RECOMMENDATIONS FOR POLICIES AND ACTIONS

BARATARIA BASIN POLICY TEAM

REVISIONS through
September 11, 1989
and
subsequently received policy statements

ENVIRONMENTAL MANAGMENT UNIT 1

Short-Term

Active

OIL and GAS

MOVED TO BASINWIDE SECTION, Short-term, Active

HYDROLOGY

1. Activities in the EMU shall employ water management control projects that produce the following: 1) reduction of excessively impounded standing water; 2) reestablishment of natural sheet flow and nutrient exchange; 3) introduction of increased sediment into an area; and 4) encouragement of vegetation of an area. One location in particular need of these actions is the LL&E reclamation area. → DELETE

DREDGED MATERIAL

1. Permanent deposition of dredged material shall be placed in the least environmentally damaging place and to allow for nutrient exchange.

EROSION

1. Stabilization material (structural and nonstructural) shall be used on areas of severe erosion.

2. Disturbed and subsided areas shall be revegetated with appropriate native materials to help prevent the future erosion or subsidence of the disturbed areas which often occurs before natural revegetation can occur. The erosion reduction program should include an plan for actively planting appropriate materials.

3. Establishing vegetation will be encouraged as part of a wetlands management plan, especially in subsiding areas.

DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF WATER RESOURCES

Develop a [water quality] management plan that stresses compliance with state water quality regulations for point source discharges of both industrial and municipal wastewaters and nonpoint source discharges from agricultural, urban, industrial and other sources. The use of wetlands for municipal wastewater treatment should be encouraged where and when appropriate. As a goal, the plan should specifically seek to achieve attainment of the state water quality standards through application of the state and federal permit programs and the Section 401 water quality certification program. To assess attainment of water quality goals, an adequate Basin monitoring program should be supported that is compatible with existing state monitoring programs.

— DELETE

MAN

1. A mangement plan should be developed and implemented for the discharge from forced drainage projects. When outfall canals are necessary, the cross-sectional area of the canals should be decreased and all intersections with other canals should be blocked. For example, flow can be regulated at Bayou Vacherie and the outflow through the Tisamond Foret Canal, and the Company Canal can be regulated.

Passive

PLANS and STUDIES

1. Develop an assessment report on water quality conditions and problems, identifying sources and priority drainage areas for action. The report should include information from agencies familiar with non-point pollution problems. These agencies can also suggest solutions for reducing sediment and nutrient pollution ~~on~~ FROM contributing agricultural lands. PESTICIDE

2. Develop a wetlands management plan that stresses full (Mr. Sabins will provide a discussion of "full") treatment of point source pollution, such as the use of wetlands for the tertiary treatment of sewage when appropriate. The results of the Thibodaux experiment should be followed and the findings used. Monitoring of all industrial and municipal projects is essential and should be a part of all programs.

3. Special hydrologic studies and wetlands restoration plans should be initiated for EMUs 1 and 3. The studies and wetlands restoration plans should include, but not be limited to forestry practices that improves circulation in those swamps where needed, water exchange across barriers such as highway embankments, evaluating

tributaries to Lac des Allemends, and the constriction of canals to force more water to flow into wetlands, thereby providing sediment and nutrients for these wetlands and decreasing eutrophication. The water management plans should stresses natural hydrologic circulation and encourages wetlands swamp regeneration.

ALL LAKE SYSTEMS

4. Site specific non-point source water quality problems should be identified and solutions proposed.

DELETE
REVISE 2

5. A study on retention ponds in urbanized and agricultural areas should be conducted.

REGULATIONS

1. Mitigation should be sought for all wetland impacts associated with development. The mitigation plan should be made part of the project permit and not appear as a separate action.

– HOLD/MOVE TO B/W

COORDINATION

1. There should be interdepartmental review of all drainage projects affecting the bottomland hardwood swamp areas within the EMU.

2. Point sources of pollution should be monitored in the receiving environment. All agencies with field stations in the basin should coordinate their activities by using one mutually agreeable procedure for sampling and collect a minimum set of basic parameters . The agencies should establish an efficient mechanism for sharing information.

Long-Term

Active

OIL and GAS

HYDROLOGY

1. Short-Term activities, such as water management plans, sediment diversions, and crop rotation, as proposed, should be maintained, operated, and monitored.

2. Levee and drainage projects should be more environmentally beneficial; for example, flow through pump stations should be designed and constructed or culverts should be placed through levees.

3. The findings of the hydrologic studies for EMU 1 should be implemented.

DREDGED MATERIAL

EROSION

MAN

Passive

PLANS and STUDIES

1. The effects of on-going diversion efforts should be studied and analyzed.

2 A study for a freshwater diversion near Lagan (3,000 to 5,000 cfs) should be conducted. Diversion projects with a purpose of introducing sediment into the basin should be restricted to the eastern half of the EMU. If diversions that seek to utilize the sediment load of the river are planned for the eastern half of the EMU, these diversions should be done by means of enclosed aqueducts to tranport the materials to the lower reaches of the Basin.

3. The recommendations of the studies on the EMU should be a long-term objective for the basin.

REGULATIONS

1. Reforestration of desirable species should be undertaken when lumbering activities occur. The objective is to maximize the forested wetlands in the EMU.

COORDINATION

ENVIRONMENTAL MANAGEMENT UNIT 2

Short-Term

Active

OIL and GAS

HYDROLOGY

1. Treatment of stormwater effluent for the exclusion of hazardous chemicals and hydrocarbons from non-point source pollutants should be utilized to decrease the detrimental effects on the fauna and flora of the lower basin.

2. Adequate acreage of wetlands found in EMU 2 receiving discharges from EMU 2 shall be set aside to serve as floodplain easements to augment flood protection of new and existing developments and to serve as and to be developed as marsh treatment sites for urban runoff. These areas shall be deeded to the local government or state for maintenance as easements and shall remain green space.

DREDGED MATERIAL

EROSION

MAN

1. Load, equilibrium, or capacities for prevalent and troublesome pollutants found in urban runoff and industrial discharges should be established for each developed area. An accounting system shall be developed to assure compliance.

2. Residential, commercial, and agricultural developments shall include or upgrade appropriate and adequate sewerage treatment.

3. Development within EMU 2 shall be considered to have cumulative impacts upon management units receiving EMU 2 discharges.

ADD ALSO TO REGS.

4. A mangement plan should be developed and implemented for the discharge from forced drainage projects. When outfall canals are necessary, the cross-sectional area of the canals should be decreased and all intersections with other canals should be blocked. For example, flow can be regulated at Bayou Vacherie and the outflow through the Tisamond Foret Canal, and the Company Canal can be regulated.

Passive

PLANS and STUDIES

1. An effective crop rotation system should be developed to decrease sediment loss and nutrient runoff from surrounding uplands. Buffer strips to trap sediment, nutrients, and other materials should be incorporated.

CHANGED

2. Special studies should be initiated for determining the effect AND EFFICIENCY of buffer zones at the wetlands interface on non-point source runoff from developed areas.

REGULATIONS

1. All human wastes should be fully treated prior to their release into the environment. One possibility is to allow for overland discharge (across wetlands) after secondary treatment.

2. Retention ordinances should be enacted by local governments for new developments within leveed areas to prevent increased stormwater flooding of areas outside leveed areas.

COORDINATION

1. The Coastal Management Division should define what "direct and significant impacts" means when referring to effects on coastal zone areas of activities in fastlands and on uplands.

Long-Term

Active

OIL and GAS

HYDROLOGY

DREDGED MATERIAL

EROSION

MAN

Passive

PLANS and STUDIES

REGULATIONS

COORDINATION

ENVIRONMENTAL MANAGMENT UNIT 3

Short-Term

Active

OIL and GAS

HYDROLOGY

1. Construction of the Davis Pond freshwater diversion should begin immediately; designs or operation scheduleus should be modified to maximize delivery of sediment into basin; an outfall plan should be developed and implemented. The outfall plan could include techniques for trapping sediment, such as fencing.

2. The EFFECTS OF THE planned siphon at Naomi should be ~~enlarged~~ MONITORED ETC.....

3. Freshwater and sediment diversion through the Algiers Lock system should be provided. — AS PER CHANGES

4. Saltwater intrusion should be controlled and/or decreased in Bayou Lafourche. JOHN SPANO — LAFOURCHE FRESHWATER DISTRICT DONALDSONVILLE

5. Openings should be placed in spoil banks CAUSING THE surrounding unintentionally impounded wetlands. MENT OF

TWO SYSTEMS

404c AREA

6. Circulation should be improved in the Bayou aux Carpes swamp and other swamps in need of such actions. → CHANGE – NRS PURCHASE ETC.

7. The cross-sectional area of canals entering Lakes Cataouatche and Salvador should be decreased, forcing more water to flow into

DUPLICATE PG. 1 #1
ADD 7, 13, 14, 8, 12 ETC.

wetlands, providing sediment and nutrients to wetlands and decreasing eutrophication of water bodies.

8. Drainage culverts should be breached and removed in the CIT and Bayou des Familles tract.

DELETE 9. The Jefferson Parish West Bank Hurricane Protection levee should be restricted to the alignment already permitted by the Corps of Engineers. Support the growth/no growth line around the V-levee.

10. Spoil banks should be established along the Bayou Segnette Waterway and the flooded former agricultural areas. Utilize these areas for marsh creation.

DELETE 11. Water control structures shall be installed and maintained at all canal intersections and bayous to decrease freshwater runoff and saltwater intrusion. For example, techniques should be installed to control saltwater within the Barataria Waterway from entering adjacent wetlands.

12. An earthern plug should be constructed at the end of the Boutte Canal and Gas Field at Baie Des Chactas.

13. On Couba Island, a program to close all ends of access canals and locational channels should be developed. Continuous spoil should be placed at the ends of the canals according to the following priorities: 1) close the end of the westernmost access canal (near the main canal entrance); and 2) close all other remaining canals.

14. A water control structure should be installed at the Lake Salvador/Bayou Villars connection to slow freshwater runoff.

DREDGED MATERIAL

PG 2 #1

1. Disturbed areas shall be revegetated with appropriate native materials to help prevent the future erosion or subsidence of the disturbed areas which often occurs before natural revegetation can occur.

PG 2 #2

2. Dredged material shall be placed to maintain natural drainage and nutrient exchange.

3. Excavated material from maintenance dredging should be utilized to create and maintain wetlands between Bayous Perot and Rigolettes and in the Delta Farms area.

4. DELETED — IN OTHERS Spoil banks shall be graded to avoid potholes or other fissures which would create water impoundments. Embankments along drainage canals or roadways for example, shall be breached to relieve unintentional impoundments and to allow for exchange of water, nutrients, and sediment with adjacent wetlands.

5. All spoil banks should be degraded to preexisting elevations, fertilized, and revegetated with native flora of the type and distribution characteristic of the area before initial disturbance.

6. Commercial clam shell dredging should not be permitted.

7. Dredged sites should be accessed by drilling barges and other deep draft vessels during high tides to reduce dredging.

8. Dredged material from the Barataria Bay Waterway and Intracoastal Waterway should be used to stabilize and repair the banks of that waterway, thereby retarding erosion and saltwater intrusion. Otherwise, dredged material should be spread hydroulically into subsided areas that flank the waterways to restore those areas as marshlands or should be discharged into the

plugged or abandoned pipeline or access canals that are conveniently close to the area dredged.

EROSION

Pg. 1 #1

1. Shorelines of Lake Cataouatche, Lake Salvador, particularly near the Bayou Signette Waterway, the Pen, and related inactive reclamation projects should be stabilized. Consideration should be given to using both structural and nonstructural methods for achieving the objectives. Funds for all phases of the project should be sought immediately.

Pg. 2 #1

2. Stabilizing material shall be used on areas of severe erosion along canal lengths.

3. The Lafourche Parish plan for protection and management of the Clovelly Farms to US Hwy. 90 wetlands should be refined and implemented.

4. A dam should be constructed across the Clovelly Canal at the northeast corner of Delta Farms. The east borrow ditch of Clovelly Farms should be connected with Clovelly Canal to allow freshwater into wetlands around Clovelly Farms.

5. Inactive oil and gas canals and all pipeline canals crossing Clovelly Canal and the Barataria Waterway should be plugged.

6. Sediment from Lake Salvador should be pumped into Clovelly and Delta Farms to create marsh.

7. Implementation of the West Fork, Bayou L'Ours Watershed Protection Plan should proceed as soon as possible. Funding for this project should be actively pursued at state and federal levels.

MAN

1. BASINWIDE All sanitary sewage and/or related domestic waste generation shall receive the equivalent of secondary treatment with disinfection prior to discharge into any watercourses or wetlands of the Basin.

2. Agricultural runoff from existing farmlands should be controlled to reduce or prevent adverse impacts on sensitive basin systems.

3. BASINWIDE Effluent discharges into Cousins Canal should be restricted. Measures to eliminate any leaching or runoff from the existing oxidation pond should be taken.

Passive

PLANS and STUDIES

1. Wildlife management plans that create a more diverse ecological system rather than a plan that is more favorable and productive to a limited number of species should be developed.

2. Wildlife management plans with goals and objectives to create more wetland areas and/or the revegetation of open water bodies should be allowed. Tax, development, and use incentives to encourage these types of programs should be instituted.

3. Research to investigate more cost effective bank stabilization methods should be funded.

4. An investigation should be initiated to determine the effects of the Jefferson Parish landfills on the surrounding wetlands. The study design would include a monitoring plan.

5. Studies that would examine methods of reducing marsh stress caused from canal impoundments should be funded.

6. The adequacy of current Intracoastal and Barataria Waterways dredged material maintenance areas should be reviewed.

7. Wetland restoration plans for inactive oil and gas production sites should be developed.

8. Development of a watershed protection plan should be initiated for the Lake Salvador Watershed.

REGULATIONS ALL PLANS WENT B/W PREVIOUSLY

1. Forced drainage discharges into marsh systems rather than into open water should be encouraged.

2. All effluents and emissions from point and nonpoint sources shall comply with state and federal regulations and proper certifications be obtained in order to insure that there are no detrimental impacts on the fauna and flora of the entire Basin from such substances as hazardous chemicals and hydrocarbons.

4. Only the use of waterborne or nonintrusive vessels in wetland areas should be allowed.

5. Septic tank installation permits should be monitored to reduce contamination of the surrounding area.

6. Activities that degrade or destroy wetlands or their value for fish and wildlife should be discouraged.

COORDINATION

Long-Term

Active

OIL and GAS

HYDROLOGY

Pg. 1 #1

1. A freshwater diversion (3,000 - 5,000 cfs) south of Jesuit Bend that would operate during peak flows of the river should be constructed and maintained.

2. Those diversion projects with the purpose of introducing sediment into the basin should be restricted to the eastern half of the EMU. If diversions that seek to utilize the sediment load of the river are planned for the western half of the EMU than they should be done so by means of enclosed aqueducts to tranport the materials to the lower reaches of the Basin.

3. A diversion from the river that will benefit the Pen should be designed and constructed.

4. Projects that demonstration wetlands restoration techniques should be developed.

DREDGED MATERIAL

1. Maintenance material from the GIWW should be used for marsh creation.

2. Revegetation of ponding areas or creation of new marsh should be considered as mitigation projects for activities impacting wetlands within the EMU.

EROSION

1. The Lafourche Parish Plan of Action "Wetland Protection and Maintenance Between U.S. Highway 90 and the Clovelly Oil and Gas Field in Lafourche Parish" should be monitored and maintained.

MAN

Passive

PLANS and STUDIES

Pg. 3#3

1. Management plans that incorporate proven forestry practices to improve circulation in the Bayou aux Carpes swamp and other swamps in need of such actions should be developed. The Bayou aux Carpes plan should include flap-gated culverts running under the hurricane protection levee with runoff canals directed into the swamp.

2. Wetlands management plans with the goal of maintaining the area of existing vegetated wetlands should be developed. Such plans may be initiated in the Salvador Wildlife Management Area, the Jean Lafitte National Park, and at Bayou Villars near Lake Salvador.

3. Pilot projects utilizing the recommendations in "Onshore Oil and Gas Activities along the Northern Gulf of Mexico Coast: A Wetland Managers Handbook" should be initiated.

4. Studies should be initiated that identify non-point source water quality problems. Recommendations should be made for solving these problems

5. A canal maintenance and management study should be initiated.

REGULATIONS

1. Programs should be initiated for monitoring and controlling brine discharges into Lake Salvador which contribute to salinity increases and a decline in water quality.

2. A program should be initiated to monitor and control landfill activities that impact surrounding wetlands.

3. Regulatory measures to protect the wetlands of EMU 3, their value for fish and wildlife, and the integrity and effectiveness of the activities described above should be developed implemented.

4. Alteration of natural hydrologic flow or the allowance of development in the stilling basin should be prohibited, except for approved freshwater/sediment diversion projects, such as Davis Pond.

5. Siting of waste disposal facilities should be discouaged.

COORDINATION

ENVIRONMENTAL MANAGMENT UNIT 4

Short-Term

Active

OIL and GAS

1. The use of directional drilling should be encouraged.

HYDROLOGY

1. Gaps should be placed in spoil banks and natural levees in deltaic area to allow for natural marsh creation. Low-level sills should be placed in levees south of Venice to encourage overbank flooding.

2 The Empire lock should be utilized as a source of freshwater and sediment to the Barataria Basin.

DREDGED MATERIAL

1. Maintenance dredge material should be used to create marsh and/or nourish existing islands.

2. All spoil banks should be degraded to preexisting elevations, fertilized, and revegetated with native flora of the type and distribution characteristic of the area before initial disturbance.

3. Dredged material from the Barataria Bay Waterway and Intracoastal Waterway should be used to stabilize and repair the banks of that waterway, thereby retarding erosion and saltwater intrusion. Otherwise, dredged material should be spread hydroulically into subsided areas that flank the waterways to restore those areas as marshlands or should be discharged into the plugged or abandoned pipeline or access canals that are conveniently close to the area dredged.

4. Permit applications to dredge through, fill or clear mangrove stands should be strongly discouraged. Where such activities are deemed unavoidable by the Administrator, the permit should require that after use has ceased, the dredged and filled areas are to be restored to their original elevation and revegetated with mangrove and other appropriate species.

5. Permits for dredging across islands, cheniers, or shell beaches shall not be issued. (Those natural features serve to break wave action and winds, reduce wave fetch, and slow tidal flows.)

6. Dredged sites should be accessed by drilling barges and other deep draft vessels during high tides to reduce the depth of dredging.

7. Turbidity screens should be used by dredgers if oyster beds are endangered.

8. Propwashing as a form of dredging should be strongly discouraged.

EROSION

1. Structural and nonstructural measures (riprap, dredged material, plantings) should be implemented to stabilize all eroding shorelines, particularly the Barataria Waterway and the Rigolettes.

2. Fencing should be constructed in floton marshes.

3. Sand should be used to nourish the beaches on Grand Isle, Shell Island, and Fourchon, in particular, and the barrier islands in general.

MAN

Passive

PLANS and STUDIES

1. Wildlife management plans with goals and objectives to create more wetland areas and/or the revegetation of open water bodies should be allowed. Tax, development, and use incentives should be instituted to encourage these types of programs.

2. Wildlife management plans that create a more diverse ecological system rather than a plan that is more favorable and productive to a limited number of species should be developed.

3. Techniques and methods should be refined and tested for determining when shellfish beds should be closed.

4. Development of a watershed protection plan should be initiated for the Bayou Dupont-Grand Bayou Watersheds.

REGULATIONS

1. Speed limits should be instituted in the Barataria Waterway for boats longer than 20 ft.

2. Further development of Grand Isle and other barrier islands should be prevented.

3. The natural sills (shoals or tidal deltas) in passes and the Barataria Waterway should be allowed to develop and thereby decrease saltwater intrusion.

4. BASINWIDE Reinjection of all produced waters should be required.

5. Only the use of waterborne or non-intrusive vessels should be allowed in wetlands.

COORDINATION

1. Nomination of the Barataria Bay into the EPA National Estuary Program should be encouraged.

Long-Term

Active

OIL and GAS

1. Plug and fill oil and gas canals.

HYDROLOGY

1. Water from the Mississippi River should be diverted into Bayou Lafourche during peak river flow. Water from Bayou Lafourche should be diverted into Yankee Canal (south of Golden Meadow) and the Barataria Basin.

2. A freshwater/sediment diversion (3,000 - 5,000 cfs) should be constructed near West Point a la Hache, a second in the Adams Bay-Bastion Bay area, and at other locations where they are proven beneficial to the enhancement and maintenance of the estuarine system. An outfall plan that distributes sediment and water to the lower ends of the basin to the maximum extent possible should be prepared. These diversions should be maintained and monitored. The objectives are to enhance and protect the barrier islands and gradually increase elevations of the land to pre-1950 status.

3. The Barataria Waterway should be isolated from the adjacent wetlands.

4. A saltwater intrusion device should be constructed on the Barataria Waterway.

5. Sediment from Southwest Pass should be diverted into the littoral drift.

DREDGED MATERIAL

1 Dredged material from the Barataria Waterway should be used to create marsh.

2. Disposal sites should not be overfilled. Material should be placed to marsh elevations. When these sites are filled, another site should be found.

EROSION

1. Meaningful stabilization and/or reconstruction programs for barrier islands should be enacted; in other words, a comprehensive barrier island protection strategy should be prepared. This strategy would include structural and nonstructural measures, such as nourishment of the beach and behind the islands, fences, and vegetative plantings. Sources of material would include the offshore, that brought in by barge, and sediment from the Mississippi River by aqueduct.

2. Segmented jetties should be placed out from the shoreline to trap more longshore sediments.

MAN

1. La. Hwy. 1 to Grand Isle should be maintained.

Passive

PLANS and STUDIES

1. The adequacy of current GIWW dredged material maintenance areas should be reviewed.

REGULATIONS

1. The oyster leases and laws should be changed to allow for marsh creation in open water areas.

2. Any and all laws that would inhibit the active management of EMU 4 for the enhancement of new wetlands should be suspended.

3. Canal dredging for mineral exploration within EMU 4 should be suspended until new sediment has been deposited and a pre-1950 environmental state has been attained.

4. Regulatory measures to protect the wetlands of EMU 4, the habitat value for fish and wildlife, and the integrity and effectiveness of the activities described above should be developed and implemented.

COORDINATION

BASINWIDE

Short-Term

Active

OIL and GAS

1. Activities should not contribute to indirect loss of wetlands in the Basin.

2. The following policies apply to mineral exploration and production activities:

a. Culverts shall be placed where streams and sloughs are crossed by the roadway embankment and at other locations along existing and proposed embankments to promote or maintain sheet flows. The openings of the culverts must be maintained so as to allow for the free flow of water.

b. Contents of mud pits and other drilling residues shall be removed from the site and disposed of in a lawful manner as the fluids and solids are produced. The best practical technology should be used. Consideration should be given to reinjection or containerization for later disposal in an approved manner.

c. Ring levees will be degraded by returning the material with which they were built into the areas from which it was removed, and the area leveled to as near pre-project conditions as practicable after mud pits have been cleaned.

d. Broken boards and other extraneous construction materials shall be removed from the site when the road is abandoned by the permittee. All plastic sheeting shall be removed from areas of the roadway from which the boards are removed and the site abandoned.

e. No hydrocarbons, substances containing hydrocarbons, drilling mud, drilling cuttings, or toxic substances shall be allowed to enter adjacent waterways and wetlands.

f. The road fill placed in the wetlands shall be degraded when the location is abandoned. The material shall be deposited into the borrow areas or ditches, and the area restored to as near pre-project conditions as practical using the material available in the road fill.

g. In the future should changes in the location or sections of the existing waterways, or in the generally prevailing conditions in the vicinity be required for the public interest, the applicant shall make such changes in the project or in the arrangement, as may be necessary to resolve the problem. The permittee shall bear all related cost.

h. All produced water shall be reinjected into appropriate strata rather than released into the surface environment.

3. Existing pipeline corridors shall be used to avoid unnecessary disruption of undisturbed wetlands by ditching. The width of altered areas of marsh and swamp adjacent to pipelines shall be restricted to reduce loss of wetlands by using the best available technology.

4. There should be no impoundment of wetlands by pipeline corridors.

5. Equipment that has been replaced should be removed from the site. For example, flowlines that serve the same field or site should be removed when they are no longer functioning for the purpurse for which they were intended, are not economically feasible to maintain, and pose a threat to the public health, safety, or welfare.

6. Pipeline trenches should be restored by backfilling with the available material that was removed during excavation.

7. All mouths of oil and gas access canals should be plugged upon abandonment until the main channel is plugged upon field abandonment. Any maintenance dredging of access channels should employ suction dredges which spray or broadcast dredged material onto subsiding areas near the channel. Spoil banks should be breached to allow for water circulation. Canals should be backfilled.

8. Abandoned pipelines should be used for sediment/freshwater transportation.

9. Directional drilling should be used when possible to reduce dredging.

10. Flowlines within established oil fields should be laid across wetlands without dredging.

11. The use of hover-craft, helicopters and other non-dredging related, well-site access methods shall be developed and utilized.

12. Use of marsh buggies shall be discouraged in favor or hover-craft or helicopters or other methods of access.

HYDROLOGY

1. The natural hydrology should be restored as much as possible by blocking or decreasing cross-sectional areas of unnecessary or little used canals that bypass natural waterways.

2. Cross-sectional areas of canals connecting different marsh types should be blocked or decreased.

3. Saltwater intrusion into center Bayou Lafourche should be controlled.

4. Freshwater diversion projects should be modified to increase or maximize sediment delivery to wetlands.

5. Those siphons presently in place but nonfunctional should be refurbished. All siphons should be used to the maximum extent possible.

6. Pilot sediment-trapping projects should be implemented.

7. Canalization impacts should be reduced (spoil banks removed or breached, canals plugged or backfilled, or unintentional impoundments eliminated).

8. Construction of future canals should be consistent with the water management objectives of each EMU.

DREDGED MATERIAL

1. Existing canals and channels should be used to access new drilling sites, thereby reducing dredging.

2. There shall be no net increase in the total surface area of canals presently found in the special management area.

3. There shall be no net increase in the total dredged volume of material than presently dredged in the special management area.

4. Permits for dredging across islands, cheniers, natural levees, or shell beaches should not be issued.

5. Permit applications for dredging canals into or through narrow strips of marsh that separate waterbodies should be strongly discouraged. (Permits for dredging such areas which are deemed unavoidable by the Administrator should require that the dredged material be placed continuously along all banks of the dredged area.

Foreseeable erosion which will be caused by a dredging project or the boat traffic during use of the dredged waterway must be reduced. After activities have ceased at the site, the canal shall be dammed, and the disturbed area shall be returned to its natural elevation and revegetated.)

6. Permits for dredging open waterbodies within 200 feet of shore and where circumstances allow should require that the dredged materials be cast towards the shoreline to reduce water depth appropriately between the dredging site and the shore, for the purpose of creating marsh. (The newly created shallows or mud flat should then be appropriately planted.)

7. The methods of spoil disposition should be decided on a case-by-case basis and must be consistent with other policies.

8. Permits for dredging should require that all unearthed stumps, logs and other objects that could be hazardous to boat traffic be removed from the waterbody and deposited at some designated approved disposal site usually upland out of wetland and open water.

9. Upon abandonment, canals must be backfilled and/or plugged using earthern plugs and rip-rap or other stabilizing material as standard mitigation. The surface area of the filled portion of the canal will be subtracted from the total surface area of canals found in the special management area (See Policy 2).

10. All spoilbanks, dams and backfilling specifically required under these policies are to be maintained by the permittee unless it can be proven that such maintenance cannot be accomplished due to conditions beyond the permittee's control or if it can be shown that the lack of such maintenance will have no adverse effects upon the vicinity.

EROSION

1. Vegetative plantings and other techniques should be used to stabilize shorelines and convert mudflats to salt-tolerant vegetation.

2. Rip-rap or vegetation stabilization and where appropriate other approved methods should be used instead of belkheading.

MAN

1. Actions to increase access by marine fishery resources to areas that are currently impounded or partially impounded should be implemented.

2. Trappers should be subsidized to remove nutria and muskrat in areas affected by "eat-outs." Nest counts (number/acre) should be used to determine areas potentially susceptible to damage.

3. Wetlands should be used for tertiary waste treatment of sewage whenever possible.

4. Local governments and private developers should be encouraged to install and operate adequate sewage treatment facilities, particularly in areas of new development.

5. All sanitary sewage and/or related domestic waste generation , including that from existing or proposed camps, shall receive the equivalent of secondary treatment with disinfection prior to discharge into any watercourses or wetlands of the Basin. Plans should be developed for those areas where secondary treatment does not now exist.

6. Any land reclamation activities in areas with poor soil conditions or a propensity to flooding and not presently fastlands or in established development corridors shall be prohibited.

7. Disturbed areas shall be revegetated with appropriate native species.

Passive

PLANS and STUDIES

1. Land loss "hot spots" (USACE Comprehensive Coastal Study) should be identified, specific land loss causes determined, and appropriate restorative measures implemented.

2. Areas of vegetative dieback as a result of saltwater intrusion should bed identified and revegetated immediately with salt-tolerant species.

3. All structures presently hydrologically connecting the Mississippi River to the Barataria Basin waterways (e.g., siphons, locks, etc.) should be examined for their diversion potential.

4. Rapidly eroding shorelines in the basin should be identified and protection of these shorelines should be made potential mitigation projects for activities perpetuated in the coastal zone.

5. Water management and land management plans and objectives should be established for each EMU of the Barataria Basin after completion of a hydrologic model of the basin. .

6. Mitigation plans should be developed for all future public works projects that occur in the coastal wetlands.

7. Canal impoundments should be studied and methods of improving water quality and exchange employed.

8. Septic tank installation permits should be monitored.

9. Existing landfills shall be monitored to prevent leaching into surrounding wetlands.

10. Oil and gas activities shall investigate directional drilling before considering a new access channel. Companies shall make maximum use of existing channels for access.

11. Wetlands values and functions should be documented and their distribution mapped for each EMU.

12. Specific plans should be developed for protecting biologically sensitive areas.

13. Studies concerning canal and spoil bank maintenance and management as well as retention ponds should be initiated.

14. As the non-federal sponsor of the Louisiana Comprehensive Coastal Wetlands Study, the State of Louisiana can place a high priority on starting this effort in the Barataria Basin. Plan development should begin immediately.

15. One state agency or office should guide and coordinate development of the framework plan.

16. The lead agency should enlist the cooperation and assistance of other agencies, units of government, and the private sector with resource management responsibilities, expertise, and interests within the basin.

17. Existing studies, resource evaluations and management plans within the basin should be utilized to complete the draft framework

plan. The lead agency may assign the development of specific plan components to cooperating members (agencies, individuals, etc.) and utilize a planning team to pull the information together in a draft form.

18. A minimum framework plan should include examples of the following information by sub-basins or similar management units:

- an assessment of resources and land uses;
- general resource conditions and trends;
- major resource problems;
- existing programs and management objectives;
- recommended management alternatives and objectives;
- priorities for action, both immediate and those requiring detailed planning;
- funding sources (programs) and recommended application procedures.

19. Detailed planning should proceed within the sub-basins or management units according to the priorities established within the framework plan. Individual watershed and hydrologic treatment units should serve as the basic planning implementation units within the sub-basins. Existing management plans and proposed projects which are consistent with sub-basin (management unit) objectives would be high priority measures for immediate implementation. Planning and implementation should proceed by priority watershed (hydrologic units) within each sub-basin. This will allow for several concurrent project initiatives within the entire basin, as funds and resources allow.

20. Public participation and involvement in the planning process will be absolutely essential in developing an acceptable basin plan. Public cooperation will be required to implement and maintain most of the structural measures and management practices.

REGULATIONS

1. All agricultural fields should be required to have buffer strips adjacent to drainage ditches and canals to help remove sediment and nutrients before runoff carries them into canals and bayous.

2. Plugging and backfilling should be required ofone abandoned or non-productive oil and gas canal for every new oil and gas access canal dug in the basin.

3. Beneficial use should be made of at least 50% of all dredged material resulting form NOD-22 or maintenance dredging activities if suitable, nearby alternatives exist. A condition should be made on every Corps of Engineers Maintenance Dredging and NOD-22 General Permit.

4. Oil and gas exploration companies actively involved in the coastal zone should be required to develop hovercraft or helicopter capabilities as mitigation for present or future activities in the basin.

5. All new development adjacent to wetland areas should be required to provide for adequate tertiary waste treatment of sewage.

6. All bulkheads should be placed at or above the mean high water level.

7. Containerization and/or reinjection of all produced waters and drillings muds and cuttings regardless of place of production should be required.

8. Produced water discharges should be controlled in sensitive environments.

9. No filling of coastal marshes for non-water-dependent purposes should be allowed.

10. All maricultural activities in coastal wetlands except for small cage cultures should cease.

11. Construction and use of surface pits for petroleum waste disposal in the Barataria Basin should be prohibited, and abandoned pits should be closed and restored.

12. In new developments, the natural drainage system should be used in its existing undeveloped state to slow runoff and encourage overland flow.

13. A"no net loss" criteria should be applied to all new dredge and fill activities. Empahsis should be on maintaining functional wetland values.

14. The importance of using dredged material beneficially to create land or plug and backfill canals should be stressed. Often, dredged material is deposited on top of already existing spoil banks or stacked in wetlands.

15. Require 50% of dredged material generated from maintenance dredging of all public waterways be used to generate soil elevations conducive to marsh creation or preservation. The remaining should be used for erosion control or made available for public sale to help finance the effort.

16. Commercial, industrial, and urban development should be directed toward appropriate areas in each EMU (e.g., noncoastal water-dependent activities to nonwetland habitats).

17. Historical and archaeological sites and the cultural heritage of the poeples within the Basin should be protected.

18. Mitigation should be sought where violations of water quality criteria have been demonstrated and have been shown to have adverse impacts on beneficial functions of the surrounding habitats. An illegal discharge site should be cleaned and it and the surrounding areas restored to pre-project conditions.

19. Mitigation should be sought for impacts on wetlands resulting from to urban development.

20. Landfill siting should be discouraged in wetlands.

21. Interdepartmental review of all drainage projects affecting bottomland hardwood swamps should be required.

22. Existing forested vegetation should be maintained by all developments within the modified wetlands areas to the maximum extent practical.

23. Activities that would needlessly destroy or degrade wetlands should be discouraged or modified. The least damaging water dependent alternatives should be selected. Improve habitat quality and quantity.

24. The permittee should be required to document that there are no practicalble alternatives or less damaging alternatives to the filling of wetlands after considering costs, logistics, and technical factors.

25. The permittee should be required to demonstrate that the project will not have an adverse impact on the public health.

26. All projects should be required to demonstrate that they meet or exceed FEMA requirements for flood damage reduction.

27. The discharge of improperly treated sewage should be discontinued and regulations should be strongly enforced.

28. All effluents and emissions from point and nonpoint sources shall comply with state and federal regulations. Proper certifications shall be obtained in order to insure that there are no detrimental impacts on the fauna and flora of the entire basin from such substances as hazardous chemicals and hydrocarbons. Water management plans shall include full (Insert discussion by Mr. Sabins) treatment of point source pollution.

COORDINATION

1. The coastal zone boundaries should be altered to include all of Cameron, Vermilion, Iberia, St. Mary, Terrebonne, Assumption, Lafourche, St. James, Ascension, St. John the Baptist, St. Charles, Orleans, St. Bernard, Jefferson, and Plaquemines Parishes; that portion of Calcasieu Parish south of Interstate 10; and those portions of Livingston, Tangipahoa, and St. Tammany parishes south of Interstate 12 or south of Interstate 10 east of the I10/I12 intersection in St. Tammany Parish.

ALREADY IS

2. The public should be educated on the importance and need for the modifications and regulations recommended in this report. They should be educated about present and anticipated conditions in the basin in terms of increased flooding, development of wetlands, wetland loss, degradation of water quality, and declines in fish and wildlife abundance. The education or public awareness program should include:

a. developing elementary-high school curricula;

b. making presentations to elementary-high school students;

c. conducting teacher education workshops;

d. developing cross-training with local school teachers and state/federal agencies;

e. incorporating EPA student project awards program with wetland protection theme;

f. issuing news releases;

g. utilizing student camps;

h. coordinating with education centers

i. conducting lectures and community education workshops;

j. encouraging cross-training among state/federal agency personnel, in order to enhance agencies;

k. conducting hunters/fisherman education seminars;

l. developing more accurate depiction of the Louisiana's coastal boundary on all public maps.

3. A mitigation bank for all of the small "Mom & Pop" permit applications should be established by the Corps. Contributions would be applied to larger and more practical mitigation projects.

4. Federal and state permit fees should be raised.

5. Tax incentive programs should be established for landowners who protect or enhance wetlands.

6. The importance of the role of the U.S. Soil Conservation Service Plant Materials Laboratory in Galliano, La. should be emphasized.

7. State agencies should recommend standards that protect the physical, biological, and chemical functions of the aquatic systems of the Basin.

8. State and local governments should prepare plans that have as one objective the protection of wetlands. One element should be the proper management of non-point discharges.

9. State and local governments should rigidly enforce standards on point source discharges.

10. Only approved herbicides for use in aquatic environments should be used for the maintenance of rights-of-way. Indiscriminent or excessive use of herbicides should be discouraged.

11. Agencies should encourage mechanical removal of vegetation along rights-of-way in place of herbicides.

12. The COE, DNR, EPA, and local governments should emphasize greater protection of wetlands for their habitat value for fish and wildlife, and the integrity of the existing and proposed wetlands management plans. The agencies should coordinate their activities more closely.

13. Wetlaneds protection measures consistent with state and federal laws should be identified, developed, and employed and incorporated into :

- *A. state statutes:*
- *B. local ordinances; and*
- *C. the state Coastal Management program.*

14. Mitigation or compensation at an off-site location should be required for projects which would adversely impact wetland areas only where adequate mitigation cannot be conducted on site.

15. Management Unit Boundaries between 1 and 3 and between 3 and 4 are not fixed but represent a consensus for discussion and should not be considered hard and fast boundaries.

16. By utilizing established development trends, soil types and elevations, growth limiting lines should be established around all natural levees with established development and shall be included as part of Management Unit 2.

Long-Term

Active

OIL and GAS

HYDROLOGY

1. Diversion rights-of-way should be purchased in suitable areas near existing or planned freshwater diversion sites for use when present structures are no longer functional.

2. More freshwater diversions/siphons should be installed along the river.

3. Freshwater flow of Bayou Lafourche should be increased and a series of freshwater siphons installed to nourish lands on both sides of the Bayou.

4. Structural and nonstructural solutions for the control of saltwater intrusion, wave wash, and subsidence should be implemented.

5. Existing water circulation avenues should be modified to improve flushing of lakes and wetlands; sediment and nutrient transport to wetlands improved; freshwater retention capacity increased; and saltwater intrusion reduced.

DREDGED MATERIAL

EROSION

1. Revegetation of ponding areas should be examined and implemented when beneficial.

MAN

Passive

PLANS and STUDIES

1. All freshwater diversions should be monitored for the presence of priority pollutants.

2. A method for dealing with sanitation problems caused by camps should be determined.

3. The hydrology and topography of each unit should be studied and modeled.

4. Land use plans for each EMU that provide for economic growth while protecting the natural resources of the units should be developed.

5. Monitoring of long-term water quality in the basin should be undertaken. Where contaminats are shown to be a problem, regulations need to be amended and enforced for greater control of pollutants.

REGULATIONS

1. Industrial and landfill contamination of wetland areas should be minimized.

2. Deep and swamp cypress associations should be protected and preserved.

3. Strict monitoring and control of cypress lumbering activities should be required.

4. Agencies should undertake maximum surveillance and enforcement of permit conditions to insure permittee has complied with the standard and special conditions.

COORDINATION

1. A user fee for commercial shipping interests using man-made waterways should be established and used for the restoration and preservation of wetlands adjacent to that waterway.

2. Agencies should be required to undertake maximum surveillance and enforcement of permit conditions to insure that the permittee complies with the criteria.

3. The 404 permit regulations should be altered to include a provision of no net loss of wetlands.

4. The public trust doctrine should be developed and enforced for access to state-owned water bottoms.

United States Department of the Interior
FISH AND WILDLIFE SERVICE
825 Kaliste Saloom Road
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Lafayette, Louisiana 70508

February 7, 1992

Colonel Michael Diffley
District Engineer
U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160-0267

Dear Colonel Diffley:

The Fish and Wildlife Service has prepared the attached report entitled, "Caernarvon Freshwater Diversion Contaminants Monitoring Study 1990-1991." The report documents pre-diversion contaminant levels in fish and shellfish collected from the Mississippi River and in the marsh downstream from the diversion structure. The attached report is submitted under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

We will continue to work closely with your staff during the planned post-diversion monitoring study. Please keep Mr. Paul Conzelmann of this office advised as the study progresses.

Sincerely yours,

David W. Frugé

David W. Frugé
Field Supervisor

cc: EPA, Dallas, TX
NMFS, Baton Rouge, LA
LA Dept. of Wildlife and Fisheries, Baton Rouge, LA
LA Dept. of Natural Resources (CMD), Baton Rouge, LA
FWS, Atlanta, GA (AWE/ES)
LA Dept. of Environmental Quality, Baton Rouge, LA
LA Dept. of Health and Hospitals, Baton Rouge, LA
Plaquemines Parish Government
St. Bernard Parish Government