was prepared in conjunction with the Soil Conservation Service and provides extensive technical and regulatory assistance. Excerpts from this document can be found in Appendix E of this report.

In the implementation phase, the Coastal Management Division monitors the progress of marsh management plans, sometimes contracting with the Soil Conservation Service to acquire the necessary data. More informal guidance may result from this monitoring.

#### Louisiana Department of Wildlife and Fisheries

This agency provides informal planning and guidance on two levels. First, the Refuge and Fur Division of Wildlife and Fisheries provides technical assistance to a prospective marsh manager in developing a plan; this assistance

may continue after permit application and into the implementation phase if requested.

The second form of informal planning and guidance is by the Habitat Conservation Division, which participates in interagency meetings, providing information to help the applicant to comply with the agency's regulatory requirements. This assistance may continue past the interagency meeting process.

#### Local

The local coastal management programs occasionally participate in the interagency meeting process when a marsh management plan is proposed in their parish. This assistance primarily deals with helping the applicant comply with any applicable local coastal program requirements.

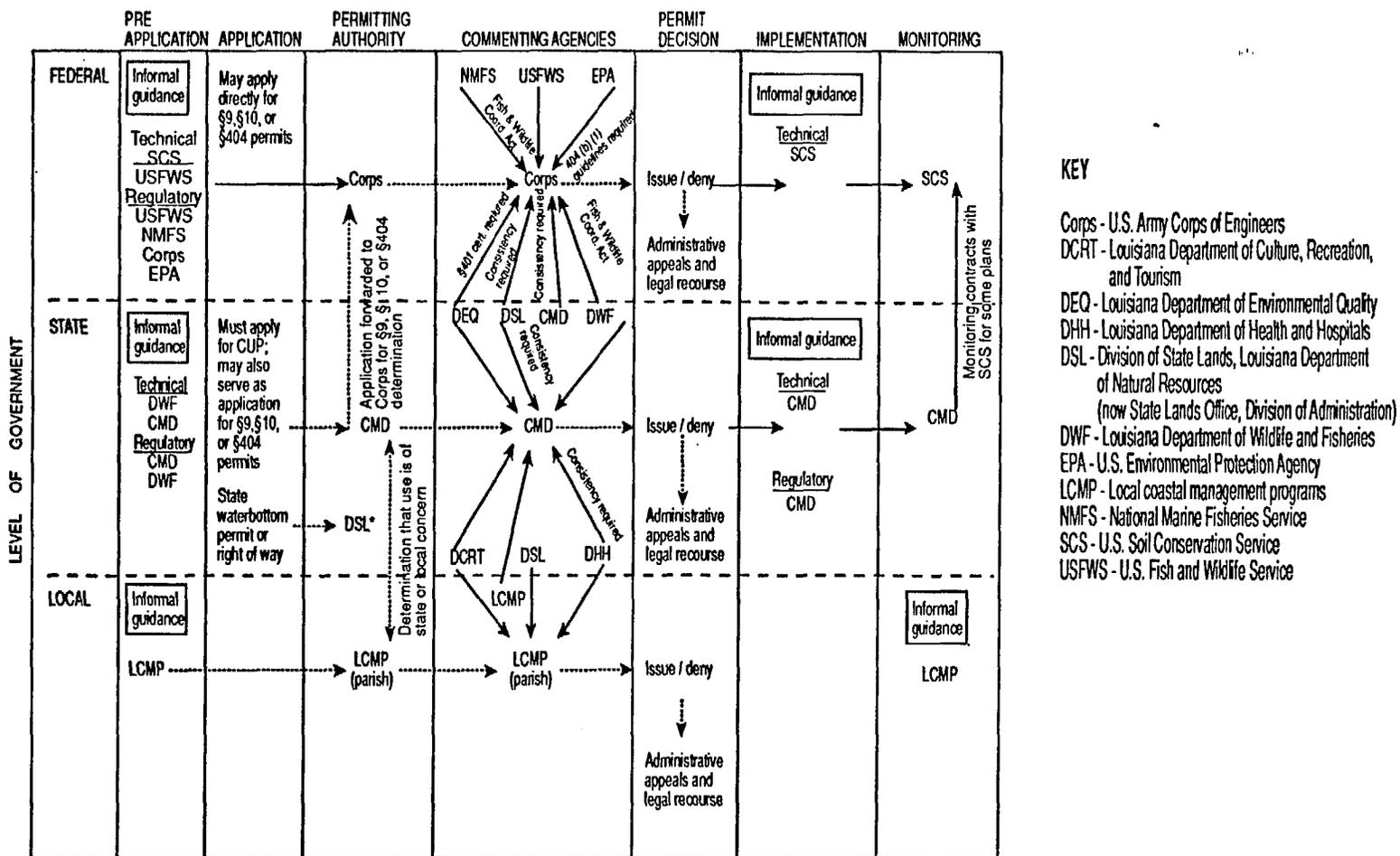
### PROCEDURES AND THE PERMITTING NETWORKS

#### Permit Requirements and Application Procedures

Under the provisions of the Louisiana State and Local Coastal Resources Management Act of 1978, La. Rev. Stat. Ann. §49:213.1213.22 (1989), landowners or managers wishing to implement a structural marsh management plan in the coastal zone (statutorily defined at La. Rev. Stat. Ann. §49:213.4 (1989)) of Louisiana must obtain a coastal use permit from the Coastal Management Division of the Louisiana Department of Natural Resources or a permit from a local coastal management program. La. Rev. Stat. Ann. §49:213.11 (1989). In most situations they must also obtain a permit from the U.S. Army Corps of Engineers under §10 of the Rivers and Harbors Act of 1899, 33 U.S.C. §403 (1989), or under §404 of the Federal Water Pollution Control Act, 33 U.S.C. 1344 (1989). Both Army Corps of Engineers permits will usually be required. The Corps of Engineers'

jurisdiction is statewide and not limited to the coastal zone as is the coastal use permitting jurisdiction of the Coastal Management Division.

The application process and permitting network are shown in figures 1-5. To simplify application procedures, the Coastal Management Division has been designated the lead agency (see the Joint Agreement between Coastal Management Division and the Corps of Engineers in appendix A) to receive permit applications and hence provide the public with a "one-window" permitting system. The Coastal Management Division is responsible for receiving permit applications and joint public notices for activities in the coastal zone that have a direct and significant impact on coastal waters and that are also subject to the §10 and §404 permitting jurisdiction of the Corps of Engineers (Cahoon and Lemoine 1985). Therefore, an applicant for a marsh management plan within the coastal zone should apply to the Coastal Management Division or a local coastal management program for a coastal use permit. The Coastal Management Division will then immediately notify the Corps of Engineers and send them a copy of the permit application. The Corps of Engineers determines whether or not a §10 or §404 permit is required and, if so, begins processing the application as if the applicant had applied directly to the Corps of Engineers for those permits. The two agencies also determine whether to issue separate public notices or to issue a joint public notice. Both agencies are required to provide a notice and comment period before they may issue their respective permits. La. Rev. Stat. Ann. §49:213.11(c)(2) (1989); 33 U.S.C. §1344(a) (1989). A joint public notice is issued when both agencies receive a complete application. However, the Corps of Engineers and the Coastal Management Division operate under different regulations. If after reviewing their respective regulations, the Coastal



- KEY**
- Corps - U.S. Army Corps of Engineers
  - DCRT - Louisiana Department of Culture, Recreation, and Tourism
  - DEQ - Louisiana Department of Environmental Quality
  - DHH - Louisiana Department of Health and Hospitals
  - DSL - Division of State Lands, Louisiana Department of Natural Resources  
(now State Lands Office, Division of Administration)
  - DWF - Louisiana Department of Wildlife and Fisheries
  - EPA - U.S. Environmental Protection Agency
  - LCMP - Local coastal management programs
  - NMFS - National Marine Fisheries Service
  - SCS - U.S. Soil Conservation Service
  - USFWS - U.S. Fish and Wildlife Service

Figure 1. Overview of governmental role in permitting process for marsh management plans. (Dotted line shows permit decision process; solid line shows comments and other input). See figure 3 for detail of state and figure 5 for detail of federal permit processing procedures. \*See figure 4 for explanation of processing of state water-bottom or right of way permit.

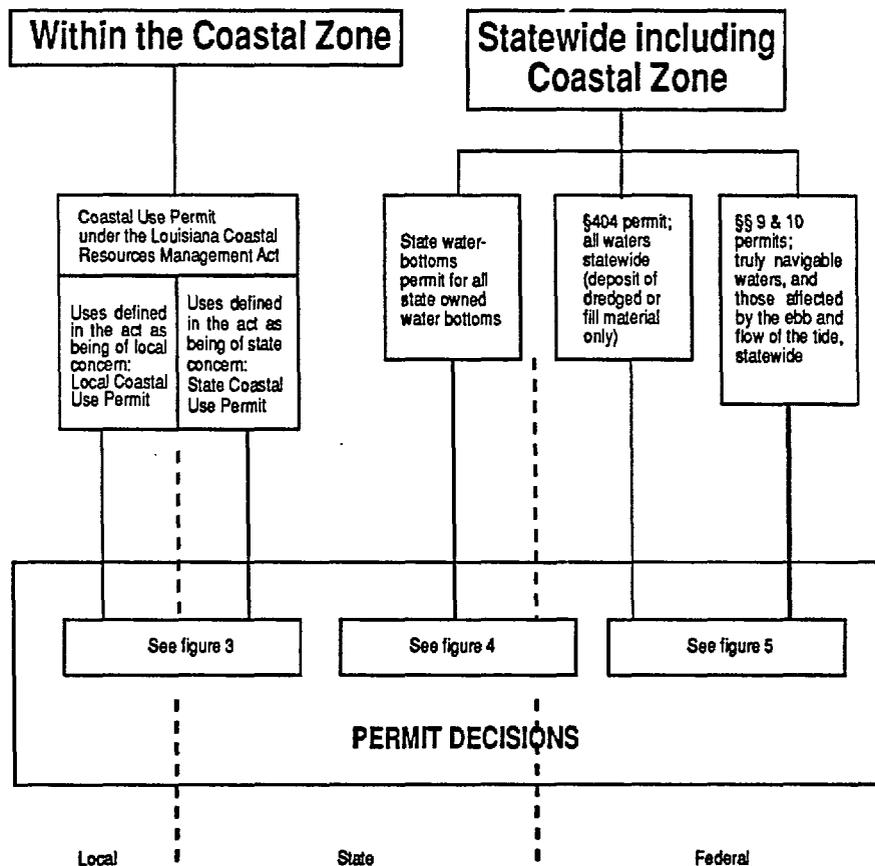


Figure 2. Permitting process for dredging and/or filling operations or creation of obstruction without dredging and/or filling (such as some weirs and other water control structures).

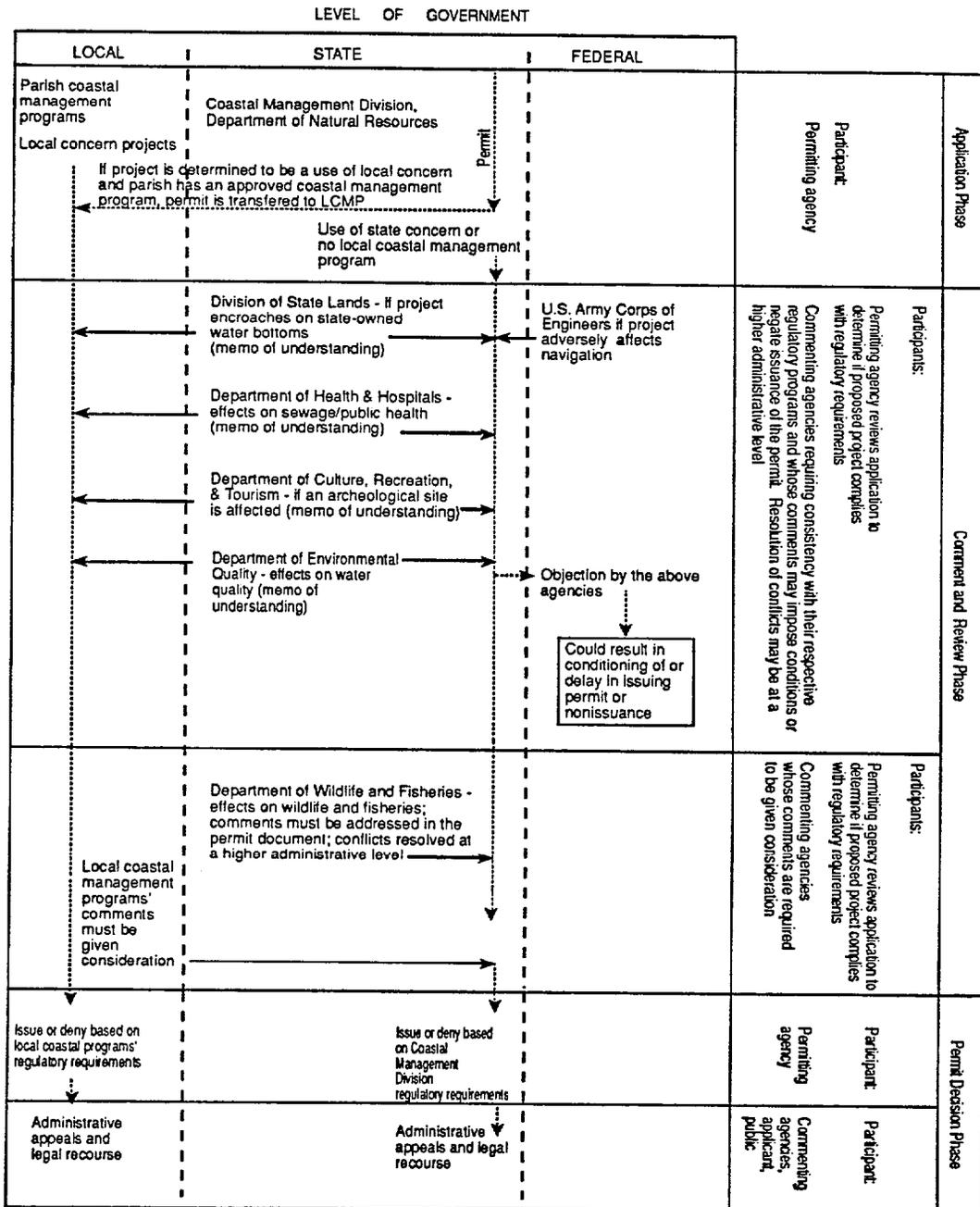


Figure 3. Permit decision process for Louisiana coastal use permit for any activity (including dredging and filling, dams, or weirs) in the coastal zone that directly and significantly affects coastal waters. (Dotted line shows permit decision process; solid line shows comments and other input).

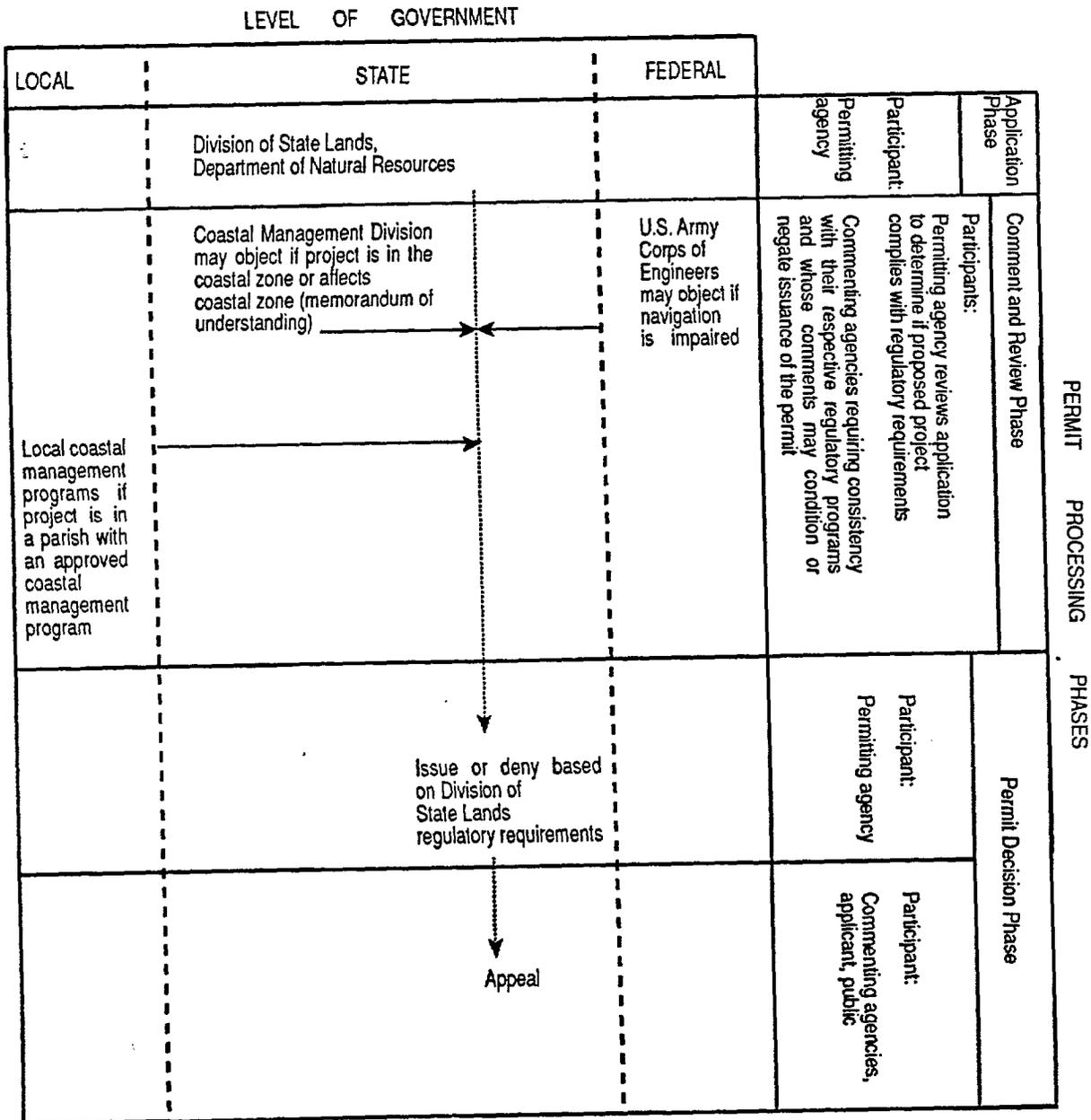
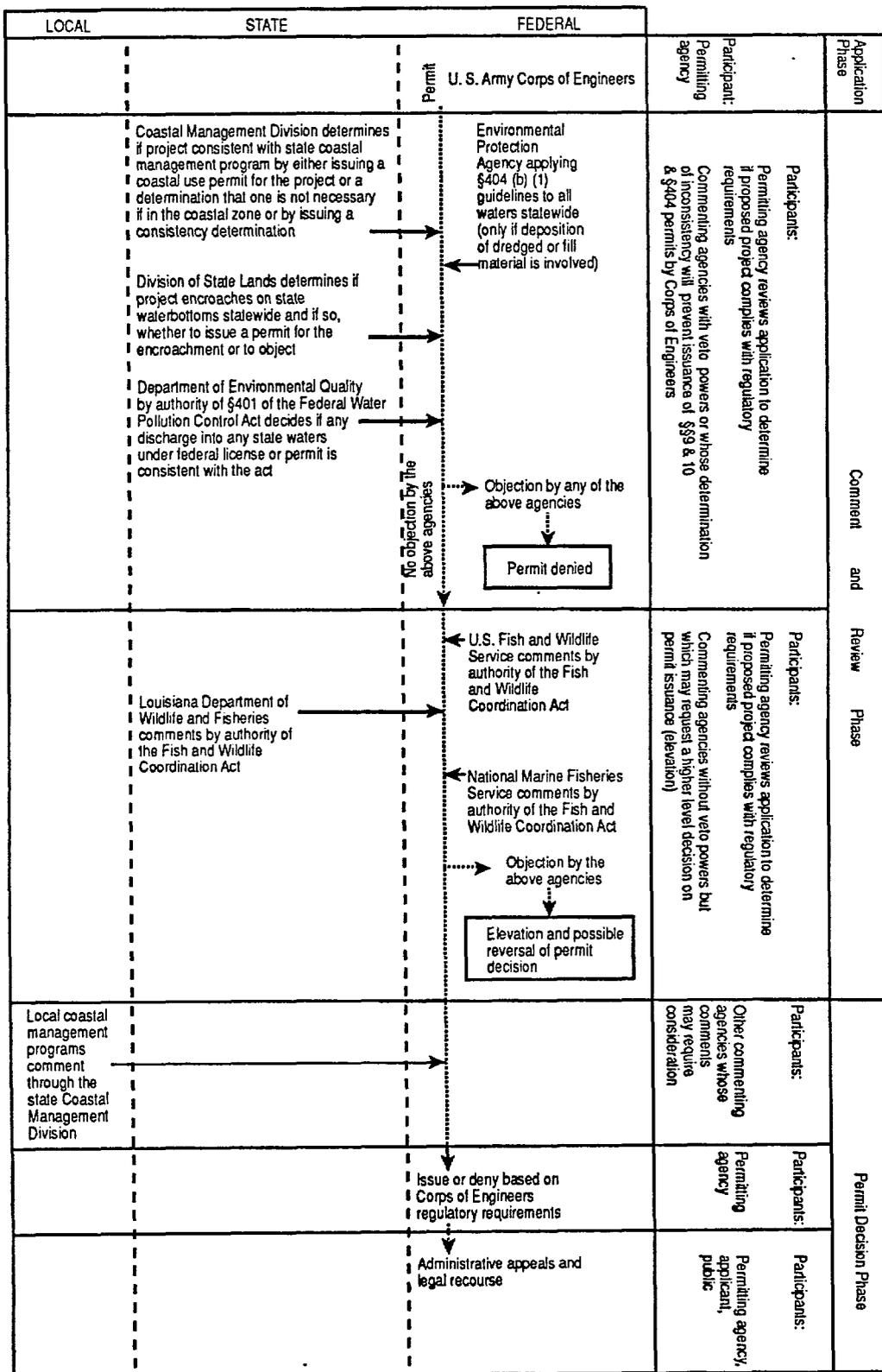


Figure 4. Permit decision process for state water-bottom permits (either for filling or other encroachments, such as weirs). (Dotted line shows permit decision process; solid line shows comments and other input).

LEVEL OF GOVERNMENT



PERMIT PROCESSING PHASES

Figure 5. Permit decision process for permits under §§9 and 10 of the Rivers and Harbors Act of 1899 and §404 of the Federal Water Pollution Control Act. (Dotted line shows permit decision process; solid line shows comments and other input).

Management Division and/or the Corps of Engineers determine that an application is incomplete for identical reasons, a joint public notice cannot be issued until the required information is received in a timely fashion by both agencies. However, the Corps of Engineers must issue its public notice within 15 days after receiving a complete application. Thus, issuance of a joint public notice may not be possible if it would take the applicant too long to acquire information required only by the Coastal Management Division (Bosenberg 1988). In those cases the agencies would issue their own public notices and proceed with evaluating the proposed project (Bosenberg 1988). The agencies issue only a joint public notice and not a joint permit.

Other permit requirements a prospective marsh manager may encounter include: a state water-bottom or right-of-way permit from the Division of State Lands of the Department of Natural Resources, La. Rev. Stat. Ann. 41:1703 (1989); a water quality certification from the Department of Environmental Quality, 33 U.S.C. §1341 (1989) (§401 of the Federal Water Pollution Control Act); and a Natural and Scenic Rivers permit from the Louisiana Department of Wildlife and Fisheries, La. Rev. Stat. Ann. 56:1840-1856 (1989). Although the Division of State Lands permits are technically separate requirements, the Coastal Management Division and the Corps of Engineers routinely notify the Division of State Lands of permit applications received by their respective offices. If, after review of the proposed activity, the Division of State Lands determines that a state water-bottoms or right-of-way permit is required, the applicant is notified that he or she will have to obtain a permit from the Division of State Lands (see figures 3,4, and 5). The Corps of Engineers will not issue its permits until any required by the Division of State Lands are issued.

For the Department of Environmental Quality §401 water quality certifications, a similar process takes place between the Corps of Engineers and the Department Environmental Quality. The Corps of Engineers will not issue its permits unless the applicant has obtained the water quality certification.

The Natural and Scenic Rivers permit from the Department of Wildlife and Fisheries is also a separate requirement, but under a memorandum of understanding with the Coastal Management Division can affect the coastal use permitting process (see below). A flow chart describing the permit process and network of agencies is presented in figure 1.

#### State Permitting Network

At the state level the permitting network for coastal zone activities, including marsh management, consists of the permitting agency, the Coastal Management Division or the local (parish) coastal management program, and the state commenting agencies (see figures 1-3). Under this system, decisions on the issuance of a coastal use permit are based not only on the guidelines and regulatory policies of the lead agency but also are affected by the regulatory requirements and policies of the commenting agencies. The Coastal Management Division has memoranda of understanding with seven other state agencies: the Office of Conservation and the Department of State Lands of the Department of Natural Resources; the Department of Environmental Quality; the Department of Health and Human Resources, the Department of Culture, Recreation and Tourism; the Department of Agriculture; and the Department of Wildlife and Fisheries (see appendix A). These memoranda provide for notification from the Coastal Management Division of activities that may fall under the jurisdiction of the various agencies and give the agencies authority to comment on the proposed activity.

Additionally, the memoranda provide that for all the agencies listed above, except the Department of Agriculture and the Department of Wildlife and Fisheries, the Coastal Management Division will condition the approval of a coastal use permit on compliance with the rules and regulations of these commenting agencies and upon the applicant obtaining all permits required by these agencies, if any. Under this system, for example, if an archaeological or historical site would be affected, the Department of Culture, Recreation and Tourism is notified and may comment to the Coastal Management Division. The comments may establish conditions to or object to the proposed activity (see figure 3). The Department of Agriculture may comment on and/or object to activities that affect agricultural resources, including the use of pesticides, and the Coastal Management Division must incorporate the Department of Agriculture comments into its permit decisions to the maximum extent practicable (see figure 3). However, there is no requirement in the memoranda of understanding that the Coastal Management Division condition coastal use permits so that they comply with the Department of Agriculture's regulatory requirements.

The Department of Wildlife and Fisheries memorandum of understanding with the Coastal Management Division provides that the Department of Wildlife and Fisheries' comments on coastal use permit applications will be "given full consideration in the coastal use permit decision process and summarized and responded to in the actual permit document" (see figure 3). This would include the Department of Wildlife and Fisheries' comments under its authority over the Louisiana Natural and Scenic Rivers System as well as various wildlife and fisheries statutes. Comments by the other agencies not involving violations of their regulatory authority but expressing other policy concerns are evaluated

by the Coastal Management Division for consistency with the Coastal Resources Management Act and may or may not be acted upon by the Coastal Management Division (Rives 1988). The Coastal Management Division also reviews comments of other state and federal agencies and incorporates those that do not conflict with the Coastal Resources Management Act (Rives 1988).

An in-lieu permitting system has been established by the Coastal Resources Management Act and further developed in a memorandum of understanding between the Coastal Management Division and the Office of Conservation of the Department of Natural Resources. This system divides permitting authority for oil and gas related activities between the two agencies. Thus, for example, the siting and drilling of oil or gas wells require permits from the Office of Conservation instead of a coastal use permit. However, if access to the drill site requires dredging a canal or building a board road in the coastal zone, a coastal use permit is required for that activity in addition to the Office of Conservation permit.

The Coastal Resources Management Act also provides for the establishment of local coastal management programs under which the local program may assume the permitting authority for activities in the coastal zone defined by the Coastal Resources Management Act as "uses of local concern." La. Rev. Stat. Ann. §49.213.9 (1989). In accordance with this system, approved local programs have been established and have assumed permitting authority from the Coastal Management Division over certain coastal uses. Under the Coastal Resources Management Act a marsh management plan that intersected only one body of water and that utilized a water control structure costing less than \$15,000 would be a use of local concern and would require a parish permit rather than a coastal

use permit (see figures 1-3). La. Rev. Stat. Ann. §49.213.5A(1)(a), (2)(j) (1989). In addition, the approved local programs are given the authority to comment on coastal use permit applications being reviewed by the Coastal Management Division (Rives 1988) (see figure 3). The Coastal Management Division tries to accommodate these comments if they concern something specifically addressed in the parish program or relate to something of local concern and are not contrary to state policy (Rives 1988).

#### Federal Permitting Network

At the federal level the Corps of Engineers regulates marsh management activities involving dredge or fill in navigable waters including wetlands, 33 U.S.C. §403 §1342, 1344 (1989), or structures blocking navigable waters, 33 U.S.C. §403 (1989). This permitting jurisdiction is statewide and is not limited to the statutorily defined coastal zone as is the jurisdiction of the Coastal Management Division (see figures 1, 2, 5). 33 U.S.C. §1362(12) (1989); 33 U.S.C. §403 (1989). Other agencies have commenting authority: the U.S. Fish and Wildlife Service and the Louisiana Department of Wildlife and Fisheries under the Fish and Wildlife Coordination Act, 16 U.S.C. §661-666(c) (1989), and through a memorandum of agreement between the U.S. Fish and Wildlife Service and the Corps of Engineers (see appendix B and figure 5). The National Marine Fisheries Service, though not specifically listed in the Fish and Wildlife Coordination Act, comments under authority of that act because it was formerly the Bureau of Commercial Fisheries within the U.S. Fish and Wildlife Service. That bureau and its functions were transferred to the Department of Commerce in the 1970 reorganization. 35 Fed. Reg. 15627 (1970). Thus, the National Marine Fisheries Service retained the commenting authority it had under the Fish and Wildlife

Coordination Act as the Bureau of Commercial Fisheries in the U.S. Fish and Wildlife Service. 35 Fed. Reg. 15627 (1970). The National Marine Fisheries Service also comments under authority of a memorandum of agreement with the Corps and various other federal statutes that grant the National Marine Fisheries Service responsibility for protecting the habitat of living marine resources. The Environmental Protection Agency comments under the authority of the Federal Water Pollution Control Act, 33 U.S.C. §1344(c) (1989), and a memorandum of agreement with the Corps of Engineers (see appendix A and figure 5).

The memoranda of agreement between the Corps of Engineers and the other three federal agencies (the Environmental Protection Agency, the National Marine Fisheries Service, and U.S. Fish and Wildlife Service) also give them the authority to request referral of a District Engineer's decision to issue a permit (see appendix B). This means that the decision will be reviewed at a higher level within the Corps of Engineers (see figure 5). This process is called "elevation," and occurs when the District Engineer's Office notifies the agency of its intent to issue the permit without recommended conditions despite the fact that the commenting agency either recommends denial of the permit or recommends conditions to the permit and warns that elevation will be sought if the conditions are not accepted.

In actuality the Corps of Engineers and the commenting agencies attempt to resolve conflicts through standard procedures before the elevation step is reached (Bosenberg 1988). Some of these procedures are outlined in the memoranda of agreement; others are based on informal agreements between the agencies. One such procedure is the interagency meeting.

Interagency meetings between the Corps of Engineers, federal and state commenting agencies, and the applicant to discuss conflicts and possible solutions and/or alternatives are encouraged, and can be convened before an application is filed as well as during the permit evaluation process (Bosenberg 1988). These meetings can and often do include site visits to the proposed plan area. Proposed project modifications or recommended permit conditions made by commenting agencies often precipitate discussions between the agencies and the applicant. Agency comments accompanied by an appropriately signed statement to seek elevation if their recommendations or proposed modifications are not incorporated into the project must be dealt with slightly differently and nearly always result in a dialogue between the interested parties (Bosenberg 1988). Often such agency positions reflect differences in the policies of the various agencies (Bosenberg 1988). Nonetheless, in many cases, remaining differences are often resolved at this point without elevation. This is generally accomplished by formulating permit conditions that are acceptable to the applicant and the agency (Bosenberg 1988). Usually, the agency will withdraw its objection and request for elevation. Infrequently, an agency may maintain its objection but withdraw its request to elevate (Bosenberg 1988). However, the Corps of Engineers will make a decision to issue or deny a permit even if an impasse exists because an applicant refused to modify the proposed project or address the agency's concerns, or when the agency maintains its objection to the project and retains its right to elevate (Bosenberg 1988).

The process of referral and elevation can result in significant delays (90 to 120 days or more) in the processing of a permit (Bosenberg 1988). Because of the time and effort associated with elevation the Corps of Engineers often

attempts to avoid it by delaying its permit decision in hopes of a compromise between the applicant and the commenting agency (Clark 1988). Sometimes this can slow the permitting process almost as much as an elevation request does.

In addition to its authority to request elevation under the memorandum of agreement, the Environmental Protection Agency is given the authority by the Federal Water Pollution Control Act to establish, after consultation with the Corps of Engineers, substantive guidelines to be used by the Corps of Engineers in their evaluation of §404 permit applications. 33 U.S.C. §1344(b) (1989). The act further provides that the Environmental Protection Agency may prohibit the specification of any defined area as a disposal site for dredged or fill material either before or after a §404 permit has been issued if it determines that such disposal will have an adverse impact on municipal water supplies, shellfish beds, and fishery areas (including spawning and breeding areas), wildlife or recreational areas. 33 U.S.C. §1344(c) (1989) (see figure 5). This in effect gives the Environmental Protection Agency veto authority over the Corps of Engineers' decisions before or after the permit is issued.

The Corps of Engineers' §404 permit decisions are also affected by the comments and regulatory requirements of certain state agencies. Under the federal consistency requirements of the Coastal Zone Management Act of 1972, as amended, federal agencies including the Corps of Engineers are required to "conduct or support activities which directly affect the coastal zone of a state in such a manner which is to the maximum extent practicable consistent with approved state management programs." 16 U.S.C. §1457 (1989) and 15 C.F.R. §§930.1-930.134 (1989) (see figure 5). In accordance with this mandate the Corps of Engineers will not issue a §404 or §10 permit for a project over which the

Coastal Management Division has jurisdiction unless the Coastal Management Division has either issued a coastal use permit or has made a determination that the project is consistent with the Louisiana Coastal Resources Program, whichever is appropriate (Clark 1988). Nor may the Corps of Engineers issue a §404 or §10 permit with conditions that are inconsistent with an existing coastal use permit (Clark 1988) (see figure 5). Thus, to obtain a §404 permit the applicant not only must satisfy the regulatory requirements of the Coastal Management Division but also those of the other state agencies with which the Coastal Management Division has a memorandum of understanding as mentioned above. In the case of blockage or usurpation of state water bottoms, the Department of State Lands may, therefore, delay issuance of a §404 permit by raising an objection to a coastal use permit application that the Coastal Management Division considers sufficient to deny the permit. The denial of the coastal use permit would, in effect, be a determination of inconsistency with the Louisiana Coastal Resources Program and thereby prohibit the Corps of Engineers from issuing the §404 permit. The Division of State Lands may also object directly to the Corps concerning §404 permit applications even if the Coastal Management Division has determined the project does not require a coastal use permit or has issued consistency a determination. The Division of State Lands may also object to projects outside the coastal zone and therefore not within the Coastal Management Division's jurisdiction (Gonzales 1988) (see figure 5). This authority of the Division of State Lands to veto a §404 or §10 permit comes from longstanding Corps of Engineers policy based on several judicial decisions that the authority of a state to prohibit obstructions in navigable waters is not superceded by the Rivers and Harbors Act and therefore the state's consent to such an obstruction

is a prerequisite to issuance of the federal permit. Cummings v. Chicago, Ill. 188 U.S. 410 (1903).

Section 401 of the Federal Water Pollution Control Act requires that an applicant for a federal license or permit for any discharge into navigable waters obtain a certification from the state that the discharge will comply with the applicable provisions of the act. 33 U.S.C. §1341(a)(1) (1989). Under this provision the Corps of Engineers is prohibited from issuing a §404 permit in Louisiana unless the applicant has obtained a water quality certification from the Louisiana the Department of Environmental Quality or such certification has been waived by the Department of Environmental Quality (see figure 5). This requirement is not limited to the coastal zone but has statewide application. The certification process involves a public notice and comment period and the Department of Environmental Quality usually attaches conditions to its certifications (Wiesepepe 1988).

The Federal Water Pollution Act, 33 U.S.C. 1319 (1989), and the Coastal Resources Management Act, La. Rev. Stat. Ann. §49:213.17 (1989), provide penalties for violations of their provisions, and both the Corps of Engineers and the Coastal Management Division employ enforcement personnel. The Corps of Engineers uses an after-the-fact permitting system in which those who perform activities without a §10 or §404 permit may obtain a permit after the work is completed if legal considerations allow (Serio 1988). The Coastal Management Division will issue after-the-fact permits only for activities performed in emergencies (Clark 1988).

The definition of "waters of the United States" for §404 purposes is broader than the §10 definition. It includes, in part, waters that are used or have been used or are susceptible to use in interstate or foreign commerce, waters (including wetlands) the degradation of which could affect interstate or foreign commerce, and wetlands that are adjacent to such waters. All waters subject to the ebb and flow of the tide are considered to meet the interstate or foreign commerce use test. 33 C.F.R. §328.3 (1989). The definition of navigable waters under §404 is broad and covers almost any body of water except certain isolated waters, including isolated wetlands, not affecting interstate commerce. A considerable amount of litigation has occurred in the battle to delineate the scope of the definition of adjacent wetlands (see, for example, U.S. v. Riverside Bayview Homes Inc., 474 U.S. 121 (1985)) and to determine the amount of effect on interstate commerce required to include isolated wetlands in §404 jurisdiction. Because it is unlikely that any significant wetlands in Louisiana, especially in the coastal area, do not meet the §404 test for waters of the United States, it will be assumed for this discussion that Louisiana wetlands are subject to §404 requirements. It should be noted, however, that there is an ongoing legal controversy over §404's applicability to "adjacent" and "isolated" wetlands.

Marsh management that involves the discharge of dredged or fill material into waters of the United States, such as would be involved with earthen dams and levees, requires a §404 permit. (It also requires a §10 permit if the structure is to be constructed in waters defined as navigable for §10 purposes.) The Environmental Protection Agency has authority under §404(b) to "guide" the Corps of Engineers in its permitting of disposal sites for dredged or fill material and has done so under the §404(b)(1) guidelines (see appendix D). 40

C.F.R. §§230.1230.80 (1989). These guidelines provide substantive criteria for the Corps of Engineers' evaluation of proposed disposal sites, including certain mandated requirements. The Environmental Protection Agency may veto the permitting of specified disposal sites if it finds that there would be "an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreation areas." 33 U.S.C. §404(c) (1989). The Environmental Protection Agency has rarely used this veto authority but recent cases indicate that it may be more inclined to do so in the future. Bersani v. Robichaud, 850 F.2d 36 (2nd. Cir., 1988).

When the discharge of material is not intended as fill but has the effect of changing the character of the disposal area to dry land or raising the level of a nonnavigable water bottom, a permit is required from the Environmental Protection Agency under §402 of the Federal Water Pollution Control Act rather than a §404 permit. 33 C.F.R. §323.2(k) (1989); 49 C.F.R. §122.2 (1989). This is the result of different definitions of "fill" material used by the Corps of Engineers and the Environmental Protection Agency in their respective regulations. The Environmental Protection Agency's definition is broader, allowing regulation of discharges that would not be regulated under the Corps of Engineers' definition of fill. Section 402 of the Federal Water Pollution Control Act also regulates discharges of any other pollutant. There are some exceptions for agricultural purposes, such as agricultural return flows. 33 U.S.C. §1342(1)(1) (1989).

Under the Fish and Wildlife Coordination Act, 16 U.S.C. §662(a) (1989), the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and Department of Wildlife and Fisheries are given authority to comment and make

recommendations on proposed alterations to any stream or other body of water by a federal agency or under federal permit or license. Such consultation is mandatory and, although the commenting agencies do not have veto authority, the Corps of Engineers is required to consider their comments. Furthermore, where feasible, their recommendations are required to be implemented as part of the project to maintain "maximum overall project benefits" and wildlife conservation and enhancement. 16 U.S.C. §662(b) (1989). This does not mean that the comments will necessarily be reflected in the permit conditions.

In addition, under the memoranda of understanding discussed above, the federal agencies have the authority to request elevation if their comments and suggestions are not acted upon by the Corps of Engineers. Thus a proposed marsh management project could be modified or possibly denied by the permitting agency (in this case the Corps or the Environmental Protection Agency) in response to the comments and recommendations of other agencies. At the very least, adverse comments from the other agencies will cause considerable delays in obtaining the permit. This is because, although the Corps of Engineers makes the ultimate decision and has authority to override the recommendations of the commenting agencies, it may withhold its permit decision while attempting to bring about an agreement between the adverse parties.

The Magnuson Fishery Conservation and Management Act, 16 U.S.C. §§1801-1882 (1989), seeks "to conserve and manage the fishery resources found off the coasts of the United States and the anadromous species and Continental Shelf fishery resources of the United States." This is primarily accomplished through the Regional Fishery Management Councils which develop fishery management plans for various fisheries. The plans attempt to maintain the optimum sustainable yield

from each fishery. Included in the considerations of the plans is habitat (including wetlands) protection. The National Marine Fisheries Service serves as a voting member of the councils and is responsible for implementation of the plans. Thus its commenting authority is influenced by how it perceives marsh management plans may affect marine fishery stocks.

Another federal statute that affects marsh management activities is the Endangered Species Act, 16 U.S.C. §1531-1543 (1989), which protects animals and plants that have been listed as endangered or threatened. Federal agencies are required to carry out their activities, including licensing and permitting, in such a manner that gives strong consideration to protecting critical habitat of endangered or threatened species. 16 U.S.C. §1536 (1989). Critical habitat is an area or areas either within or outside the geographic range of an endangered or threatened species that possesses the qualities essential for the conservation of the species. 16 U.S.C. §1532(5)(A) (1989). Through the consultation process mandated by the Endangered Species Act, 16 U.S.C. §1536 (1989), a federal agency can be prohibited from carrying out its project or licensing or permitting an activity if critical habitat would be destroyed or adversely affected. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service have been delegated the responsibility of enforcing the provisions of the Endangered Species Act, which provides another avenue of commenting authority to all federal agencies. The Endangered Species Act and the regulations promulgated pursuant to it also contain prohibitions against anyone (including private citizens) harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting an endangered or threatened species. 16 U.S.C. §1538 (1989). The presence of an endangered or threatened species or its critical

habitat within or in proximity to a proposed marsh management area could give rise to challenges to certain activities under the Endangered Species Act by the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, or other parties. Several endangered or threatened species of animals and plants inhabit Louisiana for at least part of the year. The recent controversy over turtle excluder devices underscores the problems that could be encountered under this law. Conversely, it is conceivable that marsh management practices could benefit threatened or endangered species by habitat improvement.

#### State Laws Affecting Marsh Management

The primary state laws that affect marsh management are the Coastal Resources Management Act, La. Rev. Stat. Ann. §49:213.1-213.22 (1989), and various state constitutional provisions and statutes that distinguish private and state ownership of land. Other state laws that could affect marsh management are those that protect water quality, historic and archaeological sites, Natural and Scenic Rivers, provide for mariculture, and regulate marsh burning.

The state's Coastal Resources Management Act is administered by the Coastal Management Division. The declared public policy under which the Coastal Management Division operates is "to protect, develop, and, where feasible, restore or enhance the resources of the state's coastal zone." La. Rev. Stat. Ann. §49:213.2, (1989). The coastal zone is geographically delineated in the Coastal Resources Management Act, La. Rev. Stat. Ann. §49:213.2, 213.4 (1989). Also provided for in the act are some of the uses and activities in the coastal zone subject to the coastal use permitting requirements and the authority to develop guidelines to further delineate such uses. La. Rev. Stat. Ann. §49:213.5 (1989). Marsh management activities, as defined above, are some of the

activities requiring a coastal use permit; guidelines have been developed for the initial permitting process as well as establishing conditions for the permit (see appendix C). Among other things, these guidelines require that marsh management plans "result in an overall benefit to the productivity of the area;" that water control structures result in minimum obstruction of the migration of aquatic organisms and permit tidal exchange in tidal areas; and that impoundments that do hinder normal tidal exchange and/or aquatic organism migration, to the maximum extent practicable, shall not be constructed in brackish or saline areas (U.S. Department of Commerce 1980).

Under the guidelines, marsh management plans are required to contain marsh management goals; a history of the area; description of the type of habitat; location, construction, and operation of water control structures; a monitoring plan; and nonmarsh management activities to be carried on in the plan area. The monitoring plan requires data on water quality, vegetation, the land/water ratio, and wildlife so that the effectiveness of the plan may be evaluated. A marsh management coastal use permit is limited to five years and the monitoring data is a factor in deciding whether or not to renew the permit.

At present the Coastal Management Division is formulating new guidelines for marsh management permitting. These will be used by all divisions of the Department of Natural Resources (see appendix C). The draft the Coastal Management Division, Department of Natural Resources guidelines will be discussed below.

The Louisiana Constitution, Civil Code Articles and other statutes, and case law that deal with state ownership of land have the potential for greatly affecting marsh management. These laws provide that the state of Louisiana owns

as public property the running waters within the state, the waters and bottoms of natural navigable water bodies (rivers, streams, bayous, and lakes), the territorial sea, the seashore, La. Civ. Code art. 450 (1988), and the banks of navigable lakes. Miami Corp. v. State, 173 So. 315, 325 (La. 1936). Such ownership by the state is analogous to ownership under the common law doctrine of public trust. Public property is held by the state for the benefit of its people; the state's "ownership" therefore is more like guardianship. As such, public property is inalienable, imprescriptible, and exempt from seizure (Yiannopoulos 1980:34). Although it seems to have been widely ignored by the courts, Louisiana law also provides that the state owns the waters and beds of all the rivers, streams, lagoons, lakes, and bays, whether they are navigable or not, that were not under direct ownership as of August 12, 1910. La. Rev. Stat. Ann. §9:1101 (1989). In addition, Louisiana claims ownership of the waters, beds, and shores of the Gulf of Mexico and "arms" of the Gulf and the lands covered by those waters at high tide within the state's boundaries. La. Rev. Stat. Ann. §49:3 (1989). An arm of the sea has been defined as "a body of water located in the immediate vicinity of the open Gulf that is directly overflowed by the tides" (Yiannopoulos 1980:§45). The Louisiana Constitution prohibits the alienation of the beds of navigable water bodies except for reclamation of eroded land by the affected landowner, La. Const. art IX, §3, which must be permitted by the Department of State Lands. La. Rev. Stat. Ann. §41:1702 (1989).

The banks of navigable rivers, streams, and lakes are defined as the area of land between ordinary low and high water marks. La. Civ. Code art. 456 (1988). The sea shore is the land between the low water mark and the mark of the highest

winter tides. La. Civ. Code art. 451 (1988). The banks of rivers and streams may be and usually are privately owned, but in the case of navigable rivers and streams such ownership is subject to the right of public use. La. Civ. Code art. 456 (1988). The beds of nonnavigable rivers and streams belong to the riparian landowners (owners of the land adjoining the river or streams), La. Civ. Code art. 506 (1988), and the beds of nonnavigable lakes are subject to private ownership. Again, this may be limited to those beds privately owned before August 12, 1910 by La. Rev. Stat. Ann. 9§1101.

Louisiana law defines the buildup of sediments or accretion successively and imperceptibly formed on the bank of a river or stream as "alluvion." The same law defines land exposed by water receding imperceptibly from a bank of a river or stream as "dereliction." In either case the newly formed land belongs to the riparian landowner. La. Civ. Code art. 499 (1988). This private right to alluvion or dereliction does not exist on the seashore or lakeshores, La. Civ. Code art. 500 (1988): in those instances the newly formed land belongs to the state. Conversely, when the shore of the sea or a navigable lake, river, or stream erodes, the newly formed water bottom becomes state property unless the owner of the eroded land takes the statutorily required steps to reclaim it. Miami Corp. v. State, 173 So. 315, 325 (La. 1936). Such reclamation can be very expensive and is rarely attempted when the erosion is extensive.

Artificial water courses (canals) constructed on state-owned land are public water bodies subject to public use (Yiannopoulos 1980:47). Canals publicly constructed on private land pursuant to a right of way servitude are private property subject to public use. Hunter Co. v. Ulrich, 8 So. 2d 531 (La. 1942). Canals constructed on private land for private purposes have been held to be

private property with no right of public use. Vaughn v. Vermilion Corp. 444 U.S. 206 (1979). Therefore, if the owner of a private canal decided to prevent public use of the canal he or she legally could erect barricades to keep out boat traffic. The same right would apply to a nonnavigable, privately owned river or stream.

The right to exclude the public from privately owned rivers, streams, and canals has been challenged both in court and by legal commentators. One theory, based on a strict reading of La. Civ. Code art. 450 and dictum in the case of Chaney v. State Mineral Board, 444 So. 2d 105 (La. 1983), is that because the state owns all the running waters in public trust, it is illegal for the owners of the bed and banks of these water bodies to deny public access to the water in them (Ketchum 1988). This theory is questionable since the language relied on in Chaney is dictum (an observation made by the court not necessary for adjudication of the case) and not the holding of the case. The theory also contravenes other Louisiana cases as well as opinions issued by the Louisiana Attorney General's Office. Op. Att'y Gen. 81785, 873 (1981); Op. Att'y Gen. 82102 (1982). Opinions of the Louisiana Attorney General, while not binding as legal precedent, are persuasive authority which can be relied on by administrative agencies.

An alternative theory supporting the right of public access to private canals has been presented in two important cases. In Vaughn v. Vermilion Corp., a Louisiana case, the U.S. Supreme Court held that, under federal law, the owner of a private canal could deny public access even though the canal was navigable and joined with navigable waters of the United States. Vaughn v. Vermilion Corp., 444 U.S. 206 (1979). The court's holding, however, anticipated an

exception to this rule: when a private canal diverts or destroys a preexisting natural navigable waterway, the canal may be subject to a public right of use. Vaughn v. Vermilion Corp., 444 U.S. at 209 (1979).

The holding in Vaughn formed part of the basis for Louisiana's current lawsuit against the Lafourche Realty Company over the closure of the Tidewater Canal System. Summersgill Dardar, et al. v. Lafourche Realty Co., et. al., No. 85-1015 (E.D. La. filed Aug. 6, 1985). The defendant Lafourche Realty Co. had obtained a coastal use permit and a §404 permit to implement a marsh management plan by erecting water control structures in a privately owned wetland which Lafourche Realty Co. claims is being degraded by saltwater intrusion. The defendant also obtained a §10 permit from the Corps of Engineers to erect barricades to control boat traffic through the Tidewater Canal System. The defendant built the barricades, posted armed guards at them, and began selectively denying access to the canal. The canal system had been dug in the privately owned marsh and provided access to the marsh by connecting to natural navigable waterways. It also had been used by the public for many years as a short cut to prime fishing grounds. The canal system was blocked ostensibly to prevent vandalism to the water control structures so that they could operate properly. Summersgill Dardar, et al. v. Lafourche Realty Co., et. al., No. 85 1015 (E.D. La. filed Aug. 6, 1985).

The state argued in part that the construction of the Tidewater Canal System, along with other human activities in the area, has diverted or destroyed the original system of natural navigable waterways so that the existing canal system has superceded the natural system. Thus, under Vaughn, the state argued, the public has a right of use which cannot be denied by the defendants' boat

barricades. Summersgill Dardar, et al. v. Lafourche Realty Co., et. al., No. 85-1015 (E.D. La filed Aug. 6, 1985).

The court, ruling on a motion for dismissal or summary judgement, stated that if a situation contemplated in Vaughn existed it would be grounds to invalidate the permit. They then found that the Corps of Engineers had failed to establish in the administrative record a factual basis sufficient to support their conclusion (that there had been no diversion or destruction of navigable waterways) and denied its motion for dismissal. The court later ruled that the Corps of Engineers' issuance of the permit was not arbitrary and capricious and therefore valid.

The court withheld for later argument decision of whether or not Lafourche Realty can actually use the boat barricades to exclude the public. This will depend on the ruling on another of the state's arguments, that is, that within the marsh management area are state-owned water bottoms and Lafourche Realty may not prevent public access to these water bottoms with the boat barricades. The Division of State Lands could have objected to the Corps of Engineers' permit and prevented its issuance if it had been aware at the time there was a basis for the state to claim ownership of some water bottoms within the marsh management area. This issue will turn on the success of the state's claim of ownership to these water bottoms, which in turn could be strongly influenced by the recent U.S. Supreme Court case, Phillips Petroleum Co. v. Mississippi, discussed below.

It is evident that the legal issues and technical aspects of state property ownership and public access rights are relevant to marsh management because certain practices associated with marsh management are considered by the Division

of State Lands to be an unconstitutional alienation (divesting or loss of ownership by sale, donation, or other transfer) of state property or a usurpation of public right (Morgan 1988). Such activities would include deposition of fill on state-owned water bottoms, thereby changing their character to dry land, or placing boat barricades across state-owned water bodies thereby preventing public access. Weirs may be used if they do not hinder normal boat traffic (Morgan 1988). The Division of State Lands, does require, however, that the owner or operator of the weir purchase a waterway right-of-way grant (easement) from the state for maintaining the structure on a state-owned water bottom. La. Rev. Stat. Ann §41:1702 (1989). The Division of State Lands opposes levees and dams for impoundments and water control in state-owned water bottoms even when they are associated with marsh management (Morgan 1988). Although the Division of State Lands has no enforcement authority, it does officially comment to the Coastal Management Division, and the Coastal Management Division has denied coastal use permits based on the Division of State Lands' objections (Clark 1988) and, as previously discussed, the Division of State Lands can veto §10 and §404 permits by objecting on state law grounds. In addition, the Division of State Lands refers cases to the Louisiana Attorney General Office for enforcement (Morgan 1988).

Louisiana has always claimed ownership in public trust of the beds of natural navigable water bodies, defined by the state as water bodies susceptible of use as a highways of commerce by customary modes of water transportation as of Louisiana's admission to statehood in 1812, regardless of whether or not they remain so today. State v. Aucoin, 20 So. 2d 136, 158 (La. 1944). A recent U.S. Supreme Court decision, however, indicates that under federal law Louisiana was

granted more land in public trust at statehood than just the navigable natural water bottoms to which it claims ownership today. In the case of Phillips Petroleum Co. v. Mississippi, the U.S. Supreme Court decided an issue of state ownership of tidelands by giving a broad interpretation to the equal footing doctrine. Phillips Petroleum Co. v. Mississippi, 108 S.Ct. 791 (1988). This doctrine says that all states were admitted to statehood on an equal footing. The Court held that this equal footing meant that all lands subject to the influence of the tides, whether or not navigable, as well as all other natural water bodies that were navigable, were transferred at statehood to each state in public trust in its capacity as a sovereign. Phillip Petroleum Co. v. Mississippi, 108 S.Ct. 791 (1988). Because Mississippi had never alienated these non-navigable tidelands and had always claimed ownership to all land under tidally influenced water, the title of Phillips Petroleum, which could be traced back to prestatehood Spanish land grants, was null and void.

The effect of this decision on Louisiana property law has yet to be decided. Some legal scholars theorize that Phillips Petroleum could pave the way for Louisiana to reclaim ownership in public trust of privately owned lands under non-navigable natural water bodies (Yiannopoulos 1988). Their reasoning is that Louisiana, like Mississippi, has never affirmatively alienated the lands in question. This is due in part to confusing definitions under Louisiana law of swamp lands subject to tidal overflow and water bottoms subject to tidal ebb and flow; the former of which could be alienated while the latter could not (Yiannopoulos 1988). Large tracts of unsurveyed land were sold by the state to private parties in the 1800s. These tracts often contained navigable water bodies and lands subject to tidal influence and the question arises whether or

not the state intended to alienate them (Yiannopoulos 1988). Alternatively even if it had alienated them, to do so was against the public trust and public policy of the state and therefore such alienations are void (Yiannopoulos 1988). Under Louisiana Constitution Article IX §3, which prohibits the alienation of navigable water bodies, and according to Gulf Oil Corporation v. State Mineral Board, 317 So. 2d 576 (La. 1975), the state may assert ownership to navigable water bodies that it has alienated (Yiannopoulos 1988). This would appear to form a foundation for the state to assertion of ownership of the non-navigable tidelands that it has alienated. Both navigable water bodies and non-navigable tidally influenced waters were part of the public trust lands given to the state under federal law. Therefore, the same public policy should apply to navigable water bodies and non-navigable tidelands (Yiannopoulos 1988).

Other scholars maintain that the Phillips Petroleum decision will have little effect on titles to land in Louisiana because the state made the conscious decision to alienate the non-navigable tidelands. In addition, legal arguments aside, many argue that when presented with unclear cases of state alienation of tidelands, Louisiana courts may well be reluctant (for political reasons) to overturn long-established ownership rights: this should be within the province of the legislature.

The legal theories behind the ownership issues are more complex than they appear from this discussion. Nevertheless, the possibility of far-reaching ramifications of Phillips Petroleum should not be discounted. Of paramount importance to Louisiana landowners is, of course, the possibility of losing ownership. In addition, the Phillips decision could have an important impact on marsh management. If the state were to assert its ownership of tidelands in

managed areas, it could impose restrictions against alienation of state lands. Marsh landowners might also be discouraged from undertaking management of the marsh if they thought the land actually belonged to the state. Nor, presumably, could the state afford to manage all of the newly acquired marshland itself. The possibility of such additional regulatory and financial burdens makes these ownership issues worthy of close scrutiny.

A marsh management plan that calls for reclamation of an area of land that had been lost through erosion of the shore or bank of a state-owned water bottom would fall under the statutes dealing with state water-bottom management administered by the Division of State Lands. A permit is required for such reclamation and a prerequisite to obtaining such a permit is proof of ownership and of the boundaries of the eroded lands. Permits may also be required for other structural encroachments on state-owned water bottoms, such as pilings, breakwaters, and piers. La. Rev. Stat. Ann. §41:1701-1714 (1987).

If the marsh management activity affects a river or stream or segment of one that is included in the Louisiana Natural and Scenic Rivers Systems (La. Rev. Stat. Ann. 56:1840-1856 (1989)), a permit may be required from the Louisiana Department of Wildlife and Fisheries. Activities that could require permits include but are not limited to channelization or alteration of flow, other dredging and filling, and discharges into such rivers and streams.

#### Nonstructural Marsh Management Activities

There are several other activities that do not include using structures to manipulate hydrology but still are sometimes considered components of marsh management. These activities, which may also be regulated, include marsh

burning, using pesticides, hunting and trapping, mariculture, and boat barricades.

Marsh is often burned to prevent plant succession and to promote the growth of new vegetation. It is regulated under La. Rev. Stat. 56:107, which prevents anyone from setting fires to marshland except an owner attempting to improve food conditions for wildlife. Such burning must be done under permit and supervision of the Department of Wildlife and Fisheries. La. Rev. Stat. Ann. 56:107 (1989). Because this provision apparently is widely unenforced, marsh burning is essentially unregulated (Vidrine 1988).

The use of pesticides is regulated by the Department of Agriculture. Some landowners use herbicides to control what are considered noxious weeds. Another practice, and one that is currently being promoted by the Department of Wildlife and Fisheries in their Acres For Wildlife Program, is the use of herbicides to increase open water in marshes and improve waterfowl habitat (Vice 1988). Hunting and trapping to harvest the natural resources of marshland and to control destructive animals, such as muskrat, are considered by many to be sound marsh management practices. These activities are regulated under the appropriate Wildlife and Fisheries statutes. La. Rev. Stat. §56 (1989).

One of the most controversial practices associated with marsh management is mariculture. These operations received much attention after the 1987 session of the Louisiana legislature when two conflicting bills providing for the establishment of mariculture operations were passed. La. Rev. Stat. Ann. §56:13,579.1 (1989). La. Rev. Stat. §56:579.1 allows the Department of Wildlife and Fisheries to issue a maximum of ten mariculture permits. La. Rev. Stat. Ann. §56:579.1(B) (1989). Each permitted area cannot exceed 8,000 acres and must be

within marsh areas being managed under valid coastal use permits. It also requires that the permits have a duration of no more than five years and that all fishery stocks utilized in the operation be "purchased from a legal source." The effect of this is to require the use of stocked rather than wild organisms.

The other mariculture law, La. Rev. Stat. §56:13, provided authority for the Department of Wildlife and Fisheries to issue "special fish and wildlife harvesting permits" to "owners and operators who filed a marsh management plan." La. Rev. Stat. Ann. §56:13 (1989). It set no limit on the number of permits, the duration, or the acreage involved, and did not require using stocked fish.

Both mariculture laws exempted marsh management operators from La. Rev. Stat. 56:329, which prohibits the obstruction of the free passage of fish in any body of water, excepting water control structures or dams for the retention of water for conservation purposes. La. Rev. Stat. Ann. §56:13,579.1 (1989). Under R.S. 56:13, certain operators were allowed to place screens on the access routes of their impounded marshes to trap wild fish. The fish were allowed to grow within the impoundment and were harvested when they reached a marketable size. This practice raised a storm of controversy when these operators "harvested" red drum which at the time were protected by closed commercial and recreational fisheries for that species. The Department of Wildlife and Fisheries was later able to prevent the harvest of red drum by interpreting R.S 56:13 as not overriding the Department of Wildlife and Fisheries rulings on limitations and/or closures of fisheries (Watson 1988). This action did not quell the controversy surrounding R.S. 56:13, however, and it was repealed in the 1988 regular session. The debate over mariculture still rages, and is discussed in more detail in volume two of this report.

There is an apparent conflict between the Coastal Management Division's permitting of marsh management plans and Department of Wildlife and Fisheries' permitting of mariculture operations within those areas covered by the plans. The Coastal Management Division does not consider mariculture operations to be marsh management; indeed, its policy as set forth in the Coastal Use Guidelines is that the restriction of ingress and egress of marine organisms should be minimized in wetlands that are not completely impounded (U.S. Dept. of Commerce 1980). Placing screens or nets across access routes in wetlands requires a coastal use permit from the Coastal Management Division as well as a mariculture permit from the Department of Wildlife and Fisheries. In addition, under La. Rev. Stat. 56:579.1, an owner or operator must obtain a coastal use permit for a marsh management plan as a prerequisite to obtaining a mariculture permit. Most of the existing marsh management permits were issued before the passage of the mariculture law and with no consideration by the Coastal Management Division of possible future mariculture operations. If a marsh management plan does not include the use of screens or nets to restrict migration and the owner or operator later uses such devices under the mariculture permit he or she would be in apparent violation of the coastal use permit for the marsh management operation. The question is whether the legislature intended to exempt mariculture practices that obstruct marine organism ingress and egress from coastal use permit requirements. The language in La. Rev. Stat. 56:579.1B begins "notwithstanding any other provision of law to the contrary . . ." Does this merely exempt it from other wildlife and fisheries laws, as the illustrative list would indicate? This issue needs to be resolved because future conflicts between the permitting authority of the Coastal Management Division and the Department

of Wildlife and Fisheries could leave marsh managers who also carry out mariculture operations unable to comply with all pertinent regulatory requirements.

Some owners and operators of wetland areas place barricades across waterways to block boat traffic, ostensibly to reduce erosion from boat wakes and prevent vandalism to water control structures. This activity would require a \$10 permit from the Corps of Engineers, but if the barricade were placed across a naturally navigable waterway the Division of State Lands would object to it as an unconstitutional alienation of state lands (Morgan 1988). The objection likely would result in the Corps of Engineers and the Coastal Management Division either denying or withdrawing the respective permits (Ventola 1988). The current controversy over the Tidewater Canal System underscores the problems in this area of the law.

#### CONCLUSION

The state and federal regulatory and permitting network that affects structural marsh management in Louisiana's coastal zone is complex and often self-contradictory. The intricate interactions between the permitting agencies and the commenting agencies are designed to safeguard various widely divergent public interest goals. This system can present a confusing front to prospective marsh managers, some of whom already believe themselves to be overregulated. The lengthy process involved in obtaining the required permits has left some applicants discouraged and frustrated with the system.

The legal foundations of the regulatory and commenting agencies' policies are also complex and constantly evolving. This evolution is now being significantly influenced by growing awareness of the seriousness of the coastal land loss

problem. The public interest goals and policy decisions affecting the regulatory scheme will be more thoroughly discussed in volume two of this report.

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## Key Words

§10 (of Rivers and Harbors Act of 1899)

§401 (of Clean Water Act)

§404 (of Clean Water Act)

§404(6)(1) guidelines

after-the-fact permitting

alienate

alienation

alienation of state water bottoms

alluvion

arms of the Gulf

arms of the sea

banks of navigable rivers, streams, and lakes

banks of navigable water bodies

barricades

brackish

canals

Clean Water Act (see Federal Water Pollution Control Act)

Clean Water Act (§404 of)

coastal erosion

Coastal Management Division (CMD)

coastal use guidelines

Coastal Use Permit (cup)

coastal zone

Coastal Zone Management Act of 1972 (CZMA)

Corps of Engineers (Corps)  
critical habitat  
dams  
Department of Agriculture (DOA)  
Department of Culture, Recreation and Tourism  
Department of Environmental Quality (DEQ)  
Department of Health and Hospitals  
dereliction  
Division of State Lands (DSL)  
dredge, dredging  
egress  
elevation  
endangered or threatened species  
Endangered Species Act (ESA)  
Environmental Protection Agency (EPA)  
Environmental Protection Agency veto  
equal footing doctrine  
federal consistency  
federal permitting network  
federal regulation  
Federal Water Pollution Control Act  
fences  
fill, filling  
Fish and Wildlife Coordination Act  
fish harvesting

Gulf Oil Corporation v. State Mineral Board

highest winter tides

hunting

impoundment

imprescriptible

inalienable

ingress

interagency meetings

isolated and adjacent wetlands

joint public notice

Lafourche Realty Co.

land loss

legal and regulatory review

levees

local coastal management program

Louisiana Civil Code

Louisiana State and Local Coastal Resources Management Act (CRMA)

Louisiana Coastal Resources Program (LCRP)

Louisiana Constitution

mariculture

marine organisms

marsh burning

marsh management

monitoring plan

National Marine Fisheries Service (NMFS)

naturally navigable  
navigable lakes  
navigable waters  
non-navigable tidelands  
nonstructural marsh management  
Office of Conservation  
ownership by the state  
permit application  
permit processing delays  
pesticides/herbicides  
Phillips Petroleum  
private property  
public property  
public trust  
reclamation  
right of public use or public right of use  
right of way grant  
riparian landowners  
Rivers and Harbors Act of 1899 (10)  
running waters  
saline  
seashore  
special fish and wildlife harvesting permits  
state permitting network  
state owned water bottom

1  
1  
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1  
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1

swamplands

territorial sea

tidal exchange

tidally influenced water

tidelands

Tidewater Canal System

trapping

unconstitutional alienation

U.S. Fish and Wildlife Service (USFWS)

U.S. v. Riverside Bayview Homes Inc.

Vaughn v. Vermilion Corp.

water control structures

water quality certification

APPENDIX A

MEMORANDA OF UNDERSTANDING

between

THE COASTAL MANAGEMENT DIVISION, LOUISIANA DEPARTMENT OF NATURAL RESOURCES

and

OFFICE OF CONSERVATION, LOUISIANA DEPARTMENT OF NATURAL RESOURCES

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

ENVIRONMENTAL CONTROL COMMISSION OFFICE OF ENVIRONMENTAL AFFAIRS,  
LOUISIANA DEPARTMENT OF NATURAL RESOURCES

LOUISIANA DEPARTMENT OF HEALTH AND HUMAN RESOURCES

LOUISIANA DEPARTMENT OF CULTURE, RECREATION AND TOURISM

THE DEPARTMENT OF STATE LANDS, LOUISIANA DEPARTMENT OF NATURAL RESOURCES

LOUISIANA DEPARTMENT OF AGRICULTURE

MEMORANDUM OF UNDERSTANDING BETWEEN THE  
COASTAL MANAGEMENT SECTION OF THE DEPARTMENT OF NATURAL RESOURCES  
AND THE OFFICE OF CONSERVATION OF THE DEPARTMENT OF NATURAL RESOURCES

It is the purpose of this Memorandum of Understanding between the Coastal Management Section of the Department of Natural Resources (CMS/DNR) and the Office of Conservation of the Department of Natural Resources (OC/DNR) to establish an agreement on the issues and procedures involved in implementing the provisions of Title 49 of the Louisiana Revised Statutes of 1950, Sections 213.1 through 213.21, the State and Local Coastal Resources Management Act of 1978, as amended, in particular Sections 213.12 B, 213.13 B and D, and 213.14.

In order to assist OC/DNR and CMS/DNR in meeting their lawful responsibilities, implement the in-lieu permit system, reduce conflicting decisions by the two agencies, assure conformity of action with the Louisiana Coastal Resources Program and reduce duplication of effort by applicants for permits, it is agreed that:

GENERAL

1. In-lieu permits are to be implemented by OC/DNR. OC/DNR shall have the responsibility for permitting activities occurring within the boundary of the coastal zone as set forth in the Act for which OC/DNR issued permits as of January 1, 1979, for the location, drilling, exploration and production of oil, gas, sulphur and other minerals. It is the intent of Section 213.12 B of Louisiana R.S. 49 that coastal use permits are not required for these activities.

2. The following list delineates those activities subject to an in-lieu permit issued by OC/DNR.

- Oil & gas activities subject to regulation pursuant to La. R.S. 30:1-36 204, 205, 213, and 215 and as provided for in statewide orders 29-B, 29-E, 29-H, & 28-J.

- Subsurface injection activities subject to regulation pursuant to La. R.S. 30:1 (D), 3(C)(1), 4(C)(16) & the Louisiana Environmental Affairs Act, and as provided for in statewide order 29-N.

- Geothermal energy activities subject to regulation pursuant to La. R.S. 30:800-809, and as provided for in statewide 29-P.

- Uses of salt domes for storage subject to regulation pursuant to La. R.S. 30:22-23, and as provided for in statewide order 29-M.

- Letters of clearance for Intrastate Natural Gas Pipelines subject to regulation pursuant to La. R.S. 30:554, 555, 557 and 560, and as provided for in La. Reg 4-76.

OC/DNR will issue in-lieu permits only if the proposed activity is consistent with the Coastal Use Guidelines, the Louisiana Coastal Resources Program and affected approved local programs.

3. CMS/DNR shall issue coastal use permits for the following aspects of the above activities in accordance with the Louisiana Coastal Resources Program, the guidelines and approved local programs:

- Dredging of canals, slips and channels
- Filling of waterbottoms, marsh, or other wetlands
- Disposal of dredged spoil
- Building of board roads
- Designation of access routes
- Construction of auxiliary structures, such as wharfs, piers, bulkheads, etc., not presently regulated by a statewide order.
- Maintenance dredging

#### IN-LIEU PERMIT PROCEDURES

1. OC/DNR will forward copies of all in-lieu permit applications to CMS/DNR within two working days. CMS/DNR will distribute copies of the application to other affected governmental agencies. OC/DNR will give public notice of all in-lieu permit applications in a manner similar to that provided for by CMS/DNR regulations and will provide an opportunity for public comment and public hearing.

2. CMS/DNR will review the in-lieu permit application and comments received from other agencies and the public to make a determination as to whether or not the activities comply with the Coastal Use Guidelines, the Coastal Resources Program and any affected approved local program. CMS/DNR will notify OC/DNR of its determination within thirty days of receipt of

the application.

3. The Administrator of CMS/DNR, or his designee, and the Commissioner of Conservation, or his designee, shall meet when necessary to resolve conflicts between the two agencies on in-lieu permits. In the event they cannot mutually resolve the conflicts, the Secretary of the Department of Natural Resources will be notified, and the process set forth in Section 213.13 D of Louisiana R.S. 49 shall be initiated. Upon receipt of the written comments stating the basis for the decision, from the Secretaries acting jointly, CMS/DNR and OC/DNR shall take the actions recommended by the Secretaries.

4. OC/DNR and CMS/DNR will coordinate closely in establishing typical permit conditions for activities requiring an in-lieu permit in the coastal zone in order to assure that those activities are conducted consistently with the Coastal Resources Program and the guidelines, to reduce permit review time and increase predictability.

5. OC/DNR will notify CMS/DNR of any work permits or abandonments and will assure that such activities are in compliance with the Coastal Resources Program, the guidelines and affected approved local programs.

6. OC/DNR will notify CMS/DNR of any public hearings held regarding activities requiring an in-lieu permit and will provide CMS/DNR with copies of all available materials regarding the matters at issue upon request. CMS/DNR staff may testify at any such hearing for purposes of making known the views of CMS/DNR regarding the use. OC/DNR will

oil and gas activities requiring in-lieu permits, coastal use permits and  
Corps of Engineers permits for Section 404(b)(1) of the Clean Water Act of 1977.

Signed this 8th day of July, 1980.

  
RAY SUTTON, COMMISSIONER, Office of  
Conservation of the Department of  
Natural Resources

  
FRANK A. ASHBY, JR., SECRETARY  
Department of Natural Resources

MEMORANDUM OF AGREEMENT BETWEEN THE  
COASTAL MANAGEMENT SECTION OF THE DEPARTMENT OF NATURAL RESOURCES  
AND THE ENVIRONMENTAL CONTROL COMMISSION AND THE OFFICE OF  
ENVIRONMENTAL AFFAIRS OF THE DEPARTMENT OF NATURAL RESOURCES

It is the purpose of this Memorandum of Understanding between the Coastal Management Section of the Department of Natural Resources (CMS/DNR) and the Environmental Control Commission and the Office of Environmental Affairs of the Department of Natural Resources (ECC-OEA/DNR) to establish an agreement on the issues and procedures involved in implementing the provisions of Title 49, of the Louisiana Revised Statutes of 1950, particularly all or parts of the following sections: 213.2, 213.6, 213.8, 213.13 and 213.14, the State and Local Coastal Resources Management Act of 1978, as amended.

In order to assist ECC-OEA/DNR and CMS/DNR in meeting their lawful responsibilities, reduce conflicting decisions by the two agencies, assure conformity of action with the Louisiana Coastal Resources Program (LCRP) and reduce duplication of effort by applicants for permits, it is agreed that:

Permit Procedures

1. CMS/DNR will provide ECC-OEA/DNR notice of all coastal use permit applications and decisions for activities within the coastal zone as established by Louisiana R. S. 49 on a regular basis.
2. ECC-OEA/DNR, on a regular basis, will provide CMS/DNR notice of all permit applications, decisions, hearings, enforcement proceedings and similar administrative actions for the following

activities in the coastal zone, and notice of such applications and decisions for activities outside the coastal zone which may have significant impacts on the coastal zone or coastal waters:

- Transportation, storage and disposal of hazardous waste pursuant in general to Louisiana R. S. 30:1061-1067 and in particular pursuant to Louisiana R. S. 30:1131-1147, and regulations promulgated thereunder.
  - Transportation of out-of-state waste materials for storage or disposal (other than those generated by offshore mineral operations) pursuant to Louisiana R. S. 40:1299.36.
  - Activities requiring air quality permits pursuant in general to Louisiana R. S. 30:1061-1067 and in particular, 30:1081-1087, and regulations promulgated thereunder.
  - Activities requiring water quality permits pursuant in general to Louisiana R. S. 30:1061-1067 and in particular to Louisiana R. S. 30:1091-1096, 38:216, and regulations promulgated thereunder.
  - Use and disposal of radioactive materials pursuant in general to Louisiana R. S. 30:1061-1067 and in particular Louisiana R. S. 30:1101-1116.
3. ECC-OEA/DNR will provide CMS/DNR appropriate comments on coastal use permit applications regarding impacts on matters subject to ECC-OEA/DNR authority. Such comments shall be provided to CMS/DNR within 25 days of receipt of the copy of the application. All comments will be reviewed by CMS/DNR and incorporated in permit decisions to the maximum extent practicable.

### Permit Consistency

1. CMS/DNR will condition the approval of all coastal use permits and all consistency decisions on compliance with the rules and regulations of ECC-OEA/DNR and the applicant obtaining all permits required by ECC-OEA/DNR and complying with the terms and conditions thereof. Failure to obtain a required ECC-OEA/DNR permit or to comply with its terms will be a basis for revocation of the coastal use permit.
2. ECC-OEA/DNR will condition issuance of permits for uses and activities in the coastal zone on the applicant's first obtaining any required coastal use permit or permit from an approved local program and on complying with all terms and conditions thereof.

### Interagency Coordination

1. CMS/DNR and ECC-OEA/DNR agree that the two agencies will meet formally and informally as frequently as necessary and as needed to share reports on activities in the coastal zone, review all aspects of the agencies' relationship, determine the adequacy of the existing Memorandum of Understanding and the need for expanding and/or revising the existing Memorandum of Understanding and to discuss with an intent to resolve any conflicts which may arise.
2. CMS/DNR and ECC-OEA/DNR agree that the two agencies will meet and develop a coordinated coastal permitting process as set forth in Section 213.14 of Louisiana R. S. 49.



3. DHHR will provide appropriate comments on coastal use permit applications, after review, for those that impact public health. Such comments shall be provided to CMS/DNR within 25 days of receipt of the copy of the application. All comments will be reviewed by CMS/DNR and incorporated in permit decisions to the maximum extent practicable.

#### Permit Consistency

1. CMS/DNR will condition the granting of approved coastal use permits for uses and activities in the coastal zone so that they conform with the rules and regulations of DHHR.
2. DHHR agrees that any activities directly affecting the coastal zone that it undertakes, conducts, supports or permits will be consistent to the maximum extent practicable with the State Coastal Resources Program and affected approved local programs having geographical jurisdiction over the action. DHHR will condition its permits for activities in the coastal zone on the applicant obtaining and complying with the terms of a coastal use permit, if one is required.
3. DHHR will coordinate all grant activities, federal or state, with CMS/DNR in either the preliminary planning or the pre-grant stage to assure that works affecting the coastal zone which are constructed pursuant to these grants are consistent with the Coastal Resources Program and all affected approved local programs.

### Interagency Coordination

1. CMS/DNR and DHHR agree that the two agencies will meet formally and informally as frequently as necessary and as needed to share field reports on activities in the coastal zone, review all aspects of the agency's relationship, determine the adequacy of the present Memorandum of Understanding and the need for expanding and/or revising the present Memorandum of Understanding, and to discuss with an intent to resolve any conflicts which may arise.
2. CMS/DNR and DHHR agree that the two agencies will meet and develop a unified coastal permitting process as set forth in Section 213.14 of La. R.S. 49.

### Conflict Resolution

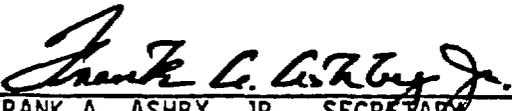
1. In the event that CMS/DNR should find that DHHR is issuing permits, conducting activities or providing funds for activities which are not consistent to the maximum extent practicable with the state coastal management program, CMS/DNR shall report this to the Secretary of DNR for his review and determination as to whether the actions of DHHR are consistent. The Secretary of DNR and the Secretary of DHHR will then meet to determine a proper course of action to insure consistency.

### Effective Date and Termination Consent

1. This agreement will be effective when signed and dated by the parties hereto and may be terminated at any time, with approval

of the Governor, by mutual consent of the parties hereto or  
by either party after 60 days notice of intent to terminate.

Signed this 28th day of July, 1980.

  
FRANK A. ASHBY, JR., SECRETARY  
Department of Natural Resources

  
GEORGE A. FISCHER, SECRETARY  
Department of Health and Human Resources

MEMORANDUM OF UNDERSTANDING BETWEEN  
THE COASTAL MANAGEMENT SECTION OF THE DEPARTMENT OF NATURAL RESOURCES  
AND THE DEPARTMENT OF CULTURE, RECREATION AND TOURISM

It is the purpose of this Memorandum of Understanding between the Coastal Management Section of the Department of Natural Resources (CMS/DNR) and the Department of Culture, Recreation and Tourism (DCRT) to establish an agreement on the issues and procedures involved in implementing the provisions of Louisiana Revised Statute 49, the State and Local Coastal Resources Management Act of 1978, as amended, particularly all or parts of the following sections applicable to DCRT: 213.2, 213.5, 213.8, 213.10, 213.11, 213.12, 213.13 and 213.14.

In order to assist DCRT and CMS/DNR in meeting their lawful responsibilities, reduce conflicting decisions by the two agencies, assure conformity of action with the Louisiana Coastal Resources Program and reduce duplication of effort by applicants for permits, it is agreed that:

Permit Procedures

1. CMS/DNR will provide DCRT with notification of all applications received for activities within the coastal zone which might impact state parks or recreational resources or state cultural or historic resources and CMS/DNR will notify DCRT of all permit decisions.
2. DCRT will provide CMS/DNR copies of all applications received for activities in the coastal zone and DCRT will provide

CMS/DNR copies of all final permits or grants for activities in the coastal zone.

3. CMS/DNR will require applicants to submit sufficient information on coastal use permit applications for DCRT to adequately review them for impacts on state parks, recreational, historic and cultural resources.
4. DCRT will provide appropriate comments on coastal use permit applications, after review of impacts to the state parks, recreational, historical and cultural resources. Such comments shall include those of the Office of State Parks and the State Historic Preservation Officer and shall be provided to CMS/DNR within 21 days of receipt of the copy of the application. If no comments are provided within the 21 day period, it shall be presumed that DCRT and the Office of State Parks and the State Historic Preservation Officer have no objections to the proposed activity. All comments will be reviewed by CMS/DNR and incorporated in permit decisions to the maximum extent practicable.

#### Permit Consistency

1. CMS/DNR will condition the granting of approved coastal use permits for uses and activities in or impacting on state parks, recreational, state cultural and historical resources so that they are in compliance with terms of any permit or approval required by DCRT.

2. CMS/DNR will condition the approval of coastal use permits on compliance with DCRT's Cultural Resources Code requirements after its promulgation.
3. DCRT agrees that any activities directly affecting the coastal zone it undertakes, conducts, supports or permits, including state parks and recreational facilities in the planning and/or development stages, will be consistent to the maximum extent practicable with the State Coastal Resources Program and affected local programs having geographical jurisdiction over the action. DCRT will condition its permits for activities in the coastal zone on the applicant obtaining and complying with the terms of a coastal use permit, if one is required.

#### Interagency Coordinaton

1. DCRT will share with and/or provide to CMS/DNR information on known park, recreational, cultural and historic resources when requested by CMS/DNR and will notify CMS/DNR of all state park, recreational and park access development in preliminary planning stages.
2. CMS/DNR and DCRT agree that the two agencies will meet formally and informally as frequently as necessary and as needed to review all aspects of the agency's relationship, determine the adequacy of existing Memorandum of Understanding, and the need for expanding and/or revising

the present Memorandum of Understanding, and to discuss with intent to resolve, any conflicts which may arise.

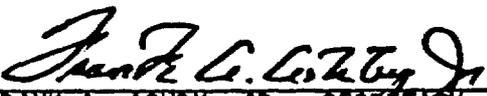
3. CMS/DNR and DCRT agree that the two agencies will meet and develop a united coastal permitting process as set forth in Section 213.14 of La. R.S. 49.

Conflict Resolution

1. In the event CMS/DNR should find that DCRT is issuing permits, conducting activities or providing funds for activities which are not consistent to the maximum extent practicable with the State Coastal Management Program, CMS/DNR shall report this to the Secretary of DNR for his review and determination as to whether the actions of DCRT are consistent. The Secretary of DNR and the Secretary of DCRT will then meet to determine a proper course of action to insure consistency.

Effective Date and Termination Consent

1. This agreement will be effective when signed and dated by the parties hereto and may be terminated at any time, with approval of the Governor, by mutual consent of the parties hereto or by either party after 60 days notice of intent to terminate.

  
FRANK A. ASHBY, JR., SECRETARY  
Department of Natural Resources

Signed this 31st. day of  
July 1980.

  
MRS. LAWRENCE FOX, SECRETARY  
Department of Culture, Recreation  
and Tourism

MEMORANDUM OF UNDERSTANDING BETWEEN  
THE COASTAL MANAGEMENT SECTION OF THE DEPARTMENT OF  
NATURAL RESOURCES AND THE DIVISION OF STATE LANDS  
OF THE DEPARTMENT OF NATURAL RESOURCES

It is the purpose of this Memorandum of Understanding between the Coastal Management Section of the Department of Natural Resources (CMS/DNR) and the Division of State Lands of the Department of Natural Resources (DSL/DNR) to establish an agreement on the issues and procedures involved in implementing the provisions of Title 49 of the Louisiana Revised Statutes of 1950, the State and Local Coastal Resources Act of 1978, as amended, and the State Water Bottoms Act, Louisiana Revised Statutes 49:1172(d).

In order to assist DSL/DNR and CMS/DNR in meeting their lawful responsibilities, reduce conflicting decisions by the two agencies, assure conformity of action with the Louisiana Coastal Resources Program and reduce duplication of effort by applicants for permits, it is agreed that:

Permit Procedures

1. CMS/DNR will provide DSL/DNR with notice of all coastal use permit applications and decisions for activities within the coastal zone on a regular basis.
2. DSL/DNR will provide CMS/DNR notice of all applications and final permits or leases for the following activities within the coastal zone on a regular basis:  
reclamation of lands lost through erosion, construction of wharfs, piers, bulkheads, fills or other encroachments requiring

properties. CMS/DNR will provide appropriate comments on applications for DSL/DNR permits and surface leases after review for consistency with the Louisiana Coastal Resources Program (LCRP). The comments shall be provided within 25 days of receipt of the copy of the application. If no comments are provided within the 25 day period, it shall be presumed that there is no objection to the proposed use. CMS/DNR and DSL/DNR will confer on permit and surface lease applications when useful. Comments received will be incorporated into the permit or surface lease decision to the maximum practicable extent.

2. CMS/DNR will condition the issuance of coastal use permits upon the applicant obtaining all required surface leases and permits from DSL/DNR and on complying with all terms and conditions thereof. Failure to obtain a required DSL/DNR surface lease or permit or to comply with its terms will be a basis for revocation of the coastal use permit.
3. DSL/DNR will condition the issuance of its surface leases and permits upon the applicant obtaining a coastal use permit, if required, and on complying with all terms and conditions thereof. Failure to obtain a required coastal use permit or to comply with its terms will be a basis for revocation of the surface lease or permit.
4. DSL/DNR will consider, and decisions on surface leases and permits shall be consistent with, the coastal use guidelines, the state program and affected approved local programs.
5. No work shall commence until the applicant has obtained all

required leases and permits from CMS/DNR, approved local coastal programs, and DSL/DNR.

### Monitoring and Enforcement

1. CMS/DNR and DSL/DNR will assist each other in monitoring permitted uses for permit violations. If violations are noted, the other agency will be notified. The agencies will thereafter assist each other and will coordinate enforcement actions as appropriate, to avoid duplication of effort.
2. Joint enforcement actions will be undertaken whenever practical, including the filing of civil and criminal actions.
3. CMS/DNR and DSL/DNR will assist each other in assuring that all legislative and administrative requirements of their respective programs are met.

### Interagency Coordination

1. CMS/DNR and DSL/DNR agree that the two agencies will meet formally and informally as frequently as necessary and as needed to review all aspects of the agency's relationships, determine the adequacy of existing Memorandum of Understanding, and the need for expanding and/or revising the present Memorandum of Understanding, and to discuss, with an intent to resolve, any conflicts which may arise.

### Conflict Resolution

1. In the event that CMS/DNR should find that DSL/DNR is issuing





MEMORANDUM OF UNDERSTANDING BETWEEN  
THE COASTAL MANAGEMENT SECTION OF THE DEPARTMENT OF NATURAL RESOURCES  
AND THE DEPARTMENT OF AGRICULTURE

It is the purpose of this Memorandum of Understanding between the Coastal Management Section of the Department of Natural Resources (CMS/DNR) and the Department of Agriculture (DOA) to establish an agreement on the issues and procedures involved in implementing the provisions of Louisiana Revised Statute 49, the State and Local Coastal Resource Management Act of 1978, as amended, particularly all or parts of the sections applicable to DOA.

Permit Procedures

1. CMS/DNR will provide DOA a notice of all applications for coastal use permits and will provide copies of those applications which would impact agricultural resources and the uses of pesticides.
2. DOA will provide appropriate comments on coastal use permit applications, after review of impacts to agricultural resources. Such comments shall be provided to CMS/DNR within 25 days of receipt of the copy of the application. If no comments are received within 25 days, it shall be presumed that DOA has no objection to the proposed activity. All comments will be reviewed by CMS/DNR and incorporated in permit decisions to the maximum extent practicable.

### Permit Consistency

1. DOA agrees that any grant activities, and other activities, including investigations of misuse of pesticides, directly affecting the coastal zone that it undertakes, conducts, approves, supports or permits, will be consistent to the maximum extent practicable with the State Coastal Resources Program and affected approved local programs having geographical jurisdiction over the action.

### Interagency Coordination

1. DOA will share with and/or provide CMS/DNR information on agricultural resources when requested by CMS/DNR and will notify CMS/DNR on any new agricultural developments in the coastal zone when it is in its preliminary planning stages.
2. CMS/DNR and DOA agree that the two agencies will meet formally and informally as frequently as necessary and as needed to review all aspects of the agency's relationships, determine adequacy of existing Memorandum of Understanding, and the need for expanding and/or revising the present Memorandum of Understanding, and to discuss with an intent to resolve, any conflicts which may arise.

### Conflict of Interest

1. In the event that CMS/DNR should find that DOA is issuing permits, conducting activities or providing funds for activities which are not consistent to the maximum extent practicable with the State Coastal Management Program, CMS/DNR



MEMORANDUM OF UNDERSTANDING BETWEEN THE  
COASTAL MANAGEMENT SECTION OF THE DEPARTMENT OF NATURAL RESOURCES  
AND THE DEPARTMENT OF WILDLIFE AND FISHERIES

In order to insure a clear regulatory mandate from the State of Louisiana concerning activities within the Coastal Zone of Louisiana it is agreed that:

1. Comments of the Department of Wildlife and Fisheries on 404 and coastal use permit applications inside the coastal zone will be given to the Coastal Management Section, Department of Natural Resources.

2. Department of Wildlife and Fisheries comments will be given full consideration in the coastal use permit decision process, and summarized and responded to in the actual permit document.

3. The commenting authority of the Department of Wildlife and Fisheries required by the Fish and Wildlife Coordination Act (PL 85-624, August 12, 1958) on activities inside the Coastal Zone will be exercised through the Coastal Use permitting process, except that the provisions of this paragraph shall not apply to those lands owned or administered by the Department of Wildlife and Fisheries for the purposes of wildlife and fisheries management and/or conservation.

4. The Department of Wildlife and Fisheries comments relative to 404 and coastal use permits dealing with Department owned or administered lands and waterbottoms shall comply with all stipulations in the Deeds of Donation or acts of sale applicable to those lands, and the Department shall have full authority in the exploration, extraction and development of all minerals so as to cause the least disturbance to the wildlife and fishery resources on such lands or waterbottoms.

5. Should there be a conflict between the Department of Wildlife and Fisheries and the Coastal Management Section concerning a decision, this conflict will be brought before the Secretaries of the Departments of Wildlife and Fisheries and Natural Resources, pursuant to 213.13D of Act 361.

In the event that a resolution is still not reached, the conflict will be brought to the Governor for final resolution.

Signed this 29<sup>th</sup> day of September, 1981.

  
JESSE J. GUINDRY, SECRETARY  
Department of Wildlife  
and Fisheries

  
FRANK A. ASHBY, JR., SECRETARY  
Department of Natural Resources

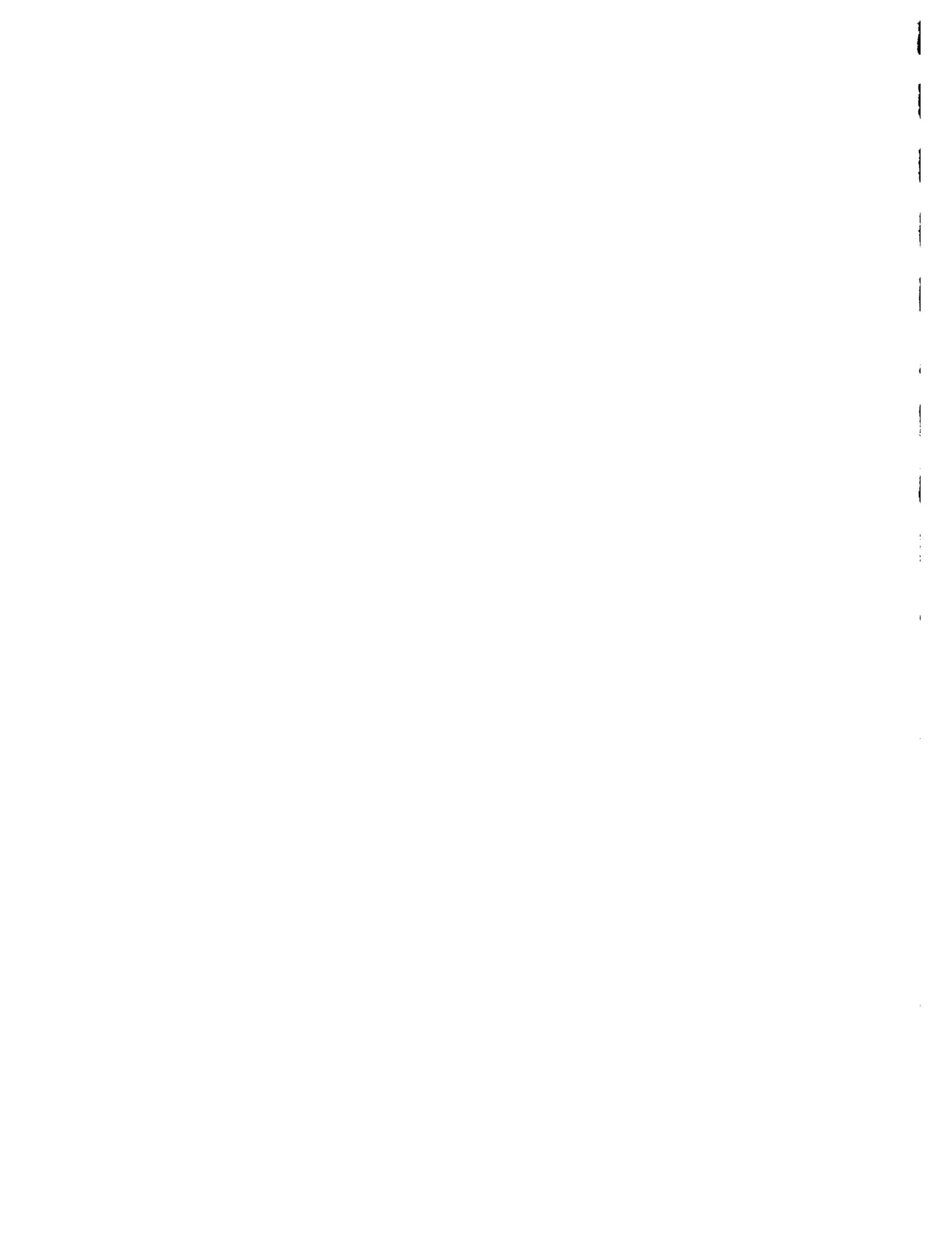
APPENDIX B

MEMORANDA OF AGREEMENT BETWEEN  
THE U.S. ARMY CORPS OF ENGINEERS

and

U.S. DEPARTMENT OF THE INTERIOR  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
U.S. DEPARTMENT OF COMMERCE  
LOUISIANA DEPARTMENT OF NATURAL RESOURCES





constitute insufficient coordination at the district level. This may result in a request for elevation when, in the opinion of the AS/FWP, the project would result in sufficient adverse environmental effects to warrant such a request.

In all these instances, the AS/FWP will state how the matters of concern are clearly within the Department of the Interior's (DOI) authority.

- c. For projects of other Federal agencies, Army and DOI will accept, where appropriate and legally permissible, the environmental documentation and decisions of those agencies.
  - d. Where DOI is the applicant, DOI will be the lead agency for environmental documentation. Both agencies will cooperate fully in early and continuing coordination during development of projects, environmental documentation, and public involvement processes, including joint public notices and, if required, joint hearings. As referenced in paragraph 5.c., the Army will, where appropriate and legally permissible, accept DOI's findings on all environmental and regulatory matters or activities requiring an Army permit.
6. Procedures at the initial decision-making levels:
- a. The FWS will be the point of contact for coordination at DOI.
  - b. In order to be eligible for referral under the procedures provided for under paragraph 7, FWS comment letters including recommended permit denial letters, letters recommending project modifications, or requests for extensions of the comment period, shall be signed by the Habitat Resources Field Supervisor (FS).
  - c. The DE will take reasonable steps to ensure that public notices are promptly transmitted to the appropriate FS. FWS will submit its comments, if any, during the basic comment period specified in the public notice. FWS will comment only on matters clearly and directly within DOI's authority. Where the basic comment period is less than 30 calendar days, the Corps shall upon request of the FS extend the comment period to 30 calendar days. Otherwise, extensions of the basic or extended comment period will be authorized only upon written request to the DE from the FS. The request must be received during

the period sought to be extended and must demonstrate the reason for the extension. The DE will respond in writing to the request within five calendar days of the date of the letter of request. Transmittal provisions of paragraph 7.f. will apply to this response.

- d. The DE's and FS's will develop local procedures at the field level to resolve differences, where possible, prior to the Notice of Intent to Issue. These local procedures will include informal consultation, initiated by the DE or designee, after the close of the comment period to alert the FS of an upcoming decision which will be contrary to a recommendation by FWS for permit or project modification. At the request of the FS, consultations will consist of such actions as telephone calls, electronic mail messages, visits, meetings, or other actions. The consultation should not exceed 10 working days from the time the DE or designee initiates the consultation unless the DE extends it and will include a discussion of the anticipated decision and of the rationale leading to that decision. It is incumbent on FWS to ensure that any additional views regarding the action are finalized and communicated to the DE as expeditiously as possible. In specific cases, the DE or designee and FS may determine that the informal consultation should include the applicant. If the applicant is not included, and the consultation results in any substantive action on the application, the DE or designee will inform the applicant of the substance of the consultation and will provide the opportunity for the applicant to comment. This consultation will not affect the time requirements specified in other parts of this MOA or in 33 CFR 320-330.
- e. If, at the conclusion of the consultation identified at 6.d. above, the DE intends to issue the permit over FWS objections or to issue it without conditions recommended by FWS, the DE will formally notify the FS. When requested by the Regional Director (RD) within 7 calendar days of such notification, the DE will not issue a Notice of Intent until after the RD has had the opportunity to discuss the application with the appropriate Division Engineer during a mutually agreed to meeting. If no meeting has been scheduled within 14 calendar days of the RD's request to delay the Notice of Intent letter and no conference call occurs where there has been a reasonable opportunity for discussion within such 14 days, the DE may proceed to issue his Notice of Intent letter pursuant to subparagraph 7.c.

c. Within 20 working days of the DE's Notice of Intent to Issue, if the case has not been resolved to the satisfaction of the AS/FWP and he determines that it meets the criteria in paragraph 5.b., the AS/FWP may request of the Assistant Secretary of the Army (Civil Works) (ASA(CW)) that the permit decision be made at a higher level in the Department of the Army. The AS/FWP will identify those items of the district engineer's statement of findings with which he takes issue including items relating to:

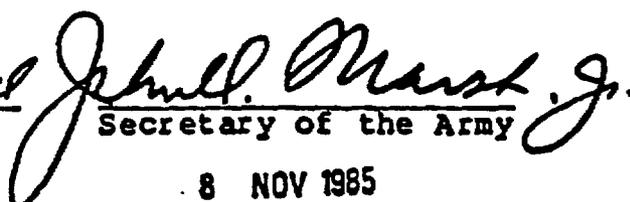
- (1) the affected fish and wildlife resources;
- (2) the impacts of the applicant's proposed project on such resources;
- (3) the net resource losses expected by project implementation as proposed by the district engineer and why the DE's proposals will not offset environmental losses;
- (4) the mitigation proposed by the FWS and how FWS's proposal will offset environmental losses; and
- (5) specify in what specific ways the mitigation recommended by the FWS did not receive full consideration in the DE's decision.

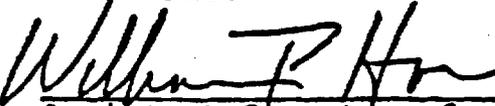
The AS/FWP will also state the way in which acceptance of the AS/FWP recommendations would result in a better decision.

It is acknowledged by the parties that the final determination of mitigation is the responsibility of the Corps.

d. Within 15 working days of the date of the letter of the AS/FWP, the ASA(CW) will decide whether or not the permit decision will be made at a level higher than the DE and, if so, at what level the final decision will be made. He will notify in writing the agency officials involved. Should the ASA(CW) decide that the permit decision will not be made at a higher level, he will respond to the AS/FWP in writing presenting the results of his evaluation. His notification will include specific discussions of each of the items with which the AS/FWP took issue. He will state his position (concurrence or nonconcurrence) with the AS/FWP's positions on each of these items, and will include relevant supporting data.

- e. The official designated by the ASA(CW) to decide a referred case will reach his decision within the time specified in paragraph 7.a. above and will immediately notify the applicant and appropriate officials of both agencies.
  - f. Each agency will ensure that all letters to the other agency as required by this paragraph will be received within one day of signature using messenger, electronic transmittal or other appropriate means.
  - g. DOI and Army desire to avoid the use of duplicative review mechanisms. A permit decision will not be subject to the elevation process when Army and DOI agree in advance that an adequate separate review mechanism exists and has been invoked.
8. This agreement is effective immediately upon the last signature date below and will continue in effect until modified or revoked by agreement of both parties, or revoked by either party alone upon 30 days written notice.
9. The Memorandum of Agreement between the Secretary of DOI and the Secretary of the Army on permit processing dated July 2, 1982, is terminated. Those permit applications which have already been referred to the ASA(CW) under the July 2, 1982, MOA shall be processed according to its terms. Those permit applications for which Notices of Intent to Issue have been sent by the DE within 20 days prior to the effective date of this MOA, but which have not yet been referred to the ASA(CW) shall be governed by this agreement, except that the time periods specified in subparagraphs 7.c. and 7.d. shall run from the date of this agreement rather than from the date of the DE's letter.

 _____ Secretary of the Interior NOV 6 1985	 _____ Secretary of the Army 8 NOV 1985
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 _____ Assistant Secretary for Fish and Wildlife and Parks 10/25/85 _____ Date	 _____ Assistant Secretary of the Army (Civil Works) (Acting) October 25, 1985 _____ Date
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**MEMORANDUM OF AGREEMENT BETWEEN THE  
ENVIRONMENTAL PROTECTION AGENCY AND  
THE DEPARTMENT OF THE ARMY**

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1. **Authority:** Section 404(q) of the Clean Water Act, 33 U.S.C. §1344(q).
2. **Purpose:** The purpose of this agreement is to establish policies and procedures to implement Section 404(q) of the Clean Water Act to "minimize, to the maximum extent practicable, duplication, needless paperwork and delays in the issuance of permits."
3. **Applicability:** This agreement shall apply to applications for permits to be issued by the Department of the Army under:
  - a. Section 10 of the River and Harbor Act of 1899.
  - b. Section 404 of the Clean Water Act.
  - c. Section 103 of the Marine Protection, Research and Sanctuaries Act, except as pertains to compliance with the Environmental Protection Agency (EPA) established ocean dumping criteria.
4. **General Rules:** Policy and procedures for review of permit applications are established in 33 CFR 320 through 330, and 40 CFR 230.
5. **Policy for Interagency Coordination:**
  - a. The final permit decision will be made by the District Engineer (DE) in the vast majority of cases, and the need for reopening the record of a case developed by the DE will be minimized.
  - b. The Administrator has designated the Assistant Administrator, Office of External Affairs (AAEA), as the EPA official having authority to request that the Army review a DE's decision to issue a permit under Section 404. It is agreed that EPA will request such review only if the AAEA finds the following instances:
    - (1) That there has been insufficient interagency coordination at the District and Division levels including a procedural failure to coordinate or a failure to resolve stated EPA concerns regarding compliance with the Section 404(b)(1) Guidelines; or
    - (2) That significant new information has been developed which was not previously available; or
    - (3) That the project raises environmental issues of national importance requiring policy level review.

In all these instances, the AAEA will state how the matters of concern are clearly within the Agency's authority.

- c. For projects of other Federal agencies, Army and EPA will accept, where appropriate and legally permissible, the environmental documentation and decisions of those agencies.
- d. This agreement does not diminish either Army's authority to decide whether a particular permit application should be granted, including determining whether the project is in compliance with the Section 404(b)(1) Guidelines, or the Administrator's authority under Section 404(c) of the Clean Water Act.

**6. Procedures at the initial decision-making levels:**

- a. In order to be eligible for referral under the procedures provided for under paragraph 7, EPA comment letters including recommended permit denial letters, letters recommending project modification, or requests for extensions of the comment period, shall be signed by the Regional Administrator (RA) or his specified designee (such designee will not be below the level of Division Director; two officials will be designated in Region X to provide for special circumstances in Alaska). Where the RA has delegated such signature authority to a regional official, the RA shall provide in writing, to each Division and District Engineer in his Region, the title of the designated official.
- b. The DE will take reasonable steps to ensure that public notices are promptly transmitted to the appropriate EPA office. EPA will submit its comments, if any, during the basic comment period specified in the public notice. Where the basic comment period is less than 30 calendar days, the DE shall upon request of the EPA extend the comment period to 30 calendar days. Otherwise, extensions of the basic or extended comment period will not exceed 30 calendar days and will be authorized only upon written request to the DE from the EPA. The request must be received during the period sought to be extended and must demonstrate the reason for the extension. The DE will respond to the request in writing within five calendar days of the letter of request. Transmittal provisions of subparagraph 7.e. will apply to this response.
- c. The agencies will develop techniques at the field level to ensure that formal referral procedures are started only when warranted. These techniques will include an informal consultation procedure initiated by the DE after the close of the comment period to alert the RA (or designee) of an upcoming decision which will be contrary to a recommendation by EPA for permit denial or project modification. The consultation will consist of such actions as telephone calls, electronic mail messages, visits, or other informal techniques. It should include a discussion of the anticipated decision and

of the rationale leading to that decision. It is incumbent on EPA to ensure that any additional views regarding the action are finalized and communicated to the DE as expeditiously as possible. In specific cases, the DE and RA (or designee) may determine that the informal consultation should include the applicant. If the applicant is not included, and the consultation results in any substantive action on the application, the DE will inform the applicant of the substance of the consultation and will provide the opportunity for the applicant to comment. Such consultation will occur immediately after the close of the comment period and prior to the DE's Notice of Intent to Issue a permit. This consultation will not affect the time requirements specified in other parts of this MOA or in 33 CFR 320-330.

- d. If at the conclusion of the consultation identified at 6.c. above, the DE subsequently finds the proposed permit is in the public interest and complies with the Section 404(b)(1) Guidelines, and intends to issue the permit over EPA objections or to issue it without conditions specified by EPA, he will so notify EPA. When requested by the RA within 7 calendar days of such notification, the DE will not issue a Notice of Intent letter until after the RA has had the opportunity to discuss the application with the appropriate Division Engineer during the regular meetings identified at subparagraph 6.e. If no regular meeting has been scheduled within 14 calendar days of the RA's request to delay the Notice of Intent letter and no special meeting or conference call occurs where there has been a reasonable opportunity for discussion within such 14 days, the DE may proceed to issue his Notice of Intent letter pursuant to subparagraph 7.c.
- e. Frequent and regular meetings (it is suggested they be monthly, but sooner if appropriate to expedite the permit process) will be scheduled between the RA and Division Engineer by mutual agreement, to discuss issues of mutual interest including problems involving individual permit decisions or patterns of concern such as consistently inappropriate comment letters or regular misinterpretation of the Section 404(b)(1) Guidelines, to ensure proper coordination on enforcement matters, to review the nature and frequency of letters of intent to elevate, and to monitor program implementation to minimize duplication and red tape. This consultation is intended to reduce potential delays in the permit process by raising major issues to the RA/Division Engineer level during the permit process, thereby shortening or eliminating the time required for additional consultation and review.
- f. The agencies agree to cooperate fully in the transfer of all information necessary for the agencies to carry out their respective responsibilities. In special cases involving copying of voluminous documentation the parties shall make mutually agreeable arrangements to ensure prompt and effective transfer of required information.
- g. Both parties will take the internal measures necessary to assure that the letter and spirit of this agreement are understood at all levels within their agency.

**Procedures for Referral:**

- a. **General:** In the vast majority of cases, the entire process of consultation and referral outlined in this paragraph, when activated, should be completed within 90 calendar days of the DE's Notice of Intent to Issue a permit; in no cases should the process exceed 120 calendar days.
- b. If during the comment period EPA recommends that a proposed permit be denied or that the activity be modified as a condition of the permit and the matter has not been resolved under the consultation process provided at subparagraphs 6.c. through 6.e. above, the DE will so notify the RA by letter (Notice of Intent to Issue) and will defer final action pending completion of the procedures in subparagraphs 7.c. and 7.d. The DE's letter to the RA will include a brief summary of how EPA's comments were considered, together with a copy of the DE's findings in support of the decision.
- c. Within 20 working days of the DE's Notice of Intent to Issue, if the case has not been resolved to the satisfaction of the AAEA and he determines that it meets the criteria in paragraph 5.b., the AAEA may request of the Assistant Secretary of the Army (Civil Works) (ASA(CW)) that the permit decision be made at a higher level in the Department of the Army. This request will be written, cite the issues involved as stated at subparagraph 5.b., and describe:
  - 1) the affected natural resource;
  - 2) the impacts of the applicant's proposed project on such resources; and
  - 3) where the request is based on insufficient interagency coordination, the coordination problem, including when applicable, a discussion of why he believes the DE's response is inadequate with respect to project compliance with the Section 404(b)(1) Guidelines.
- d. Within 15 working days of the date of the letter of the AAEA, the ASA(CW) will decide whether or not the permit decision will be made at a level higher than the DE and, if so, at what level the final decision will be made. He will notify in writing the agency officials involved. Should the ASA(CW) decide that the permit decision will not be made at a higher level, he will respond to the AAEA in writing presenting the results of his evaluation which will include a discussion of the following:
  - 1) the issues raised by the AAEA under subparagraph 7.c.;
  - 2) his position on these issues and supporting bases; and
  - 3) any administrative action taken by the ASA(CW) to improve program implementation which resulted from the AAEA request.

- e. Each agency will ensure that all letters to the other agency required by this paragraph will be received within one day of signature using messenger, electronic transmittal or other appropriate means.
- f. EPA and the Department of the Army desire to avoid the use of duplicative review mechanisms. A permit decision will not be subject to the referral process when the Department of the Army and EPA agree in advance that an adequate separate review mechanism exists and has been invoked.

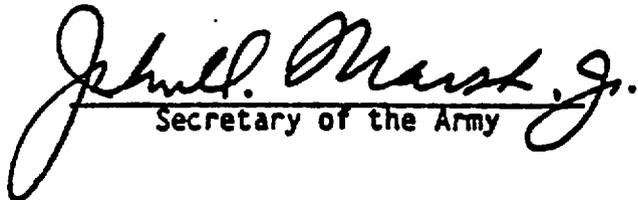
For any permit where EPA has invoked the referral procedures of paragraph 7 and where at the end of such procedures Army intends to issue the permit in a form that does not meet all of EPA's objections, the ASA(CW) will so notify the AAEA in writing. This letter will include the discussion required in subparagraph 7.d. To assist the EPA in reaching a decision on whether to exercise its Section 404(c) authority, the ASA(CW) will also provide a copy of the Statement of Findings/Record of Decision prepared in support of the permit decision. The permit shall not be issued during a period of 10 working days after such notice unless it contains a condition that no activity may take place pursuant to the permit until such 10th day or, if EPA has initiated a Section 404(c) proceeding during such 10 day period, until the Section 404(c) proceeding is concluded and subject to the final determination in such proceeding.

This agreement is effective immediately upon the last signature date below and will continue in effect until modified or revoked by agreement of both parties, or revoked by either party alone upon six months written notice.

The Memorandum of Agreement between the Administrator of EPA and the Secretary of the Army on permit processing dated July 7, 1982 is terminated. Those permit applications which have already been referred to the ASA(CW) under the July 7, 1982 MOA shall be processed according to its terms. Those permit applications for which Notices of Intent to Issue have been sent by the DE since 20 days prior to the effective date of this MOA, but which have not yet been referred to the ASA(CW) shall be governed by this agreement, except that the time periods specified in subparagraphs 7.c. and 7.d. shall run from the date of this agreement rather than from the date of the DE's letter.

  
\_\_\_\_\_  
Administrator of the  
Environmental Protection Agency

Nov 6, 1985  
Date

  
\_\_\_\_\_  
Secretary of the Army

12 NOV 1985  
Date

**MEMORANDUM OF AGREEMENT BETWEEN  
THE DEPARTMENT OF COMMERCE AND  
THE DEPARTMENT OF THE ARMY**

---

1. Authority: Section 404(q) of the Clean Water Act.  
(33 USC 1344(q)).
2. Purpose: The purpose of this agreement is to establish policies and procedures to implement Section 404(q) of the Clean Water Act to "minimize, to the maximum extent practicable, duplication, needless paperwork and delays in the issuance of permits."
3. Applicability: This agreement shall apply to applications for permits to be issued by the Department of the Army under:
  - a. Section 10 of the River and Harbor Act of 1899.
  - b. Section 404 of the Clean Water Act.
  - c. Section 103 of the Marine Protection, Research and Sanctuaries Act, except as pertains to compliance with EPA established ocean dumping criteria.
4. General rules: Policy and procedures for review of permit applications are established in 33 CFR 320 through 330.
5. Policy for Interagency Coordination:
  - a. The final permit decision will be made by the District Engineer (DE) in the vast majority of cases, and the need for reopening the record of a case developed by the DE will be minimized.
  - b. The Administrator, National Oceanic and Atmospheric Administration (NOAA) will request review of a district engineer's decision only when the Administrator finds that (1) the case involves the development of significant new information, (2) there is necessity for policy-level review of issues of national significance, or (3) there has been insufficient interagency coordination at the district level.

If full consideration to the recommendations of NOAA, including recommended permit conditions, is not given by the DE, it will constitute insufficient coordination at the district level. This may result in a request for elevation when, in the opinion of the Administrator, NOAA, the project would result in sufficient adverse environmental effects to warrant such a request.

In all these instances, the Administrator, NOAA will state how the matters of concern are clearly within the Department of Commerce's (DOC) authority.

- c. For projects of other Federal agencies, Army and DOC will accept, where appropriate and legally permissible, the environmental documentation and decisions of those agencies.
- d. Where DOC is the applicant, DOC will be the lead agency for environmental documentation. Both agencies will cooperate fully in early and continuing coordination during development of projects, environmental documentation, and public involvement processes, including joint public notices and, if required, joint hearings. As referenced in paragraph 5.c., the Army will, where appropriate and legally permissible, accept DOC's findings on all environmental and regulatory matters or activities requiring an Army permit.

6. Procedures at the initial decisionmaking levels:

- a. The National Marine Fisheries Service (NMFS) will be the point of contact for initial level coordination at DOC.
- b. In order to be eligible for referral under the procedures provided for under paragraph 7, DOC comment letters including recommended permit denial letters, letters recommending project modifications, or requests for extensions of the comment period, shall be signed by the Regional Director (RD) or a specified designee (such designee will not be below the level of Division Director). Where the RD has delegated such signature authority to a regional official, the RD shall provide in writing, to each Division and District Engineer in the region, the title of the designated official.

- c. The DE will take reasonable steps to ensure that public notices are promptly transmitted to the appropriate NMFS office. NMFS will submit its comments, if any, during the basic comment period specified in the public notice. NMFS will comment only on matters clearly and directly within its authority. Where the basic comment period is less than 30 calendar days, the DE shall upon request of the RD or designee extend the comment period to 30 calendar days. Otherwise, extensions of the basic or extended comment period will be authorized only upon written request to the DE from the RD or designee. The request must be received during the comment period sought to be extended and must provide the reason for the extension. The DE will respond in writing to the request within five calendar days of the date of the letter of request. Transmittal provisions of paragraph 7.f. will apply to this response.
- d. The DE's and RD's will develop local procedures at the field level to resolve differences, where possible, prior to the Notice of Intent to Issue. These local procedures will include informal consultation, initiated by the DE, after the close of the comment period to alert the RD or designee of an upcoming decision which will be contrary to a recommendation by NMFS for permit or project modification. At the request of the RD or designee, consultations will consist of such actions as telephone calls, electronic mail messages, visits, meetings, or other actions. The consultation period should not exceed 10 working days from the time the DE initiates the consultation unless the DE extends it and will include a discussion of the anticipated decision and of the rationale leading to that decision. It is incumbent on NMFS to ensure that any additional views regarding the action are finalized and communicated to the DE as expeditiously as possible. In specific cases, the DE and RD or designee may determine that the informal consultation should include the applicant. If the applicant is not included, and the consultation results in any substantive action on the application, the DE or designee will inform the applicant of the substance of the consultation and will provide the opportunity for the applicant to comment. This consultation will not affect the time requirements specified in other parts of this MOA or in 33 CFR 320-330.

- e. If, at the conclusion of the consultation identified at 6.d. above, the DE intends to issue the permit over NMFS's objections or to issue it without conditions recommended by NMFS, the DE will formally notify the RD. When requested by the RD within 7 calendar days of such notification, the DE will not issue a Notice of Intent until after the RD has had the opportunity to discuss the application with the appropriate Division Engineer during a mutually agreed to meeting. If no meeting has been scheduled within 14 calendar days of the RD's request to delay the Notice of Intent letter and no conference call occurs where there has been a reasonable opportunity for discussion within such 14 days, the DE may proceed to issue the Notice of Intent letter pursuant to subparagraph 7.c.
- f. Meetings may be scheduled between the RD and Division Engineer as necessary to discuss issues of mutual interest including problems involving individual permit decisions or patterns of concern such as the consistency and appropriateness of comment letters, to ensure proper coordination on enforcement matters, to review the nature and frequency of elevation requests, and to monitor program implementation to minimize duplication and red tape. This consultation is intended to reduce potential delays in the permit process by raising major issues to the RD/Division Engineer level during the permit process thereby shortening or eliminating the time required for additional consultation and review.
- g. The agencies agree to cooperate fully in the transfer of all information necessary for the agencies to carry out their respective responsibilities. In special cases requiring copying of voluminous documentation, the parties shall make mutually agreeable arrangements to ensure prompt and effective transfer of required information.
- h. Both parties will transmit this document to their DE's and RD's and will take the internal measures necessary to assure that the letter and spirit of this agreement are understood at all levels within their agency.

**7. Procedures for Referral:**

- a. **General.** In the vast majority of cases, the entire process of consultation and referral outlined in this paragraph, when activated, should be completed within 90 calendar days of the DE's notice of intent to issue a permit; in no cases should the elevation process exceed 120 calendar days.
- b. If during the comment period, NMFS recommends that a proposed permit be denied or that the activity be modified as a condition of the permit and the matter has not been resolved under the consultation process provided at subparagraphs 6.c. through 6.f. above, the DE will so notify the RD by letter (Notice of Intent to Issue) and will defer final action pending completion of the procedures in subparagraphs 7.c. and 7.d. The DE's letter to the RD will include a brief summary of how NMFS comments were considered, together with a copy of the Statement of Findings of the DE in support of his decision.
- c. Within 20 working days of the DE's Notice of Intent to Issue, if the case has not been resolved to the satisfaction of the Administrator, NOAA and the Administrator determines that it meets the criteria in paragraph 5.b., the Administrator, NOAA may request of the Assistant Secretary of the Army (Civil Works) (ASA(CW)) that the permit decision be made at a higher level in the Department of the Army. The Administrator, NOAA will identify those items of the district engineer's statement of findings with which NOAA takes issue including items relating to:
  - (1) the affected fish and wildlife resources;
  - (2) the impacts of the applicant's proposed project on such resources;
  - (3) the net resource losses expected by project implementation as proposed by the district engineer and why the DE's proposals will not offset environmental losses;
  - (4) the mitigation proposed by the NMFS and how NMFS's proposal will offset environmental losses.

- (5) specify in what ways the mitigation recommended by the NMPS did not receive full consideration in the DE's decision.

The Administrator, NOAA will also state the way in which acceptance of the Administrator's, NOAA, recommendations would result in a better decision.

- d. Within 15 working days of the date of the letter of the Administrator, NOAA, the ASA(CW) will decide whether or not the permit decision will be made at a level higher than the DE and, if so, at what level the final decision will be made. The ASA(CW) will notify in writing the agency officials involved. Should the ASA(CW) decide that the permit decision will not be made at a higher level, the ASA(CW) will respond to the Administrator, NOAA in writing presenting the results of the evaluation. The ASA(CW) notification will include specific discussions of each of the items with which the Administrator, NOAA took issue. The ASA(CW) will state Army's position (concurrence or nonconcurrence) with the Administrator, NOAA's positions on each of these items, and will include relevant supporting data. The parties acknowledge that the final determination of mitigation is the responsibility of the Corps.
- e. The official designated by the ASA(CW) to decide a referred case will reach a decision within the time specified in paragraph 7.a. above and will immediately notify the applicant and appropriate officials of both agencies. The Statement of Findings of the deciding official will include a discussion of items raised by the Administrator and will be furnished to the Administrator by the ASA(CW).
- f. Each agency will ensure that all letters and other notifications to the other agency as required by this paragraph will be received within one day of signature using messenger, electronic transmittal or other appropriate means.
- g. DOC and Army desire to avoid the use of duplicative review mechanisms. A permit decision will not be subject to the elevation process when Army and DOC agree in advance that an adequate separate review mechanism exists and has been invoked.

- 8. This agreement is effective immediately upon the last signature date below and will continue in effect until modified or revoked by agreement of both parties, or revoked by either party alone upon 30 days written notice.
- 9. The Memorandum of Agreement between the Secretary of DOC and the Secretary of the Army on permit processing dated July 2, 1982, is terminated. Those permit applications which have already been referred to the ASA(CW) under the July 2, 1982, MOA shall be processed according to its terms. Those permit applications for which Notices of Intent to Issue have been sent by the DE within 20 days prior to the effective date of this MOA, but which have not yet been referred to the ASA(CW) shall be governed by this agreement, except that the time periods specified in subparagraphs 7.c. and 7.d. shall run from the date of this agreement rather than from the date of the DE's letter.

Malcolm Baldrige  
Secretary of Commerce

MAR 03 1986

Date

John D. Marshall Jr.  
Secretary of the Army

25 March '86

Date

Anthony J. Lili  
Administrator, National  
Oceanic and Atmospheric  
Administration

2/18/86

Date

W. H. ...  
Assistant Secretary  
of the Army (Civil  
Works)

1/17/86

Date





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

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

MAY - 5 1986

F/SER1:RJE  
(813) 893-3503

Colonel Eugene S. Witherspoon  
District Engineer, New Orleans District  
Department of the Army, Corps of Engineers  
P. O. Box 60267  
New Orleans, LA 70160

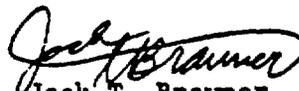
Dear Colonel Witherspoon:

Please reference the new Memorandum of Agreement (MOA) between the Departments of the Army and Commerce regarding Section 404(q) of the Clean Water Act. In accordance with Paragraph 6.b., I am notifying you of my designee for signature authority on letters of comment and extensions of comment period. The regional official I have designated to have that authority is Richard J. Hoogland, Assistant Regional Director for Habitat Conservation.

Regarding Paragraph 6.d. of the MOA requiring joint development of local procedures to resolve differences, I feel it is prudent that the initial attempts be conducted between the personnel most knowledgeable of the local issues. This would be your Regulatory Functions Chief and our Area Office Supervisor. I would appreciate your views on this matter. Mr. Hoogland or I will gladly get involved and meet with you personally should there be any complications.

We are looking forward to coordinating with you under the new MOA and are optimistic that our working relationship will continually improve.

Sincerely yours,

  
Jack T. Brawner  
Regional Director



JOINT AGREEMENT BETWEEN THE COASTAL  
MANAGEMENT DIVISION OF THE DEPARTMENT OF NATURAL RESOURCES  
AND THE U. S. ARMY CORPS OF ENGINEERS  
NEW ORLEANS DISTRICT

PURPOSE

This Joint Agreement details the manner in which the Regulatory Functions Branch of the New Orleans District Corps of Engineers (COE) and the Coastal Management Division of the Department of Natural Resources (CMD/DNR), State of Louisiana have established a joint public notice system to process permit applications for activities in those areas coincident to both the New Orleans District and the Louisiana Coastal Zone.

PROCEDURES

The agreement dictates that the New Orleans District will utilize the State's public notice system by having the Coastal Management Division publish and distribute public notices for permit applications submitted to the Corps of Engineers for all the subject activities in the coincident areas. The CMD/DNR will send a copy of applicable permit applications via express mail service to the Regulatory Functions Branch, New Orleans District. For those activities determined to need a permit, a permit application number will be given and the CMD/DNR will be notified telephonically of the permit number.

When required, a joint public notice will be printed and distributed to each name on the CMD/DNR mailing list.

REIMBURSEMENT

CMD/DNR will be reimbursed for the cost of printing and mailing of public notices on the following basis:

a. Joint CMD/DNR. - Corps public notices - The COE shall share the cost based on the percentage of additional cost incurred by CMD/DNR to print and distribute public notices compared to the previous cost for the public notice program. These expenses will include cost of express mail, clerical salaries, and other incidental costs, provided CMD/DNR and the COE agree on the basis of unit and hourly costs and that the costs are the result of increased work loads to CMD/DNR because of the joint public notice program. This amount cannot exceed \$200,000 annually, the approximate cost to the New Orleans District for: 1) printing and mailing public notices for applications of activities in the coastal zone, and 2) the Joint Public Notice Coordinator and Student Aid positions. In the event that the number of permit applications submitted and effects of inflation cause the annual cost to exceed \$200,000 this agreement may be re-negotiated.

b. CMD/DNR public notices - The COE shall not participate in cost sharing for public notice printing and mailing exclusively for CMD/DNR public notices.

c. Corps public notices - The COE shall reimburse the state for the full cost of printing and mailing of Corp's public notices.

d. Joint Public Notice Coordinator - The COE shall reimburse the State for the full cost of the Joint Public Notice Coordinator service contract and/or Civil Service, and Student Aid positions.

Initially Regulatory Functions Branch will fill out and send a DA form 2544 to CMD/DNR. This form will show the amount of money to be committed for the fiscal year. For subsequent years, additional forms will be sent. The 2544 will be signed by the head of the CMD/DNR as Accepting Officer thus accepting the order and a copy returned to the Finance and Accounting Office.

Next the CMD/DNR will submit a bill to the Finance and Accounting Office, New Orleans District on a monthly basis. The bill will be processed within the District and a check will be made out to the State of Louisiana and sent to the Department of Natural Resources ATTN Chief Accountant. The bill must include the total dollar amount, number of manhours, and number of public notices and number of copies of each notice distributed (joint and Corps-only notices).

EFFECTIVE DATE AND TERMINATION

This agreement will be effective when signed, and may be terminated at any time by mutual consent of the parties here to or by either party after 60 days notice of intent to terminate. Signed this 1 day of August 1985.

  
B. Jim Porter  
Department of Natural Resources

  
Eugene S. Witherspoon  
Colonel, Corps of Engineers  
District Engineer

APPENDIX C

CURRENT AND DRAFT GUIDELINES FOR  
EVALUATING MARSH MANAGEMENT PERMIT APPLICATIONS

the Coastal Management Division  
Louisiana Department of Natural Resources



GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
Coastal Management Division

SECRETARY

MARSH MANAGEMENT PLAN GUIDELINES

The following specific information should be provided to the Coastal Management Division (CMD) by those applicants contemplating marsh management plans.

The criteria by which Coastal Management Division (CMD) reviews marsh management plans are established by the following Coastal Use Guidelines:

Guideline 1.6 Information regarding the following general factors shall be utilized by the permitting authority in evaluating whether the proposed use is in compliance with the guidelines.

- c) techniques and materials used in construction, operation and maintenance of use.
- d) existing drainage patterns and water regimes of surrounding area including flow, circulation, quality, quantity and salinity; and impacts on them.
- e) availability of feasible alternative sites or methods for implementing the use.
- h) extent of resulting public and private benefits.
- k) extent of impacts on existing and traditional uses of the area and on future uses for which the area is suited.
- l) proximity to and extent of impacts on important natural features such as beaches, barrier islands, tidal passes, wildlife and aquatic habitats, and forest lands.
- o) the extent of impacts resulting from secondary or cumulative impacts.
- q) extent of impacts on navigation, fishing, public access, and recreational opportunities.
- s) extent of long term benefits or adverse impacts.

Guideline 2.5 Impoundment levees shall only be constructed in wetland areas as part of approved water or marsh management projects or to prevent release of pollutants.

Guideline 7.5 Water or marsh management plans shall result in an overall benefit to the productivity of the area.

Guideline 7.6 Water control structures shall be assessed separately based on their individual merits and impacts and in relation to their overall water or marsh management plan of which they are a part.

Guideline 7.7 Weirs and similar water control structures shall be designed and built using the best practical techniques to prevent "cut arounds", permit tidal exchange in tidal areas, and minimize obstruction of the migration of aquatic organisms.

Guideline 7.8 Impoundments which prevent normal tidal exchange and/or the migration of aquatic organisms shall not be constructed in brackish and saline areas to the maximum extent practicable.

In general, the CMD would like marsh management plans to contain the following elements:

1) Marsh Management Goals

The primary and secondary goals to be derived from the plan should be included. For example, the goals may be erosion prevention and/or increased wildlife and fisheries production.

2) Area History

A brief history of the problems of the wetland area should be presented. For example, if a hurricane introduced saltwater intrusion which damaged fresh marshes in the area the years and circumstances should be included.

3) Type of Habitat

A description of the dominant types and percent composition of vegetation to be affected by the plan should be included.

4) Water Control Structures

The location, construction, and operation of water control structures, (i.e. weirs or flapgates) or other proposed modifications (i.e. levees) of the marsh should be clearly outlined. A water control structure operational plan should be included if variable structures are included in the plan. This plan should include provisions for the access of the area by estuarine fishery organisms.

5) Monitoring Plan

A monitoring plan should be included to evaluate whether the goals have been accomplished and to what degree. Monitoring may be done by gathering information from; water quality sampling, vegetation-al change analysis, aerial photography, hunting or trapping records or other similar methods. Annual monitoring reports should be sent to the Coastal Management Division and other agencies.

6) Non-Marsh Management Activities

A statement of policy should be included concerning activities other than those involved with marsh management which may occur within the management area (i.e. the dredging of oil and gas canals and the placement of spoil). In addition, a statement of policy should be included concerning restoration of areas impacted by non-marsh management activities (i.e. the plugging or backfilling of abandoned canals). Information should be provided concerning the number, concentrations and volumes of brine discharges currently within the management area.

7) In addition, the following specific information should be provided where applicable:

- a. The length and cross section (with scale) of any levee(s) to be constructed or reconstructed,
- b. The amount of fill material or dredging necessary for levee or water control structure construction,
- c. Present elevation of existing levees,
- d. The location of any tidal creeks or bayous which may be closed by this activity, and
- e. Allowances for the ingress and egress of estuarine organisms.

We will be glad to provide you with a copy of an approved marsh management plan should you desire. We would like to work with you to ensure that this activity complies with the La. Coastal Resources Program Guidelines. It may be desirable in the future to schedule a pre or post application conference to further discuss the above items and the various components of your management plan. Should you have any questions, please contact Darryl Clark or John deMond of the Wetland Resources Section.

C. G. Groat  
Assistant to the Secretary

## MARSH MANAGEMENT PLAN EVALUATION

### Monitoring Plan Specifications

A monitoring plan should be included with all marsh management plan permit applications and with all subsequent permits. The monitoring plan should be included to evaluate whether the management goals have been accomplished and to what degree. Monitoring may be done by gathering and reporting information from; water quality sampling, vegetational change analyses, aerial photography, hunting and trapping records, hydrology, erosion control, overall productivity changes, or other similar types of data sources. In each case the stated management goals are the major areas the monitoring effort should be focused.

### **Monitoring for specific types of marsh management plans:**

#### **A. Overall Marsh or Wetland Productivity.**

1. Data should be gathered and evaluated concerning a wide range of vegetational and commercial and non-commercial organisms.
2. Net primary production measurements.
3. Secondary productivity. Waterfowl numbers (i.e. hunting success), trapping, aqua cultural success (i.e. numbers on pounds of crawfish).
4. Changes in the quality of vegetation (i.e. Spartina patens marshes changed to Scirpus olneyi).
5. Water control parameters; water levels, turbidity, salinity, etc.
6. Degree of estuarine organism access and productivity.
7. Degree of anti-erosion success. This could be done by aerial photography, success of transplantings, condition of anti-erosion materials (i.e. matting materials, plugs, levees, etc.).
8. Annual report of overall biological success by a professional biologist.
9. Monitor the degree which problems have been corrected by management plan components.

#### **B. Saltwater Intrusion Retardation.**

1. Sample or evaluate (by professional biologist) quarterly and at least annually indicator plant species to monitor salinity changes.
2. Sample monthly or biweekly (or more often if landowner agrees) salinity on both sides (marsh and canal or areas outside of the management area) of water control structures or other structural components (i.e. levees or plugs).

C. Water Control Monitoring

1. Monitor turbidity at least monthly by secchi disc or turbidometer or by measuring the success of submerged vegetation (i.e. Ruppia maritima - widgeon grass).
2. Monitor salinity at least monthly by either direct measurement on both sides of water control structures (WCS) or by quantifying indicator plant species.
3. Monitor water levels at least biweekly or monthly especially if variable WCS are part of the plan.
4. Growth of submerged and to a degree emergent vegetation (if erosion control is a goal of the water control plan).
5. Monitor hydrologic changes, flow patterns, rates, etc.
6. Monitor erosion rates. Aerial photography, shoreline erosion (stakes placed along shoreline - measure shoreline retreat).

D. Waterfowl and Furbearer Production

1. Annual report of waterfowl and furbearer densities in the area including hunting and trapping records. Muskrat houses or nutria trails could be used to estimate densities.

E. Aquacultural Program Monitoring

Crawfish ponds, catfish, shrimp, bass/bluegill, etc.

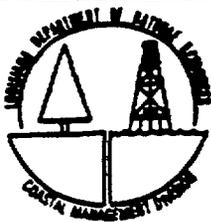
1. Annual report of densities of organisms harvested or present.
2. Report indicating the present of food species.

F. Anti-Erosion Control Method Monitoring

1. Monitor erosion by aerial photography, shoreline retreat, etc.
2. Sedimentation rate data.
3. Success of vegetational plantings and/or anti-erosion structural materials (matting material, etc.).

G. Marsh Burning Monitoring

1. Sections of a marsh management area which are burned under a prescribed burning program should be monitored at least annually for changes in (a) plant species composition, (b) erosion (increase or decrease of open water areas), and (c) quality or existing vegetation.



DEPARTMENT OF NATURAL RESOURCES  
COASTAL MANAGEMENT DIVISION

P. O. BOX 44124  
BATON ROUGE, LOUISIANA 70804  
(504) 342-7591

Draft

COASTAL USE PERMIT/CONSISTENCY DETERMINATION

C.U.P. No.

C.O.E. No.

NAME AND ADDRESS:

LOCATION: ST. MARY PARISH, LA: Secs. 32 and 33, T16S-R13E; SE Avoca Island, South of Morgan City, La.

**PROJECT DESCRIPTION** Construct a levee & install two (2) water control structures for marsh management in an area about 800 acres large. 1) Place spoil to repair portions of a 7000 ft. long spoil bank to repair work will consist of spoil deposited to +4' MSL with a 20' wide base and an 8' crown (2.78 cu. yds./ft.; about 18,900 cu. yds.). About 3.2 acres of existing spoil bank & open water is to be impacted by the part of the project. 2) Construct a 3600' long new levee +4' MSL high & 30' wide at the base and 10' wide at the crown. (4.5 cu. yds./ft.; 29,500 cu. yds.). About 3.7 acres of shallow open water habitat is to be altered by this part of the project. Install two water control structures, one a minimum of 10' wide variable crest weir & the other a dual flap-gate culvert as diagrammed. The primary purposes for the management includes erosion abatement and water control in order to increase overall productivity and to improve water fowl habitat.

In accordance with the rules and regulations of the Louisiana Coastal Resources Program and Louisiana R.S. 49, Sections 213.1 to 213.21, the State and Local Coastal Resources Management Act of 1978, as amended, the permittee agrees to:

1. Carry out or perform the use in accordance with the plans and specifications approved by Department of Natural Resources.
2. Comply with any permit conditions imposed by the Department of Natural Resources.
3. Adjust, alter, or remove any structure or other physical evidence of the permitted use if, in the opinion of the Department of Natural Resources, it proves to be beyond the scope of the use as approved or is abandoned.
4. Provide, if required by the Department of Natural Resources, an acceptable surety bond in an appropriate amount to ensure adjustment, alteration, or removal should the Department of Natural Resources determine it necessary.
5. Hold and save the State of Louisiana, the local government, the department, and their officers and employees harmless from any damage to persons or property which might result from the work, activity, or structure permitted.
6. Certify that any permitted construction has been completed in an acceptable and satisfactory manner and in accordance with the plans and specifications approved by the Department of Natural Resources. The Department of Natural Resources may, when appropriate, require such certification be given by a registered professional engineer.
7. All terms of the permit shall be subject to all applicable federal and state laws and regulations.
8. This permit, or a copy thereof, shall be available for inspection at the site of work at all times during operations.
9. The following special conditions must also be met in order for the project to meet the guidelines of the coastal resources program:

- a) The Marsh Management Plan shall be conducted according to the approved revisions submitted in July, 1985.
- b) An annual report which describes the degree to which the management plan is achieving the major goals of saltwater intrusion and erosion prevention and increasing wildlife and fisheries production especially waterfowl numbers shall be submitted to the Coastal Management Division (CMD), the Corps of Engineers (COE) and other agencies during the term of this permit. This annual report shall include the following elements:
  - 1. Height of the variable crest weirs and flap gate positions for water control structures in the area.
  - 2. Water elevation inside and outside of the area at water control structures.
  - 3. Turbidity of the water, specified by visual inspection.
  - 4. Percentage of area under water that has submergent vegetation specified by visual inspection.
  - 5. Any relevant management information -e.g. whether vegetative plantings are taking place, progress of any plantings already done in the area.
  - 6. During hunting seasons, waterfowl and trapping numbers.
  - 7. Levee condition by visual inspection -e.g. erosion and control measures taken to alleviate it, condition of vegetation on slopes.
  - 8. Any relevant non-marsh management activity in the area.
  - 9. Results of surveys using aerial photographs, estimating percent vegetated, percent open water, percent in grassbeds.
  - 10. Results of surveys of changes in marsh acreage using aerial photographs to track erosion control.
  - 11. Results of visual surveys at the documented SCS pre-implementation sites to determine the types of vegetation present.
- c) The management area should be monitored monthly for turbidity, general marsh conditions, water levels, and the condition and operation mode of each water control structure. The monthly monitoring results should be included in the annual report.
- d) Water level gages should be established at each water control structure for monitoring water levels.
- e) Water control structures shall be operated according to the following plan approved at the June 27, 1985 Interagency Meeting:

**\*PHASE I WATER CONTROL STRUCTURES OPERATING SCHEDULE**

<u>Dates</u>	<u>Flapgates</u>		<u>Weir Height</u>	<u>Activity</u>
	<u>Outside</u>	<u>Inside</u>		
Sept.-Nov.	Open	Flapping	Marsh Elevation	Flooding
Nov.-Feb.	Closed	Closed	Marsh Elevation	Hunting Season
Feb.-April	Flapping	Open	Maximum Height	Drawdown
April-May	Flapping	Open	0.5 Ft. Below Marsh Elevation	Mimic Natural Hydrology
May-Sept.	Open	Open	0.5 Ft. Below Marsh Elevation	Free Exchange

\*Manager discretion shall apply in case of emergencies caused by natural catastrophic events. Starting dates for water management activities have a one week latitude prior to or after specified dates.



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C.U.P. No. P850

C.O.E. No. LMNOD-SP (St. Mary Ph. Wetlands)

- f) An evaluation conducted approximately two years after implementation of the plan will be performed by an interagency team with Avoca, Inc. representation. Monitoring data, scientific information, and Avoca goals will be used to determine if a change in the water management plan is warranted or even desirable. If a review of the preceding two years is not completed prior to beginning the third year of operation, the water management plan previously in effect will be continued.
- g) Proposed modifications or additions to this plan shall be submitted to CMD for review.
- h) All logs and stumps unearthed during dredging will be buried beneath the bottom of the waterway or removed to a disposal site on land.
- i) The applicant will notify the CMD of the date on which approved work began on site using the enclosed green commencement card upon initial activity under this permit.
- j) This Coastal Use Permit authorizes periodic maintenance including maintenance dredging for a period of five (5) years from the date of the Secretary's signature. All maintenance activities authorized by this permit shall be conducted pursuant to the specifications and conditions of this permit.
- k) The expiration date of this permit is five (5) years from the date of the Secretary's signature. After this five year period, a new Coastal Use Permit must be acquired before any dredging (maintenance or otherwise) can be continued.

By accepting this permit, the applicant agrees to its terms, but reserves the right to appeal permit conditions.

I affix by signature and issue this permit this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

Department of Natural Resources

SECRETARY B. JIM PORTER

This agreement becomes binding when signed by the Secretary of the Department of Natural Resources.



Draft

La. Dept. of Natural Resources  
Wetland Management Policies and  
Guidelines

The LDNR staff recognizes that the La. coastal zone is currently experiencing a land loss and erosion problem which may exceed a rate of 50 square miles per year. This land loss is caused by natural and man made sources. If it continues at the current rate, Louisiana's 2.9 million acres of coastal wetlands with their associated benefits to the state and the nation would disappear. Few options are available at the present time to be used by man to counteract this land loss problem. Some of these options include fresh water and sediment diversions where practical and wetland management plans which take advantage of these freshwater and sediment diversions when present.

Coastal Wetland Management Definition

Marsh management may be defined as the use of structural water control and non-structural activities in coastal wetlands for the purpose of increasing wetland productivity without significantly decreasing aquatic organism productivity, freshwater and sediment diversions, nutrient cycling and water quality, and wildlife production.

The La. Coastal Resources Program Marsh Management definition states that a marsh management plan is "A systematic development and control plan to improve and increase biological productivity, or to minimize land loss, saltwater intrusion, erosion or other such environmental problems, or to enhance recreation." (p65, Final Environmental Impact Statement).

The MMS - DNR Wetland Management Cooperative Agreement Technical Steering Committee definition states ...

"For the purpose of this study, marsh management is defined as the use of structures to manipulate local hydrology for the purpose of reducing or reversing wetland loss and/or enhancing the productivity of natural resources."

#### General Management Goals

The general DNR marsh management goals in coastal Louisiana should be toward the encouragement of plans which; (1.) reduce land loss, (2.) preserve habitat and habitat quality, (3.) increase overall wetland productivity, (4.) increase recreational and commercial natural resource availability, (5.) maintain aquatic organism access and productivity, (6.) maintain fresh water and sediment diversions, nutrient cycling and water quality, and (7.) create additional wetland acreage where possible.

#### General Policy

1. It is recognized that freshwater and sediment diversions and nutrient introduction can be used to reduce land loss and maintain habitat quality and productivity. These measures should be required in formulating management plans and should be incorporated to the maximum extent possible in the operation and development of these plans. Plans should be developed to take advantage of existing and planned diversions of freshwater, sediments and nutrients and should not be developed to block the beneficial effects of such activities.

2. The major goals of management should be toward decreasing land loss and increasing marsh productivity while at the same time providing for aquatic organism usage and movement into and out of the area. Management for one species or one species group (monoculture -ie. for waterfowl winter habitat) with no provisions for an increase in overall productivity should be discouraged.
3. Management plans should be developed to encourage the movement of sediment and fresh water in areas where this is practical. This can be accomplished by the development of "flow through" systems which encourages the movement of fresh water and sediment into the plan. The sediment is released as the water "flows through" in the next tidal cycle.
4. Management plans should be developed which promote the re-establishment of vegetation in fresh to moderately brackish marshes. This aquatic submerged and emergent vegetation will then contribute to an organic "sediment" build-up of the marshes which would decrease land loss.
5. Marsh management should be and generally is limited to semi-impoundment areas, not to total impoundments. Total impoundments may be allowed in fastland or upland areas. Total impoundment levees with pumps or similar devices should be discouraged in all areas but fastland and upland areas.
6. Marsh management should be recognized as being one of only a few tools available to the private coastal landowner for use in reducing land loss and in maintaining habitat quality and productivity. Other tools such as large freshwater and sediment diversions are the prerogative of government and may only be used successfully in areas near large freshwater and sediment sources.

7. A marsh management plan, using an approved format, should be submitted with every marsh management plan Coastal Use Permit Application.
8. Plans shall have the following components: Plan goals; history; habitat description; water control structure design operation and location; monitoring plan; treatment of non-management activities.
9. There should be no total impoundments in tidal areas unless the area was a fastland (or completely leveed area).
10. Variable or gated (culverted) control structures should be recommended in areas experiencing land loss for possible revegetation efforts except in higher salinity brackish and saline areas where revegetation is more difficult and estuarine organism populations are higher.
11. In fresh marshes there may be provisions for more impoundment to achieve management objection because of the greater ability of fresh vegetation to tolerate impoundment situations and because of the reduced presence of estuarine organisms accessing these areas as estuarine Nursery areas and the ability of fresh to intermediate marshes to build marsh levels by the deposition of organic material.
12. More provisions for wildlife benefits of management should be tolerated in fresh to intermediate marshes with a greater emphasis on fisheries benefits maintained in brackish and saline areas
13. Barricades are designed primarily as anti-tresspassing devices and do not come under the definition of marsh management as they do little for the improvement of the marsh habitat. Coastal Use Permits are normally not issued for barricades unless they are proposed to block navigable waters. The DNR Division of State Lands has prime jurisdiction over barricade construction in state navigable waters and such matters should be deferred to that agency for a determination. State lands

should be notified if any DNR agency suspects possible denial of free access to state waterbottoms.

14. Maricultural activities are performed for the prime purpose of raising certain fisheries species and do not normally include provisions for marsh management. In fact, the two activities may be contradictory with one not possible under the operation of the other. Maricultural activities should only be allowed on fastland or upland areas where they don't compete with marsh management goals. However, some limited aquacultural activities could be allowed in northern fresh marsh areas where tidal influence and the presence of estuarine organisms is limited. Limited maricultural activities may be allowed in severely degraded coastal areas such as in portions of old access or pipeline canals or near total impoundments.
15. New levees in the marsh are to be discouraged and should only be allowed if they are relatively short (500-1000 ft) and if the purpose is to connect to existing canal spoil banks for purposes of water control by a variable or gated control structure.
16. Levees in shallow open water shall be allowed if the purpose is to gain water control over an area that has experienced significant land loss from that which was present in 1956. Significant land loss is defined as greater than 40% to 60% open water to marsh ratio (4:6).
17. Control structures should be operated in three year cycles with lowered water levels (drawdowns) for revegetation attempted one out of three years. The structures in the other years should be operated in a maintenance mode with the structures (culverts) open and any variable crest weirs set at the average depth of ponds in the marsh.

18. Fixed crest weirs without levees in the marsh are allowed in brackish to saline areas if the crest of the weirs are set not higher than the average depth of ponds in the marsh or if vertical slots or other modifications are placed in the weirs to increase tidal flow and estuarine organism access.
19. DNR should encourage the development of newer water control structures which allow for greater estuarine organism access while at the same time protect the marsh from saltwater intrusion and land loss.
20. A typical drawdown scenario for re-vegetation should be as follows: Spring drawdown for revegetation - structure set with outside gates closed and inside weir (stop logs) set 1-2ft. below marsh level; Summer to fall allowance for estuarine organism movement - inside and outside gates open and weir set at the average depth of ponds; winter impounding (or holding) water to close to marsh level for waterfowl and trapping - weir set at marsh level (there should be provisions for slot or hole in the weir for some estuarine organism movement).
21. A typical maintenance control structure schedule - Spring to Fall - open gates and set weirs to average bottom depths of ponds (1/2 - 1 ft. below marsh) for estuarine organism movement and saltwater intrusion prevention; Winter - impoundment for waterfowl and trapping - weir set at marsh level with both gates open (there should be provisions for a slot or opening in the weir for increased estuarine organism movement).

22. Safety provisions should be set for salinity and water level targets for each area and each season or operation phase to give the manager the flexibility to adjust structures to prevent high salinities and/or water levels not in keeping with the management plan. Salinity target levels should be based on a case by case analysis of salinity records for each area. Water level targets should be maintained at + 0.2 ft. for each respective operational phase.
23. Management plan coastal use permits should include statements and conditions concerning the following: (1.) plan goals; (2.) design, (3.) operational schedule and location of plan structural components, monitoring provisions; (4.) provisions for plan modification should be monitored by the landowner or government agency indicating modifications are needed; (5.) five year expiration date for maintenance activities; (6.) an anti-mariculture clause; (7.) provisions for abandonment of site; and (8.) post implementation evaluation clause.
24. Marsh management monitoring. Private landowners who receive permits for management plans will be expected to perform limited monitoring activities. These activities should include at a minimum: monthly salinity and water level monitoring, annual land-water ratios by aerial photography and annual wildlife harvest records. More detailed and scientific monitoring should be performed by government. These activities include; vegetation, land loss and habitat change by aerial photography, fisheries, sedimentation, and hydrology monitoring.

APPENDIX D

GUIDELINES FOR SPECIFICATION OF DISPOSAL SITES  
FOR DREDGED OR FILL MATERIAL

pursuant to

Section 404(b)(1) of the Federal Water Pollution Control Act

(5) Disposal of these vessels shall take place in a site designated on current nautical charts for the disposal of wrecks or no closer than 22 kilometers (12 miles) from the nearest land and in water no less than 50 fathoms (300 feet) deep, and all necessary measures shall be taken to insure that the vessels sink to the bottom rapidly and that marine navigation is not otherwise impaired.

(6) Disposal shall not take place in established shipping lanes unless at a designated wreck site, nor in a designated marine sanctuary, nor in a location where the hulk may present a hazard to commercial trawling or national defense (see 33 CFR Part 205).

(7) Except in emergency situations, as determined by the U.S. Army Corps of Engineers and/or the U.S. Coast Guard, disposal of these vessels shall be performed during daylight hours only.

(8) Except in emergency situations, as determined by the U.S. Army Corps of Engineers and/or the District Commander of the U.S. Coast Guard, the Captain-of-the-Port (COTP), U.S. Coast Guard, and the EPA Regional Administrator shall be notified forty-eight (48) hours in advance of the proposed disposal. In addition, the COTP and the EPA Regional Administrator shall be notified by telephone at least twelve (12) hours in advance of the vessel's departure from port with such details as the proposed departure time and place, disposal site location, estimated time of arrival on site, and the name and communication capability of the towing vessel. Schedule changes are to be reported to the COTP as rapidly as possible.

(9) The National Ocean Survey, NOAA, 6010 Executive Blvd., Rockville, MD 20852, shall be notified in writing, within 1 week, of the exact coordinates of the disposal site so that it may be marked on appropriate charts.

**PART 230—SECTION 404(b)(1)  
GUIDELINES FOR SPECIFICATION  
OF DISPOSAL SITES FOR DREDGED  
OR FILL MATERIAL**

**Subpart A—General**

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230.2 Applicability.  
230.3 Definitions.  
230.4 Organization.  
230.5 General procedures to be followed.  
230.6 Adaptability.  
230.7 General permits.

**Subpart B—Compliance With the Guidelines**

- 230.10 Restrictions on discharge.  
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**Subpart C—Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem**

- 230.20 Substrate.  
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**Subpart D—Potential Impacts on Biological Characteristics of the Aquatic Ecosystem**

- 230.30 Threatened and endangered species.  
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- 230.40 Sanctuaries and refuges.  
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**Subpart F—Potential Effects on Human Use Characteristics**

- 230.50 Municipal and private water supplies.  
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230.54 Parks, national and historical monuments, national seashores, wilderness areas, research sites and similar preserves.

**Subpart G—Evaluation and Testing**

230.60 General evaluation of dredged or fill material.

230.61 Chemical, biological, and physical evaluation and testing.

**Subpart H—Actions to Minimize Adverse Effects**

230.70 Actions concerning the location of the discharge.

230.71 Actions concerning the material to be discharged.

230.72 Actions controlling the material after discharge.

230.73 Actions affecting the method of dispersion.

230.74 Actions related to technology.

230.75 Actions affecting plant and animal populations.

230.76 Actions affecting human use.

230.77 Other actions.

**Subpart I—Planning To Shorten Permit Processing Time**

230.80 Advanced identification of disposal areas.

**AUTHORITY:** Secs. 404(b) and 501(a) of the Clean Water Act of 1977 (33 U.S.C. 1344(b) and 1361(a)).

**SOURCE:** 45 FR 85344, Dec. 24, 1980, unless otherwise noted.

**Subpart A—General**

§ 230.1 Purpose and policy.

(a) The purpose of these Guidelines is to restore and maintain the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material.

(b) Congress has expressed a number of policies in the Clean Water Act. These Guidelines are intended to be consistent with and to implement those policies.

(c) Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable

impacts of other activities affecting the ecosystems of concern.

(d) From a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines. The guiding principle should be that degradation or destruction of special sites may represent an irreversible loss of valuable aquatic resources.

§ 230.2 Applicability.

(a) These Guidelines have been developed by the Administrator of the Environmental Protection Agency in conjunction with the Secretary of the Army acting through the Chief of Engineers under section 404(b)(1) of the Clean Water Act (33 U.S.C. 1344). The Guidelines are applicable to the specification of disposal sites for discharges of dredged or fill material into waters of the United States. Sites may be specified through:

(1) The regulatory program of the U.S. Army Corps of Engineers under sections 404(a) and (e) of the Act (see 33 CFR Parts 320, 323 and 325);

(2) The civil works program of the U.S. Army Corps of Engineers (see 33 CFR 209.145 and section 150 of Pub. L. 94-587, Water Resources Development Act of 1976);

(3) Permit programs of States approved by the Administrator of the Environmental Protection Agency in accordance with section 404(g) and (h) of the Act (see 40 CFR Parts 122, 123 and 124);

(4) Statewide dredged or fill material regulatory programs with best management practices approved under section 208(b)(4)(B) and (C) of the Act (see 40 CFR 35.1560);

(5) Federal construction projects which meet criteria specified in section 404(r) of the Act.

(b) These Guidelines will be applied in the review of proposed discharges of dredged or fill material into navigable waters which lie inside the baseline from which the territorial sea is measured, and the discharge of fill material into the territorial sea, pursuant to the procedures referred to in paragraphs (a)(1) and (2) of this section.

The discharge of dredged material into the territorial sea is governed by the Marine Protection, Research, and Sanctuaries Act of 1972, Pub. L. 92-532, and regulations and criteria issued pursuant thereto (40 CFR Parts 220 through 228).

(c) Guidance on interpreting and implementing these Guidelines may be prepared jointly by EPA and the Corps at the national or regional level from time to time. No modifications to the basic application, meaning, or intent of these Guidelines will be made without rulemaking by the Administrator under the Administrative Procedure Act (5 U.S.C. 551 *et seq.*).

#### § 230.3 Definitions.

For purposes of this part, the following terms shall have the meanings indicated:

(a) The term "Act" means the Clean Water Act (also known as the Federal Water Pollution Control Act or FWPCA) Pub. L. 92-500, as amended by Pub. L. 95-217, 33 U.S.C. 1251, *et seq.*

(b) The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes, and the like are "adjacent wetlands."

(c) The terms "aquatic environment" and "aquatic ecosystem" mean waters of the United States, including wetlands, that serve as habitat for interrelated and interacting communities and populations of plants and animals.

(d) The term "carrier of contaminant" means dredged or fill material that contains contaminants.

(e) The term "contaminant" means a chemical or biological substance in a form that can be incorporated into, onto or be ingested by and that harms aquatic organisms, consumers of aquatic organisms, or users of the aquatic environment, and includes but is not limited to the substances on the 307(a)(1) list of toxic pollutants promulgated on January 31, 1978 (43 FR 4109).

(f)—(g) [Reserved]

(h) The term "discharge point" means the point within the disposal

site at which the dredged or fill material is released.

(i) The term "disposal site" means that portion of the "waters of the United States" where specific disposal activities are permitted and consist of a bottom surface area and any overlying volume of water. In the case of wetlands on which surface water is not present, the disposal site consists of the wetland surface area.

(j) [Reserved]

(k) The term "extraction site" means the place from which the dredged or fill material proposed for discharge is to be removed.

(l) [Reserved]

(m) The term "mixing zone" means a limited volume of water serving as a zone of initial dilution in the immediate vicinity of a discharge point where receiving water quality may not meet quality standards or other requirements otherwise applicable to the receiving water. The mixing zone should be considered as a place where wastes and water mix and not as a place where effluents are treated.

(n) The term "permitting authority" means the District Engineer of the U.S. Army Corps of Engineers or such other individual as may be designated by the Secretary of the Army to issue or deny permits under section 404 of the Act; or the State Director of a permit program approved by EPA under section 404(g) and section 404(h) or his delegated representative.

(o) The term "pollutant" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials not covered by the Atomic Energy Act, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. The legislative history of the Act reflects that "radioactive materials" as included within the definition of "pollutant" in section 502 of the Act means only radioactive materials which are not encompassed in the definition of source, byproduct, or special nuclear materials as defined by the Atomic Energy Act of 1954, as amended, and regulated under the Atomic Energy Act. Examples of radioactive materials not cov-

ered by the Atomic Energy Act and, therefore, included within the term "pollutant", are radium and accelerator produced isotopes. See *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1 (1976).

(p) The term "pollution" means the man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of an aquatic ecosystem.

(q) The term "practicable" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

(q-1) "Special aquatic sites" means those sites identified in Subpart E. They are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. (See § 230.10(a)(3))

(r) The term "territorial sea" means the belt of the sea measured from the baseline as determined in accordance with the Convention on the Territorial Sea and the Contiguous Zone and extending seaward a distance of three miles.

(s) The term "waters of the United States" means:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(iii) Which are used or could be used for industrial purposes by industries in interstate commerce;

(4) All impoundments of waters otherwise defined as waters of the United States under this definition;

(5) Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;

(6) The territorial sea;

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

(t) The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

§ 230.4 Organization.

The Guidelines are divided into eight subparts. Subpart A presents those provisions of general applicability, such as purpose and definitions. Subpart B establishes the four conditions which must be satisfied in order to make a finding that a proposed discharge of dredged or fill material complies with the Guidelines. Section 230.11 of Subpart B, sets forth factual determinations which are to be considered in determining whether or not a proposed discharge satisfies the Subpart B conditions of compliance. Subpart C describes the physical and chemical components of a site and provides guidance as to how proposed discharges of dredged or fill material may affect these components. Subparts D through F detail the special characteristics of particular aquatic ecosystems in terms of their values.

and the possible loss of these values due to discharges of dredged or fill material. Subpart G prescribes a number of physical, chemical, and biological evaluations and testing procedures to be used in reaching the required factual determinations. Subpart H details the means to prevent or minimize adverse effects. Subpart I concerns advanced identification of disposal areas.

**§ 230.5 General procedures to be followed.**

In evaluating whether a particular discharge site may be specified, the permitting authority should use these Guidelines in the following sequence:

(a) In order to obtain an overview of the principal regulatory provisions of the Guidelines, review the restrictions on discharge in § 230.10(a) through (d), the measures to minimize adverse impact of Subpart H, and the required factual determinations of § 230.11.

(b) Determine if a General permit (§ 230.7) is applicable; if so, the applicant needs merely to comply with its terms, and no further action by the permitting authority is necessary. Special conditions for evaluation of proposed General permits are contained in § 230.7. If the discharge is not covered by a General permit:

(c) Examine practicable alternatives to the proposed discharge, that is, not discharging into the waters of the U.S. or discharging into an alternative aquatic site with potentially less damaging consequences (§ 230.10(a)).

(d) Delineate the candidate disposal site consistent with the criteria and evaluations of § 230.11(f).

(e) Evaluate the various physical and chemical components which characterize the non-living environment of the candidate site, the substrate and the water including its dynamic characteristics (Subpart C).

(f) Identify and evaluate any special or critical characteristics of the candidate disposal site, and surrounding areas which might be affected by use of such site, related to their living communities or human uses (Subparts D, E, and F).

(g) Review Factual Determinations in § 230.11 to determine whether the information in the project file is sufficient to provide the documentation re-

quired by § 230.11 or to perform the pre-testing evaluation described in § 230.60, or other information is necessary.

(h) Evaluate the material to be discharged to determine the possibility of chemical contamination or physical incompatibility of the material to be discharged (§ 230.60).

(i) If there is a reasonable probability of chemical contamination, conduct the appropriate tests according to the section on Evaluation and Testing (§ 230.61).

(j) Identify appropriate and practicable changes to the project plan to minimize the environmental impact of the discharge, based upon the specialized methods of minimization of impacts in Subpart H.

(k) Make and document Factual Determinations in § 230.11.

(l) Make and document Findings of Compliance (§ 230.12) by comparing Factual Determinations with the requirements for discharge of § 230.10.

This outline of the steps to follow in using the Guidelines is simplified for purposes of illustration. The actual process followed may be iterative, with the results of one step leading to a re-examination of previous steps. The permitting authority must address all of the relevant provisions of the Guidelines in reaching a Finding of Compliance in an individual case.

**§ 230.6 Adaptability.**

(a) The manner in which these Guidelines are used depends on the physical, biological, and chemical nature of the proposed extraction site, the material to be discharged, and the candidate disposal site, including any other important components of the ecosystem being evaluated. Documentation to demonstrate knowledge about the extraction site, materials to be extracted, and the candidate disposal site is an essential component of guideline application. These Guidelines allow evaluation and documentation for a variety of activities, ranging from those with large, complex impacts on the aquatic environment to those for which the impact is likely to be innocuous. It is unlikely that the Guidelines will apply in their entirety

to any one activity, no matter how complex. It is anticipated that substantial numbers of permit applications will be for minor, routine activities that have little, if any, potential for significant degradation of the aquatic environment. It generally is not intended or expected that extensive testing, evaluation or analysis will be needed to make findings of compliance in such routine cases. Where the conditions for General permits are met, and where numerous applications for similar activities are likely, the use of General permits will eliminate repetitive evaluation and documentation for individual discharges.

(b) The Guidelines user, including the agency or agencies responsible for implementing the Guidelines, must recognize the different levels of effort that should be associated with varying degrees of impact and require or prepare commensurate documentation. The level of documentation should reflect the significance and complexity of the discharge activity.

(c) An essential part of the evaluation process involves making determinations as to the relevance of any portion(s) of the Guidelines and conducting further evaluation only as needed. However, where portions of the Guidelines review procedure are "short form" evaluations, there still must be sufficient information (including consideration of both individual and cumulative impacts) to support the decision of whether to specify the site for disposal of dredged or fill material and to support the decision to curtail or abbreviate the evaluation process. The presumption against the discharge in § 230.1 applies to this decision-making.

(d) In the case of activities covered by General permits or section 208(b)(4)(B) and (C) Best Management Practices, the analysis and documentation required by the Guidelines will be performed at the time of General permit issuance or section 208(b)(4)(B) and (C) Best Management Practices promulgation and will not be repeated when activities are conducted under a General permit or section 208(b)(4)(B) and (C) Best Management Practices control. These Guidelines do not require reporting or

formal written communication at the time individual activities are initiated under a General permit or section 208(b)(4)(B) and (C) Best Management Practices. However, a particular General permit may require appropriate reporting.

#### § 230.7 General permits.

(a) *Conditions for the issuance of General permits.* A General permit for a category of activities involving the discharge of dredged or fill material complies with the Guidelines if it meets the applicable restrictions on the discharge in § 230.10 and if the permitting authority determines that:

(1) The activities in such category are similar in nature and similar in their impact upon water quality and the aquatic environment;

(2) The activities in such category will have only minimal adverse effects when performed separately; and

(3) The activities in such category will have only minimal cumulative adverse effects on water quality and the aquatic environment.

(b) *Evaluation process.* To reach the determinations required in paragraph (a) of this section, the permitting authority shall set forth in writing an evaluation of the potential individual and cumulative impacts of the category of activities to be regulated under the General permit. While some of the information necessary for this evaluation can be obtained from potential permittees and others through the proposal of General permits for public review, the evaluation must be completed before any General permit is issued, and the results must be published with the final permit.

(1) This evaluation shall be based upon consideration of the prohibitions listed in § 230.10(b) and the factors listed in § 230.10(c), and shall include documented information supporting each factual determination in § 230.11 of the Guidelines (consideration of alternatives in § 230.10(a) are not directly applicable to General permits);

(2) The evaluation shall include a precise description of the activities to be permitted under the General permit, explaining why they are sufficiently similar in nature and in envi-

ronmental impact to warrant regulation under a single General permit based on Subparts C through F of the Guidelines. Allowable differences between activities which will be regulated under the same General permit shall be specified. Activities otherwise similar in nature may differ in environmental impact due to their location in or near ecologically sensitive areas, areas with unique chemical or physical characteristics, areas containing concentrations of toxic substances, or areas regulated for specific human uses or by specific land or water management plans (e.g., areas regulated under an approved Coastal Zone Management Plan). If there are specific geographic areas within the purview of a proposed General permit (called a draft General permit under a State 404 program), which are more appropriately regulated by individual permit due to the considerations cited in this paragraph, they shall be clearly delineated in the evaluation and excluded from the permit. In addition, the permitting authority may require an individual permit for any proposed activity under a General permit where the nature or location of the activity makes an individual permit more appropriate.

(3) To predict cumulative effects, the evaluation shall include the number of individual discharge activities likely to be regulated under a General permit until its expiration, including repetitions of individual discharge activities at a single location.

#### Subpart B—Compliance With the Guidelines

##### § 230.10 Restrictions on discharge.

**NOTE:** Because other laws may apply to particular discharges and because the Corps of Engineers or State 404 agency may have additional procedural and substantive requirements, a discharge complying with the requirement of these Guidelines will not automatically receive a permit.

Although all requirements in § 230.10 must be met, the compliance evaluation procedures will vary to reflect the seriousness of the potential for adverse impacts on the aquatic ecosystems posed by specific dredged or fill material discharge activities.

(a) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

(1) For the purpose of this requirement, practicable alternatives include, but are not limited to:

(i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters;

(ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters;

(2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

(3) Where the activity associated with a discharge which is proposed for a special aquatic site (as defined in Subpart E) does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

(4) For actions subject to NEPA, where the Corps of Engineers is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines. On occasion,

these NEPA documents may address a broader range of alternatives than required to be considered under this paragraph or may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines. In the latter case, it may be necessary to supplement these NEPA documents with this additional information.

(5) To the extent that practicable alternatives have been identified and evaluated under a Coastal Zone Management program, a section 208 program, or other planning process, such evaluation shall be considered by the permitting authority as part of the consideration of alternatives under the Guidelines. Where such evaluation is less complete than that contemplated under this subsection, it must be supplemented accordingly.

(b) No discharge of dredged or fill material shall be permitted if it:

(1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard;

(2) Violates any applicable toxic effluent standard or prohibition under section 307 of the Act;

(3) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended. If an exemption has been granted by the Endangered Species Committee, the terms of such exemption shall apply in lieu of this subparagraph;

(4) Violates any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972.

(c) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Findings of significant degradation related to the proposed

discharge shall be based upon appropriate factual determinations, evaluations, and tests required by Subparts B and G, after consideration of Subparts C through F, with special emphasis on the persistence and permanence of the effects outlined in those subparts. Under these Guidelines, effects contributing to significant degradation considered individually or collectively, include:

(1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.

(2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their by-products outside of the disposal site through biological, physical, and chemical processes;

(3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or

(4) Significantly adverse effects of discharge of pollutants on recreational, aesthetic, and economic values.

(d) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H identifies such possible steps.

§ 230.11 Factual determinations.

The permitting authority shall determine in writing the potential short-term or long-term effects of a proposed discharge of dredged or fill material on the physical, chemical, and biological components of the aquatic environment in light of Subparts C through F. Such factual determinations shall be used in § 230.12 in making findings of compliance or non-

compliance with the restrictions on discharge in § 230.10. The evaluation and testing procedures described in § 230.60 and § 230.61 of Subpart G shall be used as necessary to make, and shall be described in, such determination. The determinations of effects of each proposed discharge shall include the following:

(a) *Physical substrate determinations.* Determine the nature and degree of effect that the proposed discharge will have, individually and cumulatively, on the characteristics of the substrate at the proposed disposal site. Consideration shall be given to the similarity in particle size, shape, and degree of compaction of the material proposed for discharge and the material constituting the substrate at the disposal site, and any potential changes in substrate elevation and bottom contours, including changes outside of the disposal site which may occur as a result of erosion, slumpage, or other movement of the discharged material. The duration and physical extent of substrate changes shall also be considered. The possible loss of environmental values (§ 230.20) and actions to minimize impact (Subpart H) shall also be considered in making these determinations. Potential changes in substrate elevation and bottom contours shall be predicted on the basis of the proposed method, volume, location, and rate of discharge, as well as on the individual and combined effects of current patterns, water circulation, wind and wave action, and other physical factors that may affect the movement of the discharged material.

(b) *Water circulation, fluctuation, and salinity determinations.* Determine the nature and degree of effect that the proposed discharge will have individually and cumulatively on water, current patterns, circulation including downstream flows, and normal water fluctuation. Consideration shall be given to water chemistry, salinity, clarity, color, odor, taste, dissolved gas levels, temperature, nutrients, and eutrophication plus other appropriate characteristics. Consideration shall also be given to the potential diversion or obstruction of flow, alterations of bottom contours, or other significant

changes in the hydrologic regime. Additional consideration of the possible loss of environmental values (§§ 230.23 through 230.25) and actions to minimize impacts (Subpart H), shall be used in making these determinations. Potential significant effects on the current patterns, water circulation, normal water fluctuation and salinity shall be evaluated on the basis of the proposed method, volume, location, and rate of discharge.

(c) *Suspended particulate/turbidity determinations.* Determine the nature and degree of effect that the proposed discharge will have, individually and cumulatively, in terms of potential changes in the kinds and concentrations of suspended particulate/turbidity in the vicinity of the disposal site. Consideration shall be given to the grain size of the material proposed for discharge, the shape and size of the plume of suspended particulates, the duration of the discharge and resulting plume and whether or not the potential changes will cause violations of applicable water quality standards. Consideration should also be given to the possible loss of environmental values (§ 230.21) and to actions for minimizing impacts (Subpart H). Consideration shall include the proposed method, volume, location, and rate of discharge, as well as the individual and combined effects of current patterns, water circulation and fluctuations, wind and wave action, and other physical factors on the movement of suspended particulates.

(d) *Contaminant determinations.* Determine the degree to which the material proposed for discharge will introduce, relocate, or increase contaminants. This determination shall consider the material to be discharged, the aquatic environment at the proposed disposal site, and the availability of contaminants.

(e) *Aquatic ecosystem and organism determinations.* Determine the nature and degree of effect that the proposed discharge will have, both individually and cumulatively, on the structure and function of the aquatic ecosystem and organisms. Consideration shall be given to the effect at the proposed disposal site of potential changes in substrate characteristics and elevation,

water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity, on the recolonization and existence of indigenous aquatic organisms or communities. Possible loss of environmental values (§ 230.31), and actions to minimize impacts (Subpart H) shall be examined. Tests as described in § 230.61 (Evaluation and Testing), may be required to provide information on the effect of the discharge material on communities or populations of organisms expected to be exposed to it.

(f) *Proposed disposal site determinations.* (1) Each disposal site shall be specified through the application of these Guidelines. The mixing zone shall be confined to the smallest practicable zone within each specified disposal site that is consistent with the type of dispersion determined to be appropriate by the application of these Guidelines. In a few special cases under unique environmental conditions, where there is adequate justification to show that widespread dispersion by natural means will result in no significantly adverse environmental effects, the discharged material may be intended to be spread naturally in a very thin layer over a large area of the substrate rather than be contained within the disposal site.

(2) The permitting authority and the Regional Administrator shall consider the following factors in determining the acceptability of a proposed mixing zone:

- (i) Depth of water at the disposal site;
- (ii) Current velocity, direction, and variability at the disposal site;
- (iii) Degree of turbulence;
- (iv) Stratification attributable to causes such as obstructions, salinity or density profiles at the disposal site;
- (v) Discharge vessel speed and direction, if appropriate;
- (vi) Rate of discharge;
- (vii) Ambient concentration of constituents of interest;
- (viii) Dredged material characteristics, particularly concentrations of constituents, amount of material, type of material (sand, silt, clay, etc.) and settling velocities;
- (ix) Number of discharge actions per unit of time;

(x) Other factors of the disposal site that affect the rates and patterns of mixing.

(g) *Determination of cumulative effects on the aquatic ecosystem.* (1) Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems.

(2) Cumulative effects attributable to the discharge of dredged or fill material in waters of the United States should be predicted to the extent reasonable and practical. The permitting authority shall collect information and solicit information from other sources about the cumulative impacts on the aquatic ecosystem. This information shall be documented and considered during the decision-making process concerning the evaluation of individual permit applications, the issuance of a General permit, and monitoring and enforcement of existing permits.

(h) *Determination of secondary effects on the aquatic ecosystem.* (1) Secondary effects are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities.

(2) Some examples of secondary effects on an aquatic ecosystem are fluctuating water levels in an impoundment and downstream associated with the operation of a dam, septic tank leaching and surface runoff from residential or commercial developments on fill, and leachate and runoff from a sanitary landfill located in waters of the U.S. Activities to be conducted on fast land created by the discharge of dredged or fill material in waters of the United States may have secondary

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impacts within those waters which should be considered in evaluating the impact of creating those fast lands.

§ 230.12 Findings of compliance or non-compliance with the restrictions on discharge.

(a) On the basis of these Guidelines (Subparts C through G) the proposed disposal sites for the discharge of dredged or fill material must be:

(1) Specified as complying with the requirements of these Guidelines; or

(2) Specified as complying with the requirements of these Guidelines with the inclusion of appropriate and practicable discharge conditions (see Subpart H) to minimize pollution or adverse effects to the affected aquatic ecosystems; or

(3) Specified as failing to comply with the requirements of these Guidelines where:

(i) There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem, so long as such alternative does not have other significant adverse environmental consequences; or

(ii) The proposed discharge will result in significant degradation of the aquatic ecosystem under § 230.10(b) or (c); or

(iii) The proposed discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem; or

(iv) There does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines.

(b) Findings under this section shall be set forth in writing by the permitting authority for each proposed discharge and made available to the permit applicant. These findings shall include the factual determinations required by § 230.11, and a brief explanation of any adaptation of these Guidelines to the activity under consideration. In the case of a General permit, such findings shall be prepared at the time of issuance of that permit rather than for each subsequent discharge under the authority of that permit.

## Subpart C—Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem

NOTE: The effects described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in Subpart B.

### § 230.20 Substrate.

(a) The substrate of the aquatic ecosystem underlies open waters of the United States and constitutes the surface of wetlands. It consists of organic and inorganic solid materials and includes water and other liquids or gases that fill the spaces between solid particles.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can result in varying degrees of change in the complex physical, chemical, and biological characteristics of the substrate. Discharges which alter substrate elevation or contours can result in changes in water circulation, depth, current pattern, water fluctuation and water temperature. Discharges may adversely affect bottom-dwelling organisms at the site by smothering immobile forms or forcing mobile forms to migrate. Benthic forms present prior to a discharge are unlikely to recolonize on the discharged material if it is very dissimilar from that of the discharge site. Erosion, slumping, or lateral displacement of surrounding bottom of such deposits can adversely affect areas of the substrate outside the perimeters of the disposal site by changing or destroying habitat. The bulk and composition of the discharged material and the location, method, and timing of discharges may all influence the degree of impact on the substrate.

### § 230.21 Suspended particulates/turbidity.

(a) Suspended particulates in the aquatic ecosystem consist of fine-grained mineral particles, usually smaller than silt, and organic particles. Suspended particulates may enter water bodies as a result of land runoff, flooding, vegetative and planktonic breakdown, resuspension of bottom sediments, and man's activities includ-

ing dredging and filling. Particulates may remain suspended in the water column for variable periods of time as a result of such factors as agitation of the water mass, particulate specific gravity, particle shape, and physical and chemical properties of particle surfaces.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can result in greatly elevated levels of suspended particulates in the water column for varying lengths of time. These new levels may reduce light penetration and lower the rate of photosynthesis and the primary productivity of an aquatic area if they last long enough. Sight-dependent species may suffer reduced feeding ability leading to limited growth and lowered resistance to disease if high levels of suspended particulates persist. The biological and the chemical content of the suspended material may react with the dissolved oxygen in the water, which can result in oxygen depletion. Toxic metals and organics, pathogens, and viruses absorbed or adsorbed to fine-grained particulates in the material may become biologically available to organisms either in the water column or on the substrate. Significant increases in suspended particulate levels create turbid plumes which are highly visible and aesthetically displeasing. The extent and persistence of these adverse impacts caused by discharges depend upon the relative increase in suspended particulates above the amount occurring naturally, the duration of the higher levels, the current patterns, water level, and fluctuations present when such discharges occur, the volume, rate, and duration of the discharge, particulate deposition, and the seasonal timing of the discharge.

§ 230.22 Water.

(a) Water is the part of the aquatic ecosystem in which organic and inorganic constituents are dissolved and suspended. It constitutes part of the liquid phase and is contained by the substrate. Water forms part of a dynamic aquatic life-supporting system. Water clarity, nutrients and chemical content, physical and biological con-

tent, dissolved gas levels, pH, and temperature contribute to its life-sustaining capabilities.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can change the chemistry and the physical characteristics of the receiving water at a disposal site through the introduction of chemical constituents in suspended or dissolved form. Changes in the clarity, color, odor, and taste of water and the addition of contaminants can reduce or eliminate the suitability of water bodies for populations of aquatic organisms, and for human consumption, recreation, and aesthetics. The introduction of nutrients or organic material to the water column as a result of the discharge can lead to a high biochemical oxygen demand (BOD), which in turn can lead to reduced dissolved oxygen, thereby potentially affecting the survival of many aquatic organisms. Increases in nutrients can favor one group of organisms such as algae to the detriment of other more desirable types such as submerged aquatic vegetation, potentially causing adverse health effects, objectionable tastes and odors, and other problems.

§ 230.23 Current patterns and water circulation.

(a) Current patterns and water circulation are the physical movements of water in the aquatic ecosystem. Currents and circulation respond to natural forces as modified by basin shape and cover, physical and chemical characteristics of water strata and masses, and energy dissipating factors.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can modify current patterns and water circulation by obstructing flow, changing the direction or velocity of water flow, changing the direction or velocity of water flow and circulation, or otherwise changing the dimensions of a water body. As a result, adverse changes can occur in: Location, structure, and dynamics of aquatic communities; shoreline and substrate erosion and deposition rates; the deposition of suspended particulates; the rate and

extent of mixing of dissolved and suspended components of the water body; and water stratification.

§ 230.24 Normal water fluctuations.

(a) Normal water fluctuations in a natural aquatic system consist of daily, seasonal, and annual tidal and flood fluctuations in water level. Biological and physical components of such a system are either attuned to or characterized by these periodic water fluctuations.

(b) Possible loss of environmental characteristics and values: The discharge of dredged or fill material can alter the normal water-level fluctuation pattern of an area, resulting in prolonged periods of inundation, exaggerated extremes of high and low water, or a static, nonfluctuating water level. Such water level modifications may change salinity patterns, alter erosion or sedimentation rates, aggravate water temperature extremes, and upset the nutrient and dissolved oxygen balance of the aquatic ecosystem. In addition, these modifications can alter or destroy communities and populations of aquatic animals and vegetation, induce populations of nuisance organisms, modify habitat, reduce food supplies, restrict movement of aquatic fauna, destroy spawning areas, and change adjacent, upstream, and downstream areas.

§ 230.25 Salinity gradients.

(a) Salinity gradients form where salt water from the ocean meets and mixes with fresh water from land.

(b) Possible loss of environmental characteristics and values: Obstructions which divert or restrict flow of either fresh or salt water may change existing salinity gradients. For example, partial blocking of the entrance to an estuary or river mouth that significantly restricts the movement of the salt water into and out of that area can effectively lower the volume of salt water available for mixing within that estuary. The downstream migration of the salinity gradient can occur, displacing the maximum sedimentation zone and requiring salinity-dependent aquatic biota to adjust to the new conditions, move to new locations if possible, or perish. In the freshwa-

ter zone, discharge operations in the upstream regions can have equally adverse impacts. A significant reduction in the volume of fresh water moving into an estuary below that which is considered normal can affect the location and type of mixing thereby changing the characteristic salinity patterns. The resulting changed circulation pattern can cause the upstream migration of the salinity gradient displacing the maximum sedimentation zone. This migration may affect those organisms that are adapted to freshwater environments. It may also affect municipal water supplies.

NOTE: Possible actions to minimize adverse impacts regarding site characteristics can be found in Subpart H.

Subpart D—Potential Impacts on Biological Characteristics of the Aquatic Ecosystem

NOTE: The impacts described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in Subpart B.

§ 230.30 Threatened and endangered species.

(a) An endangered species is a plant or animal in danger of extinction throughout all or a significant portion of its range. A threatened species is one in danger of becoming an endangered species in the foreseeable future throughout all or a significant portion of its range. Listings of threatened and endangered species as well as critical habitats are maintained by some individual States and by the U.S. Fish and Wildlife Service of the Department of the Interior (codified annually at 50 CFR 17.11). The Department of Commerce has authority over some threatened and endangered marine mammals, fish and reptiles.

(b) Possible loss of values: The major potential impacts on threatened or endangered species from the discharge of dredged or fill material include:

(1) Covering or otherwise directly killing species;

(2) The impairment or destruction of habitat to which these species are limited. Elements of the aquatic habitat which are particularly crucial to the

continued survival of some threatened or endangered species include adequate good quality water, spawning and maturation areas, nesting areas, protective cover, adequate and reliable food supply, and resting areas for migratory species. Each of these elements can be adversely affected by changes in either the normal water conditions for clarity, chemical content, nutrient balance, dissolved oxygen, pH, temperature, salinity, current patterns, circulation and fluctuation, or the physical removal of habitat; and

(3) Facilitating incompatible activities.

(c) Where consultation with the Secretary of the Interior occurs under section 7 of the Endangered Species Act, the conclusions of the Secretary concerning the impact(s) of the discharge on threatened and endangered species and their habitat shall be considered final.

§ 230.31 Fish, crustaceans, mollusks, and other aquatic organisms in the food web.

(a) Aquatic organisms in the food web include, but are not limited to, finfish, crustaceans, mollusks, insects, annelids, planktonic organisms, and the plants and animals on which they feed and depend upon for their needs. All forms and life stages of an organism, throughout its geographic range, are included in this category.

(b) Possible loss of values: The discharge of dredged or fill material can variously affect populations of fish, crustaceans, mollusks and other food web organisms through the release of contaminants which adversely affect adults, juveniles, larvae, or eggs, or result in the establishment or proliferation of an undesirable competitive species of plant or animal at the expense of the desired resident species. Suspended particulates settling on attached or buried eggs can smother the eggs by limiting or sealing off their exposure to oxygenated water. Discharge of dredged and fill material may result in the debilitation or death of sedentary organisms by smothering, exposure to chemical contaminants in dissolved or suspended form, exposure to high levels of suspended particulates,

reduction in food supply, or alteration of the substrate upon which they are dependent. Mollusks are particularly sensitive to the discharge of material during periods of reproduction and growth and development due primarily to their limited mobility. They can be rendered unfit for human consumption by tainting, by production and accumulation of toxins, or by ingestion and retention of pathogenic organisms, viruses, heavy metals or persistent synthetic organic chemicals. The discharge of dredged or fill material can redirect, delay, or stop the reproductive and feeding movements of some species of fish and crustacea, thus preventing their aggregation in accustomed places such as spawning or nursery grounds and potentially leading to reduced populations. Reduction of detrital feeding species or other representatives of lower trophic levels can impair the flow of energy from primary consumers to higher trophic levels. The reduction or potential elimination of food chain organism populations decreases the overall productivity and nutrient export capability of the ecosystem.

§ 230.32 Other wildlife.

(a) Wildlife associated with aquatic ecosystems are resident and transient mammals, birds, reptiles, and amphibians.

(b) Possible loss of values: The discharge of dredged or fill material can result in the loss or change of breeding and nesting areas, escape cover, travel corridors, and preferred food sources for resident and transient wildlife species associated with the aquatic ecosystem. These adverse impacts upon wildlife habitat may result from changes in water levels, water flow and circulation, salinity, chemical content, and substrate characteristics and elevation. Increased water turbidity can adversely affect wildlife species which rely upon sight to feed, and disrupt the respiration and feeding of certain aquatic wildlife and food chain organisms. The availability of contaminants from the discharge of dredged or fill material may lead to the bioaccumulation of such contaminants in wildlife. Changes in such

physical and chemical factors of the environment may favor the introduction of undesirable plant and animal species at the expense of resident species and communities. In some aquatic environments lowering plant and animal species diversity may disrupt the normal functions of the ecosystem and lead to reductions in overall biological productivity.

NOTE: Possible actions to minimize adverse impacts regarding characteristics of biological components of the aquatic ecosystem can be found in Subpart H.

**Subpart E—Potential Impacts on Special Aquatic Sites**

NOTE: The impacts described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in Subpart B. The definition of special aquatic sites is found in § 230.3(q-1).

**§ 230.40 Sanctuaries and refuges.**

(a) Sanctuaries and refuges consist of areas designated under State and Federal laws or local ordinances to be managed principally for the preservation and use of fish and wildlife resources.

(b) Possible loss of values: Sanctuaries and refuges may be affected by discharges of dredged or fill material which will:

(1) Disrupt the breeding, spawning, migratory movements or other critical life requirements of resident or transient fish and wildlife resources;

(2) Create unplanned, easy and incompatible human access to remote aquatic areas;

(3) Create the need for frequent maintenance activity;

(4) Result in the establishment of undesirable competitive species of plants and animals;

(5) Change the balance of water and land areas needed to provide cover, food, and other fish and wildlife habitat requirements in a way that modifies sanctuary or refuge management practices;

(6) Result in any of the other adverse impacts discussed in Subparts C and D as they relate to a particular sanctuary or refuge.

**§ 230.41 Wetlands.**

(a)(1) Wetlands consist of areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

(2) Where wetlands are adjacent to open water, they generally constitute the transition to upland. The margin between wetland and open water can best be established by specialists familiar with the local environment, particularly where emergent vegetation merges with submerged vegetation over a broad area in such places as the lateral margins of open water, headwaters, rainwater catch basins, and groundwater seeps. The landward margin of wetlands also can best be identified by specialists familiar with the local environment when vegetation from the two regions merges over a broad area.

(3) Wetland vegetation consists of plants that require saturated soils to survive (obligate wetland plants) as well as plants, including certain trees, that gain a competitive advantage over others because they can tolerate prolonged wet soil conditions and their competitors cannot. In addition to plant populations and communities, wetlands are delimited by hydrological and physical characteristics of the environment. These characteristics should be considered when information about them is needed to supplement information available about vegetation, or where wetland vegetation has been removed or is dormant.

(b) Possible loss of values: The discharge of dredged or fill material in wetlands is likely to damage or destroy habitat and adversely affect the biological productivity of wetlands ecosystems by smothering, by dewatering, by permanently flooding, or by altering substrate elevation or periodicity of water movement. The addition of dredged or fill material may destroy wetland vegetation or result in advancement of succession to dry land species. It may reduce or eliminate nutrient exchange by a reduction of the system's productivity, or by altering

current patterns and velocities. Disruption or elimination of the wetland system can degrade water quality by obstructing circulation patterns that flush large expanses of wetland systems, by interfering with the filtration function of wetlands, or by changing the aquifer recharge capability of a wetland. Discharges can also change the wetland habitat value for fish and wildlife as discussed in Subpart D. When disruptions in flow and circulation patterns occur, apparently minor loss of wetland acreage may result in major losses through secondary impacts. Discharging fill material in wetlands as part of municipal, industrial or recreational development may modify the capacity of wetlands to retain and store floodwaters and to serve as a buffer zone shielding upland areas from wave actions, storm damage and erosion.

§ 230.42 Mud flats.

(a) Mud flats are broad flat areas along the sea coast and in coastal rivers to the head of tidal influence and in inland lakes, ponds, and riverine systems. When mud flats are inundated, wind and wave action may resuspend bottom sediments. Coastal mud flats are exposed at extremely low tides and inundated at high tides with the water table at or near the surface of the substrate. The substrate of mud flats contains organic material and particles smaller in size than sand. They are either unvegetated or vegetated only by algal mats.

(b) Possible loss of values: The discharge of dredged or fill material can cause changes in water circulation patterns which may permanently flood or dewater the mud flat or disrupt periodic inundation, resulting in an increase in the rate of erosion or accretion. Such changes can deplete or eliminate mud flat biota, foraging areas, and nursery areas. Changes in inundation patterns can affect the chemical and biological exchange and decomposition process occurring on the mud flat and change the deposition of suspended material affecting the productivity of the area. Changes may reduce the mud flat's capacity to dissipate storm surge runoff.

§ 230.43 Vegetated shallows.

(a) Vegetated shallows are permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as turtle grass and eelgrass in estuarine or marine systems as well as a number of freshwater species in rivers and lakes.

(b) Possible loss of values: The discharge of dredged or fill material can smother vegetation and benthic organisms. It may also create unsuitable conditions for their continued vigor by: (1) Changing water circulation patterns; (2) releasing nutrients that increase undesirable algal populations; (3) releasing chemicals that adversely affect plants and animals; (4) increasing turbidity levels, thereby reducing light penetration and hence photosynthesis; and (5) changing the capacity of a vegetated shallow to stabilize bottom materials and decrease channel shoaling. The discharge of dredged or fill material may reduce the value of vegetated shallows as nesting, spawning, nursery, cover, and forage areas, as well as their value in protecting shorelines from erosion and wave actions. It may also encourage the growth of nuisance vegetation.

§ 230.44 Coral reefs.

(a) Coral reefs consist of the skeletal deposit, usually of calcareous or siliceous materials, produced by the vital activities of anthozoan polyps or other invertebrate organisms present in growing portions of the reef.

(b) Possible loss of values: The discharge of dredged or fill material can adversely affect colonies of reef building organisms by burying them, by releasing contaminants such as hydrocarbons into the water column, by reducing light penetration through the water, and by increasing the level of suspended particulates. Coral organisms are extremely sensitive to even slight reductions in light penetration or increases in suspended particulates. These adverse effects will cause a loss of productive colonies which in turn provide habitat for many species of highly specialized aquatic organisms.

**§ 230.45 Riffle and pool complexes.**

(a) Steep gradient sections of streams are sometimes characterized by riffle and pool complexes. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a steaming flow, a smooth surface, and a finer substrate. Riffle and pool complexes are particularly valuable habitat for fish and wildlife.

(b) Possible loss of values: Discharge of dredged or fill material can eliminate riffle and pool areas by displacement, hydrologic modification, or sedimentation. Activities which affect riffle and pool areas and especially riffle/pool ratios, may reduce the aeration and filtration capabilities at the discharge site and downstream, may reduce stream habitat diversity, and may retard repopulation of the disposal site and downstream waters through sedimentation and the creation of unsuitable habitat. The discharge of dredged or fill material which alters stream hydrology may cause scouring or sedimentation of riffles and pools. Sedimentation induced through hydrological modification or as a direct result of the deposition of unconsolidated dredged or fill material may clog riffle and pool areas, destroy habitats, and create anaerobic conditions. Eliminating pools and meanders by the discharge of dredged or fill material can reduce water holding capacity of streams and cause rapid runoff from a watershed. Rapid runoff can deliver large quantities of flood water in a short time to downstream areas resulting in the destruction of natural habitat, high property loss, and the need for further hydraulic modification.

**NOTE:** Possible actions to minimize adverse impacts on site or material characteristics can be found in Subpart H.

**Subpart F—Potential Effects on Human Use Characteristics**

**NOTE:** The effects described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in Subpart B.

**§ 230.50 Municipal and private water supplies.**

(a) Municipal and private water supplies consist of surface water or ground water which is directed to the intake of a municipal or private water supply system.

(b) Possible loss of values: Discharges can affect the quality of water supplies with respect to color, taste, odor, chemical content and suspended particulate concentration, in such a way as to reduce the fitness of the water for consumption. Water can be rendered unpalatable or unhealthy by the addition of suspended particulates, viruses and pathogenic organisms, and dissolved materials. The expense of removing such substances before the water is delivered for consumption can be high. Discharges may also affect the quantity of water available for municipal and private water supplies. In addition, certain commonly used water treatment chemicals have the potential for combining with some suspended or dissolved substances from dredged or fill material to form other products that can have a toxic effect on consumers.

**§ 230.51 Recreational and commercial fisheries.**

(a) Recreational and commercial fisheries consist of harvestable fish, crustaceans, shellfish, and other aquatic organisms used by man.

(b) Possible loss of values: The discharge of dredged or fill materials can affect the suitability of recreational and commercial fishing grounds as habitat for populations of consumable aquatic organisms. Discharges can result in the chemical contamination of recreational or commercial fisheries. They may also interfere with the reproductive success of recreational and commercially important aquatic species through disruption of migration and spawning areas. The intro-



effects of contaminants can be made without testing. Dredged or fill material is most likely to be free from chemical, biological, or other pollutants where it is composed primarily of sand, gravel, or other naturally occurring inert material. Dredged material so composed is generally found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels. However, when such material is discolored or contains other indications that contaminants may be present, further inquiry should be made.

(b) The extraction site shall be examined in order to assess whether it is sufficiently removed from sources of pollution to provide reasonable assurance that the proposed discharge material is not a carrier of contaminants. Factors to be considered include but are not limited to:

(1) Potential routes of contaminants or contaminated sediments to the extraction site, based on hydrographic or other maps, aerial photography, or other materials that show water-courses, surface relief, proximity to tidal movement, private and public roads, location of buildings, municipal and industrial areas, and agricultural or forest lands.

(2) Pertinent results from tests previously carried out on the material at the extraction site, or carried out on similar material for other permitted projects in the vicinity. Materials shall be considered similar if the sources of contamination, the physical configuration of the sites and the sediment composition of the materials are comparable, in light of water circulation and stratification, sediment accumulation and general sediment characteristics. Tests from other sites may be relied on only if no changes have occurred at the extraction sites to render the results irrelevant.

(3) Any potential for significant introduction of persistent pesticides from land runoff or percolation;

(4) Any records of spills or disposal of petroleum products or substances designated as hazardous under section 311 of the Clean Water Act (See 40 CFR Part 116);

(5) Information in Federal, State and local records indicating significant introduction of pollutants from industries, municipalities, or other sources, including types and amounts of waste materials discharged along the potential routes of contaminants to the extraction site; and

(6) Any possibility of the presence of substantial natural deposits of minerals or other substances which could be released to the aquatic environment in harmful quantities by man-induced discharge activities.

(c) To reach the determinations in § 230.11 involving potential effects of the discharge on the characteristics of the disposal site, the narrative guidance in Subparts C through F shall be used along with the general evaluation procedure in § 230.60 and, if necessary, the chemical and biological testing sequence in § 230.61. Where the discharge site is adjacent to the extraction site and subject to the same sources of contaminants, and materials at the two sites are substantially similar, the fact that the material to be discharged may be a carrier of contaminants is not likely to result in degradation of the disposal site. In such circumstances, when dissolved material and suspended particulates can be controlled to prevent carrying pollutants to less contaminated areas, testing will not be required.

(d) Even if the § 230.60(b) evaluation (previous tests, the presence of polluting industries and information about their discharge or runoff into waters of the U.S., bioinventories, etc.) leads to the conclusion that there is a high probability that the material proposed for discharge is a carrier of contaminants, testing may not be necessary if constraints are available to reduce contamination to acceptable levels within the disposal site and to prevent contaminants from being transported beyond the boundaries of the disposal site, if such constraints are acceptable to the permitting authority and the Regional Administrator, and if the potential discharger is willing and able to implement such constraints. However, even if tests are not performed, the permitting authority must still determine the probable impact of the operation on the receiving aquatic ecosys-

tem. Any decision not to test must be explained in the determinations made under § 230.11.

**§ 230.61 Chemical, biological, and physical evaluation and testing.**

**NOTE:** The Agency is today proposing revised testing guidelines. The evaluation and testing procedures in this section are based on the 1975 section 404(b)(1) interim final Guidelines and shall remain in effect until the revised testing guidelines are published as final regulations.

(a) No single test or approach can be applied in all cases to evaluate the effects of proposed discharges of dredged or fill materials. This section provides some guidance in determining which test and/or evaluation procedures are appropriate in a given case. Interim guidance to applicants concerning the applicability of specific approaches or procedures will be furnished by the permitting authority.

(b) *Chemical-biological interactive effects.* The principal concerns of discharge of dredged or fill material that contain contaminants are the potential effects on the water column and on communities of aquatic organisms.

(1) *Evaluation of chemical-biological interactive effects.* Dredged or fill material may be excluded from the evaluation procedures specified in paragraphs (b) (2) and (3) of this section if it is determined, on the basis of the evaluation in § 230.60, that the likelihood of contamination by contaminants is acceptably low, unless the permitting authority, after evaluating and considering any comments received from the Regional Administrator, determines that these procedures are necessary. The Regional Administrator may require, on a case-by-case basis, testing approaches and procedures by stating what additional information is needed through further analyses and how the results of the analyses will be of value in evaluating potential environmental effects.

If the General Evaluation indicates the presence of a sufficiently large number of chemicals to render impractical the identification of all contaminants by chemical testing, information may be obtained from bioassays in lieu of chemical tests.

(2) *Water column effects.* (i) Sediments normally contain constituents that exist in various chemical forms and in various concentrations in several locations within the sediment. An elutriate test may be used to predict the effect on water quality due to release of contaminants from the sediment to the water column. However, in the case of fill material originating on land which may be a carrier of contaminants, a water leachate test is appropriate.

(ii) Major constituents to be analyzed in the elutriate are those deemed critical by the permitting authority, after evaluating and considering any comments received from the Regional Administrator, and considering results of the evaluation in § 230.60. Elutriate concentrations should be compared to concentrations of the same constituents in water from the disposal site. Results should be evaluated in light of the volume and rate of the intended discharge, the type of discharge, the hydrodynamic regime at the disposal site, and other information relevant to the impact on water quality. The permitting authority should consider the mixing zone in evaluating water column effects. The permitting authority may specify bioassays when such procedures will be of value.

(3) *Effects on benthos.* The permitting authority may use an appropriate benthic bioassay (including bioaccumulation tests) when such procedures will be of value in assessing ecological effects and in establishing discharge conditions.

(c) *Procedure for comparison of sites.*

(1) When an inventory of the total concentration of contaminants would be of value in comparing sediment at the dredging site with sediment at the disposal site, the permitting authority may require a sediment chemical analysis. Markedly different concentrations of contaminants between the excavation and disposal sites may aid in making an environmental assessment of the proposed disposal operation. Such differences should be interpreted in terms of the potential for harm as supported by any pertinent scientific literature.

(2) When an analysis of biological community structure will be of value to assess the potential for adverse environmental impact at the proposed disposal site, a comparison of the biological characteristics between the excavation and disposal sites may be required by the permitting authority. Biological indicator species may be useful in evaluating the existing degree of stress at both sites. Sensitive species representing community components colonizing various substrate types within the sites should be identified as possible bioassay organisms if tests for toxicity are required. Community structure studies should be performed only when they will be of value in determining discharge conditions. This is particularly applicable to large quantities of dredged material known to contain adverse quantities of toxic materials. Community studies should include benthic organisms such as microbiota and harvestable shellfish and finfish. Abundance, diversity, and distribution should be documented and correlated with substrate type and other appropriate physical and chemical environmental characteristics.

(d) Physical tests and evaluation. The effect of a discharge of dredged or fill material on physical substrate characteristics at the disposal site, as well as on the water circulation, fluctuation, salinity, and suspended particulates content there, is important in making factual determinations in § 230.11. Where information on such effects is not otherwise available to make these factual determinations, the permitting authority shall require appropriate physical tests and evaluations as are justified and deemed necessary. Such tests may include sieve tests, settleability tests, compaction tests, mixing zone and suspended particulate plume determinations, and site assessments of water flow, circulation, and salinity characteristics.

#### Subpart H—Actions To Minimize Adverse Effects

NOTE: There are many actions which can be undertaken in response to § 203.10(d) to minimize the adverse effects of discharges of dredged or fill material. Some of these,

grouped by type of activity, are listed in this subpart.

#### § 230.70 Actions concerning the location of the discharge.

The effects of the discharge can be minimized by the choice of the disposal site. Some of the ways to accomplish this are by:

(a) Locating and confining the discharge to minimize smothering of organisms;

(b) Designing the discharge to avoid a disruption of periodic water inundation patterns;

(c) Selecting a disposal site that has been used previously for dredged material discharge;

(d) Selecting a disposal site at which the substrate is composed of material similar to that being discharged, such as discharging sand on sand or mud on mud;

(e) Selecting the disposal site, the discharge point, and the method of discharge to minimize the extent of any plume;

(f) Designing the discharge of dredged or fill material to minimize or prevent the creation of standing bodies of water in areas of normally fluctuating water levels, and minimize or prevent the drainage of areas subject to such fluctuations.

#### § 230.71 Actions concerning the material to be discharged.

The effects of a discharge can be minimized by treatment of, or limitations on the material itself, such as:

(a) Disposal of dredged material in such a manner that physiochemical conditions are maintained and the potency and availability of pollutants are reduced.

(b) Limiting the solid, liquid, and gaseous components of material to be discharged at a particular site;

(c) Adding treatment substances to the discharge material;

(d) Utilizing chemical flocculants to enhance the deposition of suspended particulates in diked disposal areas.

**§ 230.72**

**§ 230.72 Actions controlling the material after discharge.**

The effects of the dredged or fill material after discharge may be controlled by:

(a) Selecting discharge methods and disposal sites where the potential for erosion, slumping or leaching of materials into the surrounding aquatic ecosystem will be reduced. These sites or methods include, but are not limited to:

(1) Using containment levees, sediment basins, and cover crops to reduce erosion;

(2) Using lined containment areas to reduce leaching where leaching of chemical constituents from the discharged material is expected to be a problem;

(b) Capping in-place contaminated material with clean material or selectively discharging the most contaminated material first to be capped with the remaining material;

(c) Maintaining and containing discharged material properly to prevent point and nonpoint sources of pollution;

(d) Timing the discharge to minimize impact, for instance during periods of unusual high water flows, wind, wave, and tidal actions.

**§ 230.73 Actions affecting the method of dispersion.**

The effects of a discharge can be minimized by the manner in which it is dispersed, such as:

(a) Where environmentally desirable, distributing the dredged material widely in a thin layer at the disposal site to maintain natural substrate contours and elevation;

(b) Orienting a dredged or fill material mound to minimize undesirable obstruction to the water current or circulation pattern, and utilizing natural bottom contours to minimize the size of the mound;

(c) Using silt screens or other appropriate methods to confine suspended particulate/turbidity to a small area where settling or removal can occur;

(d) Making use of currents and circulation patterns to mix, disperse and dilute the discharge;

(e) Minimizing water column turbidity by using a submerged diffuser

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system. A similar effect can be accomplished by submerging pipeline discharges or otherwise releasing materials near the bottom;

(f) Selecting sites or managing discharges to confine and minimize the release of suspended particulates to give decreased turbidity levels and to maintain light penetration for organisms;

(g) Setting limitations on the amount of material to be discharged per unit of time or volume of receiving water.

**§ 230.74 Actions related to technology.**

Discharge technology should be adapted to the needs of each site. In determining whether the discharge operation sufficiently minimizes adverse environmental impacts, the applicant should consider:

(a) Using appropriate equipment or machinery, including protective devices, and the use of such equipment or machinery in activities related to the discharge of dredged or fill material;

(b) Employing appropriate maintenance and operation on equipment or machinery, including adequate training, staffing, and working procedures;

(c) Using machinery and techniques that are especially designed to reduce damage to wetlands. This may include machines equipped with devices that scatter rather than mound excavated materials, machines with specially designed wheels or tracks, and the use of mats under heavy machines to reduce wetland surface compaction and rutting;

(d) Designing access roads and channel spanning structures using culverts, open channels, and diversions that will pass both low and high water flows, accommodate fluctuating water levels, and maintain circulation and faunal movement;

(e) Employing appropriate machinery and methods of transport of the material for discharge.

**§ 230.75 Actions affecting plant and animal populations.**

Minimization of adverse effects on populations of plants and animals can be achieved by:

(a) Avoiding changes in water current and circulation patterns which would interfere with the movement of animals;

(b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals;

(c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species;

(d) Using planning and construction practices to institute habitat development and restoration to produce a new or modified environmental state of higher ecological value by displacement of some or all of the existing environmental characteristics. Habitat development and restoration techniques can be used to minimize adverse impacts and to compensate for destroyed habitat. Use techniques that have been demonstrated to be effective in circumstances similar to those under consideration wherever possible. Where proposed development and restoration techniques have not yet advanced to the pilot demonstration stage, initiate their use on a small scale to allow corrective action if unanticipated adverse impacts occur;

(e) Timing discharge to avoid spawning or migration seasons and other biologically critical time periods;

(f) Avoiding the destruction of remnant natural sites within areas already affected by development.

**§ 230.76 Actions affecting human use.**

Minimization of adverse effects on human use potential may be achieved by:

(a) Selecting discharge sites and following discharge procedures to prevent or minimize any potential damage to the aesthetically pleasing features of the aquatic site (e.g. viewscapes), particularly with respect to water quality;

(b) Selecting disposal sites which are not valuable as natural aquatic areas;

(c) Timing the discharge to avoid the seasons or periods when human recreational activity associated with the aquatic site is most important;

(d) Following discharge procedures which avoid or minimize the disturbance of aesthetic features of an aquatic site or ecosystem;

(e) Selecting sites that will not be detrimental or increase incompatible human activity, or require the need for frequent dredge or fill maintenance activity in remote fish and wildlife areas;

(f) Locating the disposal site outside of the vicinity of a public water supply intake.

**§ 230.77 Other actions.**

(a) In the case of fills, controlling runoff and other discharges from activities to be conducted on the fill;

(b) In the case of dams, designing water releases to accommodate the needs of fish and wildlife;

(c) In dredging projects funded by Federal agencies other than the Corps of Engineers, maintain desired water quality of the return discharge through agreement with the Federal funding authority on scientifically defensible pollutant concentration levels in addition to any applicable water quality standards;

(d) When a significant ecological change in the aquatic environment is proposed by the discharge of dredged or fill material, the permitting authority should consider the ecosystem that will be lost as well as the environmental benefits of the new system.

**Subpart I—Planning To Shorten Permit Processing Time**

**§ 230.80 Advanced identification of disposal areas.**

(a) Consistent with these Guidelines, EPA and the permitting authority, on their own initiative or at the request of any other party and after consultation with any affected State that is not the permitting authority, may identify sites which will be considered as:

(1) Possible future disposal sites, including existing disposal sites and non-sensitive areas; or

(2) Areas generally unsuitable for disposal site specification;

(b) The identification of any area as a possible future disposal site should

not be deemed to constitute a permit for the discharge of dredged or fill material within such area or a specification of a disposal site. The identification of areas that generally will not be available for disposal site specification should not be deemed as prohibiting applications for permits to discharge dredged or fill material in such areas. Either type of identification constitutes information to facilitate individual or General permit application and processing.

(c) An appropriate public notice of the proposed identification of such areas shall be issued;

(d) To provide the basis for advanced identification of disposal areas, and areas unsuitable for disposal, EPA and the permitting authority shall consider the likelihood that use of the area in question for dredged or fill material disposal will comply with these Guidelines. To facilitate this analysis, EPA and the permitting authority should review available water resources management data including data available from the public, other Federal and State agencies, and information from approved Coastal Zone Management programs and River Basin Plans;

(e) The permitting authority should maintain a public record of the identified areas and a written statement of the basis for identification.

#### PART 231—SECTION 404(c) PROCEDURES

- 231.1 Purpose and scope.
- 231.2 Definitions.
- 231.3 Procedures for proposed determinations.
- 231.4 Public comments and hearings.
- 231.5 Recommended determination.
- 231.6 Administrator's final determinations.
- 231.7 Emergency procedure.
- 231.8 Extension of time.

**AUTHORITY:** 33 U.S.C. 1344(c).

**SOURCE:** 44 FR 58082, Oct. 9, 1979, unless otherwise noted.

##### § 231.1 Purpose and scope.

(a) The Regulations of this part include the procedures to be followed by the Environmental Protection Agency in prohibiting or withdrawing the specification, or denying, restricting,

or withdrawing the use for specification, of any defined area as a disposal site for dredged or fill material pursuant to section 404(c) of the Clean Water Act ("CWA"), 33 U.S.C. 1344(c). The U.S. Army Corps of Engineers or a state with a 404 program which has been approved under section 404(h) may grant permits specifying disposal sites for dredged or fill material by determining that the section 404(b)(1) Guidelines (40 CFR Part 230) allow specification of a particular site to receive dredged or fill material. The Corps may also grant permits by determining that the discharge of dredged or fill material is necessary under the economic impact provision of section 404(b)(2). Under section 404(c), the Administrator may exercise a veto over the specification by the U.S. Army Corps of Engineers or by a state of a site for the discharge of dredged or fill material. The Administrator may also prohibit the specification of a site under section 404(c) with regard to any existing or potential disposal site before a permit application has been submitted to or approved by the Corps or a state. The Administrator is authorized to prohibit or otherwise restrict a site whenever he determines that the discharge of dredged or fill material is having or will have an "unacceptable adverse effect" on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas. In making this determination, the Administrator will take into account all information available to him, including any written determination of compliance with the section 404(b)(1) Guidelines made in 40 CFR Part 230, and will consult with the Chief of Engineers or with the state.

(b) These regulations establish procedures for the following steps:

(1) The Regional Administrator's proposed determinations to prohibit or withdraw the specification of a defined area as a disposal site, or to deny, restrict or withdraw the use of any defined area for the discharge of any particular dredged or fill material;

(2) The Regional Administrator's recommendation to the Administrator for determination as to the specifica-

**APPENDIX E**

**EXCERPTS OF LOUISIANA COASTAL RESOURCES  
PROGRAM MARSH MANAGEMENT MANUAL**

John, St. Martin, Lafourche, Jefferson, and a survey of the New Orleans area are detailed surveys meeting present standards.

General soil maps have been made for all parishes at scales of approximately 1:250,000 (0.25 inches per mile). General soil maps are made by reconnaissance methods, photo interpretation, or generalization of detailed soil maps. The mapping units are typically associations of two or more dominant soils. They may include similar or highly contrasting soils. Because of the map scale the smallest delineations are seldom less than 2,000 acres. General soil maps are best used as guides to board land use planning at the state, regional, or parish level.

## SECTION IV

### Environmental Policies and Technical Guidelines

#### Introduction

This section contains the criteria used by the Department of Natural Resources, Coastal Management Division to evaluate marsh management plans submitted for implementation approval under the Coastal Use Permitting Program of the La. Coastal Resources Program (Act 361 of 1978). This section also contains selected Soil Conservation Service (SCS) environmental policies and guidelines that have an impact on the technical assistance provided landusers through local Soil and Water Conservation District Programs.

#### **La. Coastal Resources Management Program**

##### **Coastal Management Program**

In 1978 the state legislature enacted the Louisiana Coastal Resources Program (LCRP) (La. R. S. 49: 213.1 et seq.). This legislation authorized the implementation of a Coastal Use Permitting (CUP) system for the purpose of resolving resource use conflicts in the coastal region. The permitting process was implemented in October, 1980 and is administered by the Louisiana Department of Natural Resources (DNR),

Coastal Management Division (CMD). In 1981, the state established the Coastal Erosion Protection Trust Fund. This legislative action authorized funding for major shoreline, barrier island wetland restoration and erosion control projects. This program is administered by the DNR, Coastal Restoration Division.

Most dredge and fill development activities proposed within the state's coastal zone are subject to the CUP permitting process (LCRP, FEIS 1980; Clark et al., 1983) as well as that of the Sections 10 and 404 permitting authority of the U.S. Army Corps of Engineers. Most permits are conditioned to require some level of site restoration in order to minimize environmental impacts. For activities where site restoration efforts are not sufficient to offset damages, the applicant may be required to implement off-site marsh enhancement measures to mitigate unpreventable damages associated with the permitted activities (Clark, et al. 1983). The permitting process has not likely reduced development activities in the coastal region, but it has significantly reduced wetland damage by requiring that development activities be conducted in an environmentally sound manner.

The CUP process in Louisiana has evolved into a well balanced resource management program. The program is designed to motivate landowners and coastal developers to strive for a balance between development and preservation. The CMD encourages a range of beneficial uses of the wetland resources. The LCRP was established with expressed goals which include those to protect, develop, restore, and enhance, coastal resources, encourage multiple uses and to determine the future course or development and conservation in the coastal zone (LCRP, FEIS, 1980). The CMD has implemented a systematic interdisciplinary approach to planning and decision making that supports diversity of individual choices and insures a balance between coastal resource development and conservation. In addition to governmental actions to reduce or reverse wetland losses, private landowners and corporations have become increasingly aware of the benefits to be derived from planning and implementing marsh management practices. For example Tenneco (Fina) implemented in 1983 at considerable expense, a 5000 acre marsh management plan south of Theriot, Louisiana as part of the first Mitigation Banking Project in Louisiana (Soileau, 1983).

### Coastal Use Permitting Process

Coastal use permitting programs was initiated in 1980 by the Louisiana Department of Natural Resources, Coastal Management Division. The permitting process is authorized under the Louisiana Coastal Resources Program established by the State in 1978. Those activities which normally require Coastal Use Permits (CUP), as outlined in the State Coastal Resource Management Act include: (1) dredge and fill operations, (2) water control structures, (3) flood protection facilities, (4) commercial, industrial and residential developments, (5) extraction activities, (6) activities which may modify surface water flow, (7) shoreline modification projects, (8) waste disposal activities, (9) wastewater discharge, (10) recreational developments, and (11) drainage projects. Certain activities, however, are exempted from the permit process. Those activities which normally do not have a direct and significant impact on coastal waters or which are located outside of the coastal zone normally do not require a CUP. They include: (1) agricultural, forestry, and aquaculture activities on lands that have a history of these uses; (2) hunting,

fishing and trapping; (3) maintenance and repair activities not involving dredging; (4) residence or camp construction; (5) navigational features; (6) activities occurring within fastlands (leveed lands) or those above 5 feet M.S.L.; (7) emergency uses if there is a significant threat to life or property; (8) activities commenced prior to September 30, 1980, the date Louisiana Coastal Resource Program was implemented, and (9) other activities which do not have a direct and significant impact on coastal waters. The authority for determining exemptions rests with the CMD Administrator or Secretary of DNR.

#### Coastal Use Permit Process

The CUP review conducted by the CMD includes: (1) publishing 25 day public notice in which the nature and location of the proposed activity is described, (2) onsite field investigations of major projects, (3) an examination of the affected Coastal Use Guidelines, (4) a review of available and resource data sets and studies, (5) consultation with experts concerning the social, economic or environmental impacts of the project, (6) communications to resolve issues between the CMD and the applicant, experts, or other interested entities, (7) a final recommendation of permit issuance including conditions and/or alternate methods to minimize environmental effects, or a recommendation of permit denial with a description of suggested permissible alternatives which, if make a part of the application, would make the project consistent with the Guidelines. The Secretary of DNR acts on the recommendation of the CMD Administrator and makes the final decision to issue or deny the permit. The Secretary's decision is the final administrative action by the state, but is subject to judicial review. (Clark et al 1983)

#### Marsh Management Plan Guidelines

Through proper planning, many regions of the marsh can be managed to reduce losses to open water, reduce saltwater intrusion and environmentally sensitive areas can be protected. Through its permitting program, CMD encourages sound marsh management decisions by land users.

Marsh management plans are developed to achieve a number of different goals. Many plans are submitted to CMD for the purpose of outlining measures that a CUP applicant will perform to counteract wetland erosion that may result from the proposed activity. Other plans focus on measures which combat land loss and wetland deterioration caused by current natural processes or past development activities. All plans are evaluated by the CMD and other wetland advisory agencies to insure that implementation will result in long term protection and enhancement of the impacted wetland system.

To insure a uniform and objective review of CUP applications, a series of guidelines have been developed for use during permit review. These are very specific guidelines that are rigorously adhered to by the CMD and must be closely observed by all permit applicants. LCRP guidelines that apply primarily to marsh management plan applications include: (1) impoundment levees shall not be constructed in wetland areas except in conjunction with an approved marsh management plan or for pollution prevention or control (Guideline 2.5), (2) all management plants, implemented, will increase or otherwise enhance the productivity of the impacted area (Guideline 7.5), (3) all water control structures will be designed, built and installed using the best practical techniques that reduce the

potential for structural failure, allow for tidal exchange, and minimize obstruction of the migration of aquatic organisms be constructed in brackish or saline areas (Guideline 7.8). Some researchers have indicated that certain types of control structures namely fixed crest weirs may reduce the access of certain fisheries organisms into and out of management areas (Herke, 1979; Herke et al 1984). The major LCRP marsh management goals encourage the management techniques which reduce erosion and increase overall marsh or wetland productivity (LCRP, FEIS, 1980).

In addition to meeting the requirements of CMD guidelines, applicants submitting marsh management permit applications are requested to clearly define plan objectives in a plan. To support the stated goals, the following information is generally required to be included in these plans: (i) area history; (ii) vegetational analysis of the management area; (iii) management strategies to be employed which includes water management procedures and structures; (iv) an outline of the monitoring program that will be implemented to determine if management objectives are being achieved; and (v) any known future non-marsh management development activities that are planned for the managed area. The following should also be included in the plan if applicable: potential environmental impacts, and the proximity of the management area and probable impacts to specific features, such as beaches, tidal passes, historic sites, critical areas, and navigation and public access facilities. Water management procedures should include the types of structures to be installed, construction techniques, a description of regional hydrology, and nonstructural conservation practices contemplated. Other appropriate information as described in LCRP Guideline 1.6 which outlines the information required for permit review should also be included by those who submit marsh management plan CUP applications (LCRP, FEIS, 1980).

### Marsh Management Plan Guidelines

The following specific information should be provided to the Coastal Management Division by those applicants contemplating implementing marsh management plans.

The criteria by which CMS review marsh management plans are established by the following Coastal Use Guidelines:

Guideline 1.6- Information regarding the following general factors shall be utilized by the permitting authority in evaluating whether the proposed use is in compliance with the guidelines.

- c) techniques and materials used in construction, operation and maintenance of use.
- d) existing drainage patterns and water regimes of surrounding area including flow, circulation, quality, quantity and salinity; and impacts on them.
- h) extent of resulting public and private benefits.
- k) extent of impacts on existing and traditional uses of the area and on future

uses for which the area is suited.

- l) proximity to and extent of impacts on important natural features such as beaches, barrier islands, tidal passes, wildlife and aquatic habitats, and forest lands.
- q) extent of impacts of navigation, fishing, public access, and recreational opportunities.
- s) extent of long term benefits or adverse impacts.

Guideline 2.5- Impoundment levees shall only be constructed as part of approved water or marsh management projects or to prevent release of pollutants.

Guideline 7.5- Water or marsh management plans shall result in an overall benefit to the productivity of the area.

Guideline 7.6- Water control structures shall be assessed separately based on their individual merits and impact and in relation to their overall water or marsh management plan of which they are a part.

Guideline 7.7- Weirs and similar water control structures shall be designed and built using the best practical techniques to prevent "cut arounds," permit tidal exchange in tidal areas, and minimize obstruction of the migration of aquatic organisms.

Guideline 7.8- Impoundments which prevent normal tidal exchange and/or the migration of aquatic organisms shall not be constructed in brackish and saline areas to the maximum extent practicable.

In general, the Coastal Management Section would like marsh management plans to contain the following elements:

1.) Marsh Management Goals

The primary and secondary goals to be derived from the plan should be included.

2.) Area History

A brief history of the area and its problems should be presented.

3.) Type of Habitat

A description of the types of vegetation to be affected by the plan should be included.

4.) Water Control Structure

The location, construction, and operation of water control structures, (i.e. weirs or flapgates) or other proposed modification (i.e. levees) of the

marsh should clearly be outlined.

5.) Monitoring Plan

A monitoring plan should be included to evaluate whether the goals have been accomplished and to what degree. Monitoring may be done by gathering information from: water quality sampling, vegetational change analysis, aerial photography, hunting or trapping records or other similar methods.

6.) Non-Marsh Management Activities

A statement of policy should be included concerning activities other than those involved with marsh management which may occur within the management area ( i.e. the dredging of oil and gas canals and the placement of spoil). In addition, a statement of policy should be included concerning restoration of areas impacted by non-marsh management activities (i.e the plugging or backfilling of abandoned canals).

7.) In addition, the following specific information should be provided where applicable.

- a. The length and cross section (with scale) of any levee(s) to be constructed or reconstructed.
- b. The amount of fill material or dredging necessary for levee or water control structure construction.
- c. Present elevation of existing levees.
- d. The location of any tidal creeks which may be closed by this activity.
- e. Allowances for the ingress and egress of estuarine organisms.

SCS Environmental Policy and Technical Assistance Guidelines

The SCS mission is to provide assistance that will allow use and management of ecological, cultural, natural, physical, social and economic resources by striving for a balance between use, management, conservation, and preservation of the Nation's natural resource base. The SCS will conduct and coordinate its plans, functions, programs, and recommendations on resource use so that stewards of the environment for succeeding generation:

(1) Can maintain safe, healthful, productive, and aesthetically and culturally pleasing surroundings that support diversity of individual choices; and

(2) Are encouraged to attain the widest range of beneficial uses of soil, water, and related resources without degradation of the environment, risk to health or safety, or other undesirable and unintended consequences.

SCS Environmental Policy

SCS is to administer federal assistance within the following overall environmental policies:

(1) Provide assistance to landowners and users that will motivate them to

maintain equilibrium among their ecological, cultural, natural, physical, social, and economic resources by striving for a balance between conserving and preserving the Nation's natural resource base.

(2) Provide technical and financial assistance through a systematic interdisciplinary approach to planning and decision making to insure a balance between the natural, physical and social sciences.

(3) Consider environmental quality equal to economic, social, and other factors in decision-making.

(4) Insure that plans satisfy identified needs and at the same time minimize adverse effects of planned actions on the human environment through interdisciplinary planning before providing technical and financial assistance.

(5) Counsel with highly qualified and experienced specialists from within and outside SCS in many technical fields as needed.

(6) Encourage broad public participation in defining environmental quality objectives and needs.

(7) Identify and make provisions for detailed survey, recovery, protection, or preservation of unique cultural resources that otherwise may be irrevocably lost or destroyed by SCS-assisted project actions, as required by Historic Preservation legislation and/or Executive Order.

(8) Encourage local sponsors to review with interested publics the operation and maintenance programs of completed projects to insure that environmental quality is not degraded.

(9) Advocate the retention of important farmlands and forestlands, prime farmlands, rangeland, wetlands, or other lands designated by state or local governments. Whenever proposed conversions are caused or encouraged by actions or programs of a federal agency, licensed by or require approval by a federal agency, or are inconsistent with local or state government plans, provisions are to be sought to insure that such lands are not irreversibly converted to other uses unless other national interests override the importance of preservation or otherwise outweigh the environmental benefits derived from their protection. In addition, the preservation of farmland in general provides the benefits of open space, protection of scenery, wildlife habitat, and in some cases, recreation opportunities and controls on urban sprawl.

(10) Advocate actions that reduce the risk of flood loss, minimize effects of floods on human safety, health and welfare, and restore and preserve the natural and beneficial functions and values of flood plains.

(11) Advocate and assist in the reclamation of abandoned surface-mined lands and in planning for the extraction of coal and other non-renewable resources to facilitate restoration of the land to its prior productivity as mining is completed.

(12) Advocate the protection of valuable wetlands, threatened and endangered animal and plant species and their habitats, and designated ecosystems.

(13) Advocate the conservation of natural and man-made scenic resources to insure that SCS-assisted programs or activities protect and enhance the visual quality of the landscape.

(14) Advocate and assist in actions to preserve and enhance the quality of the Nation's waters.

### Threatened and Endangered Species of Plants and Animals

#### Background

(1) A variety of plant and animal species of the United States are so reduced in numbers that they are threatened with extinction. The disappearance of any of these would be a biological, cultural, and in some instances an economic loss. Their existence contributes to scientific knowledge and understanding, and their presence adds interest and variety to life.

(2) The principal hazard to threatened and endangered species is the destruction or deterioration of their habitats by human activities such as industrialization, urbanization, agriculture, lumbering, recreation, exploration and extraction, and transportation. These activities of man will continue, but the necessity of recognizing their impacts and selecting practices or actions that minimize or eliminate such impacts on threatened and endangered species is imperative.

(3) The Endangered Species Act of 1973, as amended, (PL 93-205, 87 Stat. 884 (16 U.S.C. 1531 et seq.)) provides a means whereby the ecosystems upon which threatened and endangered species depend, may be maintained, as well as a program for the conservation of such species. The Act also provides that, in addition to the Department of the Interior all other federal departments and agencies shall, in consultation with and with the assistance of the Secretary of the Department of the Interior, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of threatened and endangered species listed pursuant to Section 4 of this Act. Each federal agency is to insure that its actions do not jeopardize the continued existence of threatened and endangered species or result in the destruction or adverse modification of their habitat. Critical habitats will be determined in consultation, as appropriate, with the affected states.

#### Policy

The SCS will assist in the conservation of threatened and endangered species and consistent with legal requirements, avoid or prevent activities detrimental to such species. SCS's concern for these species will not be limited to those listed by the Secretary of the Interior and published in the Federal Register, but will include species designated by state agencies as rare, threatened, endangered, etc.

#### Scenic Beauty

## **Background**

Contributions to scenic beauty are a normal product of SCS work. Emphasis is given to those soil and water conservation measures that contribute to a productive and efficient agriculture, enhance wildlife, increase the attractiveness of rural landscapes and are in line with goals and objectives of conservation districts. This can be accomplished by considering the landscape visual resource when providing planning assistance to individual landowners, groups, units of government, and watershed and resource conservation development project sponsors.

## **Policy**

SCS will:

(1) Provide technical assistance with full consideration of alternative management and development systems that preserve scenic beauty or improve the landscape;

(2) Emphasize the application of conservation practices having scenic beauty or landscape resource values particularly in waste management systems, field borders, field windbreaks, wildlife and wetland habitat management, access road, critical area treatment; design and management of ponds, stream margins, odd areas, and farmstead; siting or positioning of structures and buildings to be in harmony with the landscape while reducing the potential for erosion; using native and other adaptable plants for conservation which enhance scenic beauty and create variety while linking beauty with utility;

(3) Promote personal pride in landowners in the installation, maintenance, and appearance of conservation practices and their properties;

(4) Select suitable areas for waste products.

(5) Encourage conservation districts to include practices which promote scenic beauty in their annual and long-range programs.

## **Responsibility**

SCS will provide technical assistance through conservation districts to landowners, operators, communities, and state and local governments in developing programs relating to scenic beauty.