



The "Essential Fish Habitat" Provisions of the Federal Sustainable Fisheries Act (P.L. 104-297, October 11, 1996)

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The Sustainable Fisheries Act of 1996 amends to the Magnuson Fishery Conservation and Management Act, originally enacted on April 13, 1976 (P.L. 94-265, April 13, 1976). The 1976 legislation, with its subsequent amendments, will be referred to herein as the Magnuson-Stevens Act. The Magnuson-Stevens Act established a 200 mile fisheries conservation zone (now denominated in the statute as the 200 mile exclusive economic zone or EEZ) to provide for exclusive United States regulation of fisheries resources within 200 miles of its shores. Management of these fishery resources was accomplished by the development of fishery management plans. Each plan for a particular fishery was developed by one of eight regional fishery management councils (established by the Magnuson-Stevens Act) in accordance with national standards for fisheries conservation and management. The plans have to be approved by the U.S. Secretary of Commerce. The Gulf of Mexico Regional Fishery Management Council serves the U.S. Gulf (Texas to Florida) region. The original Magnuson-Stevens Act provided that the Councils *could* comment on proposed federal or state projects or other activities that might affect the habitat of

a fishery resource, and some Councils established Habitat Committees for this purpose. The Gulf Council's Habitat Committee was particularly active. However, there was no affirmative requirement that the Councils identify essential habitat for particular fish species subject to a plan and take action to protect it. House floor debate on the Sustainable Fisheries Act highlighted this problem: "Mr. Chairman, in essence, what is happening with many of our fishery stocks in America in our offshore waters is that the habitat of those fishing stocks are being destroyed and there is no requirement for the councils that manage these fish stocks to look into habitat protection for fish stock protection (sic)." 141 CONG. REC. H. 10224 (daily ed. October 18, 1995) statement of Rep. Farr.

Senate floor debate emphasized similar habitat protection concerns: "The greatest long-term threat to the viability of our nation's marine resources could be the continuing loss and degradation of coastal marine habitat. Louisiana alone has lost half a million acres of wetlands since the mid-1950's. The National Marine Fisheries Service estimates that \$200 million is lost annually in reduced catches due to ongoing habitat loss. As all of us know, if you

destroy the habitat, you destroy the nurseries and you destroy the ecosystem on which those nurseries are dependent, which then diminishes the ability to have a sustainable fishery ..." 142 CONG. REC. S10812 (daily ed. Sept. 18, 1996) statement by Senator Kerrey. "Habitat protection also has become a greater concern in recent years as coastal development and marine pollution threaten the environment and subsequently the health of many fish stocks. Half of the world's population now lives within 40 miles of the coastline, and scientists estimate that by the turn of the century, more than three quarters of Americans will live within 50 miles of the U.S. coastline. Essential fish habitat must be identified and conserved if we are going to maintain healthy fish stocks in the future ..." 142 CONG. REC. S10820 (daily ed. September 18, 1996) statement by Senator Hollings.

Congressional efforts to amend the Magnuson-Stevens Act, which culminated in enactment of the Sustainable Fisheries Act of 1996, date back to 1993, the first session of the 103d Congress (H.R. Rep. No. 271, 104th Cong., 1st Sess. (1995)). Congress wanted to address the long-term sustainability of U.S. fisheries stocks and felt that more effective conservation and management



eventually could lead to stable fishery harvests at higher levels and substantial long-term benefit to the U.S. Congress was concerned with four major challenges to sustainable use of U.S. fishery resources: overfishing; destruction of essential fish habitat; waste and bycatch of nontarget species; and limited scientific information and understanding (S. Rep. No. 276, 104th Cong., 2d Sess. (1996)).

Essential Fish Habitat Provisions of the Sustainable Fisheries Act.

Congress added two new findings to the Magnuson-Stevens Act. New 16 U.S.C. 1801(a)(2) provides that: "certain stocks of fish have declined to the point where their survival is threatened, and other stocks of fish have been so substantially reduced in number that they could become similarly threatened as a consequence of (A) increased fishing pressure, (B) the inadequacy of fishery resource conservation and management practices and controls, or (C) *direct and indirect habitat losses which have resulted in a diminished capacity to support existing fishing levels ...*" (emphasis added). New 16 U.S.C. §1801(a)(6) adds that: "A national program for the conservation and management of the fishery resources of the United States is necessary to prevent overfishing, to rebuild overfished stocks, to insure conservation, *to facilitate long-term protection of essential fish habitats*, and to realize the full potential of the Nation's fishery resources ..." (emphasis added). Essential fish habitat is defined in new 16 U.S.C. §1802(10) as: "...those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity."

The NOAA Office of General Counsel prepared a guidance document which may indicate how the National Marine Fisheries Service (NMFS) and the Councils will interpret the definition of essential fish habitat. That interpretation is as follows:

"This term is used in the new sections regarding fish habitat (see §§101, findings; purposes; policy; 108(a)(7), regarding provisions; and 110, other requirements and authority). Essential fish habitat (EFH) is defined as 'those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to

maturity.'

The House and Senate developed different definitions of EFH in their bills. Both versions included the idea that EFH must be waters, as opposed to upland areas that may also be important, such as buffer zones along anadromous fish streams. Both versions also included the idea that these waters must be 'necessary' to the fish, presumably to prevent inclusion of less important habitat. The Senate version expanded the House definition to include 'substrate' necessary to fish, as well as waters. The Senate also included 'feeding' as a habitat use that was not in the House bill. Generally, the Senate language is a little broader than the House, but the general concept that EFH is habitat necessary for fish is the same in both.

The Office of Habitat Conservation (HC) formed a working group to develop the guidelines and work on other implementation issues. The group has divided the definition into its key components and analyzed each.

First, 'waters' will include aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include historic areas, where appropriate. For example, each species has certain requirements for temperature, dissolved oxygen, depth, current flow, and prey species.

Second, 'substrate' includes sediments, geologic features underlying the waters, and associated biological communities such as coral reefs or submerged aquatic vegetation. For example, different species have different requirements regarding the type of sediment, such as clay, sand, gravel, natural or artificial reefs, submerged aquatic vegetation, or coral.

Third, 'necessary' means the habitat required to support a managed species or assemblage at a target production level, reflecting conscientious stewardship. HC is considering how best to tie 'necessary' to the idea of rebuilding depleted stocks or maintaining stocks that are in good shape. HC wants to tie 'necessary' to Magnuson-Stevens Act

goals for rebuilding stocks rather than maintaining them at depleted levels. Historic EFH may also come into play because, if habitat is a limiting factor for a depleted stock, then it may be necessary to look at habitat that was once essential, but is no longer, as a means to rebuild.

Fourth, 'spawning, breeding, feeding, or growth to maturity' covers a species' full life cycle. The inclusion of 'feeding' may mean that predator-prey relationships should be considered. Although the Senate listed only certain critical life stages, it would be illogical to protect only those stages and not transition times and access to these areas. Finally, EFH may include habitat for individual species, depending on the species and FMPs. Some of the plans include many more than one species, so it would be easier to consolidate the habitats into one EFH designation."¹

New Requirements for Councils

The Sustainable Fisheries Act amends 16 U.S.C. §1853 (Contents of Fishery Management Plans) of the Magnuson-Stevens Act by adding the affirmative requirements that fishery management plans developed by the regional fishery management councils "describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A) [new 16 U.S.C. 1855(b)(1)(A)], minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation of such habitat ..." (16 U.S.C. 1853(a)(7)). As explained by Representative Farr, author of this provision, during House floor debate on the legislation: "My amendment does one simple thing. It simply requires the regional fishery management councils to include measures to minimize, to the extent practicable, fishing impact on habitat. We all know too well that healthy fisheries depend on healthy habitat. Fisheries biologists and other scientists point out the loss of wetland and river habitat as the major cause for decline in many major fisheries. Mr. Chairman, [this legislation] will help address this problem, helping to slow some of the inland harm to commercial



fisheries. But the fishing industry itself has a part to play in protecting the fish habitat. The way the bill is currently drafted, it says that the councils may take steps to minimize impacts on fishing habitats. This is essentially the same as current law which, while it does not mention the subject, would still allow councils to take steps if they chose to. The problem is that the councils have done nothing to address this under current law. Since they are not required and they will not be required, there is no indication they will address the problem at all. Thus, the councils could go on ignoring fish habitat issues under this bill. Mr. Chairman, my amendment would fix this problem by requiring conservation measures necessary to minimize, to the extent practicable, adverse impacts on the impact of habitat caused by fishing. It would require the councils to look for ways to minimize the impacts that fishing gear and fishing practices have on the habitat. This might include time or area closures or restrictions of particular types of gear. If the councils find that such measures are practical, my amendment would require the councils to include them in their plans" 141 CONG. REC. H10224 (daily ed. October 18, 1995) statement by Rep. Farr.

New 16 U.S.C. 1853(b) of the Magnuson-Stevens Act requires a Regional Fishery Management Council to submit to the Secretary of Commerce amendments to each current fishery management plan under its authority that comply with the essential fish habitat requirements of 16 U.S.C. 1853(a)(7) - and other new provisions of 16 U.S.C. 1853(a) - within 24 months after the date of enactment (i.e., October 11, 1996) of the Sustainable Fisheries Act. Finally, new 16 U.S.C. 1855(b) of the Magnuson-Stevens Act, entitled FISH HABITAT, requires the Secretary of Commerce, within 6 months of enactment of the Sustainable Fisheries Act, to establish guidelines to assist the Councils in describing and identifying essential fish habitat in fishery management plans (including adverse impacts on such habitat) and in considering actions to ensure the conservation and enhancement of such habitat. The proposed guidelines were published on April 23, 1997, with a draft technical guidance

manual for implementing to essential fish habitat provisions. The Senate report on the Sustainable Fisheries Act explains that the new 16 U.S.C. 1855(b) additionally provides: "The Secretary also would provide recommendations and information to assist the Councils, review Department of Commerce programs, and coordinate with and provide information to other Federal agencies to ensure and further the conservation and enhancement of essential fish habitat." Other Federal agencies must consult with the Secretary with respect to actions taken that may adversely affect essential fish habitat identified under the Magnuson-Stevens Act.

Again the NOAA Office of General Counsel guidance document provides an expanded interpretation of 16 U.S.C. §1855(b) that is helpful in understanding the new requirements:

"This section details the new habitat requirements for the Councils, the Secretary, and other Federal agencies. There are two major parts, first the description and identification of essential fish habitat (EFH), including adverse impacts and conservation and enhancement measures. The second is the consultation requirements for Federal agencies. By April 11, 1997, the Secretary must establish, by regulation, guidelines for the Councils to assist them in describing and identifying EFH, including adverse impacts caused by fishing and other activities, and in considering measures to conserve and enhance EFH. The Secretary must develop a schedule for amending FMPs to include EFH, and for reviewing EFH identification based on new information.

The Secretary must review the Department's programs to ensure that any relevant programs further the conservation and enhancement of EFH. The Secretary must work with other Federal agencies to further conservation and enhancement of EFH.

Each Federal agency is required to consult with the Secretary regarding any activity that is, or is proposed to be, authorized, funded, or undertaken by the agency, and that may adversely affect EFH. The Councils may submit comments to

the Secretary and other Federal and State agencies, on actions by Federal or State agencies that may affect the habitat of a fishery resource. The Councils must comment if the activity is likely to substantially affect the habitat of anadromous fish. If the Secretary receives information from a Council or Federal or State agency, or finds through other means, that an activity would adversely affect EFH, the Secretary must recommend to that agency measures that would conserve the habitat. Federal agencies must respond to the Secretary and Council within 30 days of receipt of the Secretary's comments. The response must include a description of the measures used by an agency to avoid, mitigate or offset the impact of the activity on EFH. If appropriate, the response must include an explanation for not following the recommendations.

The habitat sections of the Sustainable Fisheries Act strengthen the previous habitat protection measures in the Magnuson-Stevens Act and reflect an increasing concern that the health of fishery stocks is linked to habitat. In his floor statement, Senator Holling stated that habitat protection has become a greater concern because coastal development and pollution threaten the environment and subsequently the health of the fish stocks. Senator Kerry, in his floor statement, pointed out that, if you destroy the habitat, you destroy the nurseries and the ecosystem upon which these nurseries depend, which in turn diminishes the ability to have a sustainable fishery. While there are many differences between the House and Senate versions of the habitat sections, both clearly indicated the same concern with habitat protection through first the identification of EFH and then the consultation process.

NMFS is currently working on guidance to the Councils for the description and identification of EFH, including adverse impacts, and conservation and enhancement measures. (Editor's Note: As this publication was going to press the National Marine Fisheries Service pub-



lished Interim final regulations implementing the essential fish habitat provisions of the Magnuson-Stevens Act. Future issues of the LCL will analyze the implications of those regulations. Interested parties can find the regulations at 62 Fed. Reg. 66531 (1997) to be codified at 50 C.F.R. part 600.) NMFS established a working group to handle EFH requirements of the Sustainable Fisheries Act, comprised of headquarters staff in the offices of Habitat Conservation, Sustainable Fisheries, and others. The regions are also forming EFH work groups to coordinate the regional EFH work.

An Advance Notice of Proposed Rulemaking (ANPR) was published on November 8, 1996, to solicit comments and information. A second ANPR was published on January 9, 1997. NMFS used the ANPR to announce the availability of, and request comments on, the Framework for the Description, Identification, Conservation and Enhancement of Essential Fish Habitat. The Framework includes a means to describe and identify EFH, both in written form through a detailed description of the habitat requirements of the managed species, including its current and historical locations, and some form of mapping the geographical extent of the habitat.

The Framework includes a four-tiered approach to EFH identification and description based on the amount of data available on a particular species and the scientific understanding of the relationship between habitat quality and fish production. Level one represents the least amount of data available, just presence/absence of species. As the amount of information increases, the size of EFH may change, depending on what the data indicate. Level four represents the most information, including the relation of production rates of a species to habitat type and location.

The Framework includes a tiered approach to the identification of adverse impacts to EFH based on the amount of data available. Adverse impacts include impacts from

fishing gear. Tier one identification of adverse impacts would include a description of the impacts, and, if possible, a map showing the location of these impacts. Tier two would add an evaluation of the status and trends of EFH. Tier three would include an evaluation of the cumulative impacts of adverse impacts, including an ecological risk assessment.

Another issue is how to determine the appropriate conservation and enhancement measures for EFH. The Framework ties this in with the adverse impacts section because the two are closely related.

The Framework also includes procedures to implement the consultation requirement. NMFS is considering the most efficient means to handle the consultation so that EFH receives appropriate protection, while not placing more of the burden on ourselves, other Federal agencies, the Councils and applicants. The requirements for NMFS to comment on all Federal and some State actions that would adversely affect EFH could result in the agency's reviewing tens of thousands of proposed activities annually. This is a significant increase over the current permit review handled by NMFS regions.

The Framework has three levels of permit review. The first is a general concurrence for activities that would only have minimal adverse impact on EFH. The abbreviated consultation procedure could be the next step for activities that would require an individual review by NMFS because of the adverse impacts on EFH. The third level of review could be an expanded consultation for projects that would take a lot of the agency's time to review and develop recommendations for conserving EFH.

There are some inconsistencies in the consultation requirement that need to be addressed. One is that, while the Councils comment on the action to the Secretary and the appropriate Federal or State agency, there is no requirement that anyone give the Councils notice of activity. NMFS is considering methods to

provide notice to the Councils. Another apparent inconsistency is that, while the Councils and Secretary comment on actions by Federal and State agencies, there is no requirement for the States to consult with either the Secretary of the Councils. NMFS is considering how best to work with the States on this point."²

Therefore, the foregoing guidance established that consistent with the existing provisions of the Magnuson-Stevens Act, the Councils would continue to be authorized to comment on Federal and State activities that might affect the habitat of a fishery resource, and would continue to be required to comment on Federal and State activities likely to substantially affect the habitat of an anadromous fishery resource. "Upon receiving information that a Federal or State agency's action would adversely affect essential fish habitat, the Secretary would be required to recommend measures to the agency for conserving the habitat. A Federal agency would be required to provide a detailed written response to the Secretary within 30 days, describing measures being considered to avoid, mitigate, or offset the impact of the activity, or explaining its reasons for not following the Secretary recommendations ..." (S.

Rep. No. 276, 104th Cong., 2d Sess. 24-25 (1996)).

The National Marine Fisheries Service/NOAA, U.S. Department of Commerce, charged with implementing provisions of the Sustainable Fisheries Act, has set up a Sustainable Fisheries Act website at <http://kingfish.ssp.nmfs.gov/rschreib/html/ldfefh.htm> which has documents and status reports online.

1. A Guide to the Sustainable Fisheries Act Public Law 104-297, Prepared by the NOAA Office of General Counsel. February 1997, pp 3-4.

2. *Id.* pp.36-39.



The Barataria-Terrebonne National Estuary Program Comprehensive Conservation and Management Plan

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In 1985, the U.S. Environmental Protection Agency (EPA), created the National Estuary Program (NEP). Establishment of the NEP was based on two successful programs coordinated by EPA which were designed to improve water quality of near coastal waters (estuarine zones). The programs, which showed that improvements in water quality in near coastal waters could be successfully achieved through a partnership of the public and private sectors, were the Chesapeake Bay Program and the Great Lakes Program. In 1987, Congress formally adopted the National Estuary Program as Section 320 (33 U.S.C. 1330) of the Clean Water Act in the Water Quality Act of 1987 (P.L. 100-4, 1987). Section 320 provides that the Governor of a state may nominate an estuary lying in whole or part within his state as an "estuary of national significance" under the NEP and request that the EPA convene a "management conference" to develop a comprehensive conservation and management plan (CCMP) for the estuary. The term "estuary" and "estuarine zone" as used in the Clean Water Sec. 320 are defined as:

estuary: all or part of the mouth of a river or stream or other body of

water having unimpaired natural connection with open sea and within which the sea water is measurably diluted with fresh water derived from land drainage. (33 U.S.C. 1254(n)(4); 1330(k))

estuarine zone: an environmental system consisting of an estuary and those transitional areas which are consistently influenced or affected by water from an estuary such as, but not limited to, salt marshes, coastal and intertidal areas, bays, harbors, lagoons, inshore waters, and channels and associated aquatic ecosystems and those portions of tributaries draining into the estuary up to the historic height of migration of anadromous fish or the historic head of tidal influence, whichever is higher. (33 U.S.C. 1254(n)(4); 1330(k))

The 1987 Water Quality Act establishing the NEP requires the Administrator of EPA to give priority consideration in designating estuaries of national significance to several named estuaries, including, for example, Narragansett Bay, Rhode Island; Puget Sound, Washington; Albemarle/Pamlico Sounds, North Carolina; Galveston Bay, Texas; and the

Barataria-Terrebonne Bay estuary complex (33 U.S.C. 1330(a)(2)(B); Section 320(a)(2)(B) of the CWA). Section 320 of the CWA allows the Administrator to make additional NEP nominations. To date, 28 estuaries have been selected to participate in the NEP. Approximately 10 implementation plans have been approved.

Once an estuary has been nominated and designated an estuary of national significance by the Administrator, it must convene a Management Conference, appointed by the Governor of the state, which has 5 years to develop a set of action plans and a schedule to implement them, together known as a Comprehensive Conservation and Management Plan (CCMP). The Management Conference is a forum composed of individuals representing federal, state, and local agencies; affected industries; public and private educational institutions, and the general public. EPA provides funding for the CCMP through a state agency, with the state providing matching funds.

The CCMP must show how the estuary can be protected and its living resources enhanced through comprehensive action-oriented management that:

- identifies the probable causes of



- major environmental problems in estuaries of national significance;
- promotes and sustains long-term state and local commitment to solving the problems;
 - generates meaningful public involvement and participation;
 - focuses existing regulatory, institutional, and financial resources to act on identified problems; and
 - encourages innovative management approaches.

[OFFICE OF WATER, U.S. EPA, PUB. NO. 503/9-90-005, PROGRESS IN THE NATIONAL ESTUARY PROGRAM: REPORT TO CONGRESS (1990)]

Former Louisiana Governor, Buddy Roemer requested the establishment of a Management Conference for the Barataria-Terrebonne Estuaries Complex in October, 1989 (OFFICE OF THE LA. GOVERNOR, BARATARIA-TERREBONNE ESTUARINE COMPLEX: Governor's Nomination and Request for a Management Conference Under the National Estuary Plan (October, 1989)). The nomination document explained the national significance of the estuarine complex. The Barataria-Terrebonne Estuarine Complex is vast, rivaling in size the nation's largest estuary, Chesapeake Bay. NOAA and U.S. Fish and Wildlife Service estimates of the areal extent of this estuary are regarded as conservative. The open water area of the Barataria-Terrebonne Complex is nearly four times that of Galveston Bay and twice that of Long Island Sound. (These two estuaries are listed in Section 320(a)(2)(B) of the CWA.) When tidal wetlands are included, the complex is larger than the Albemarle-

Pamlico Sounds. (This estuary is listed in Section 320(a)(2)(B) of the CWA.) The Barataria-Terrebonne Estuarine Complex contains more coastal wetlands than any other estuarine system in the U.S.

The nomination document also explained the need for establishing a management conference for the Estuary Complex and discussed the likelihood that the management conference would successfully develop and implement a CCMP. The Barataria-Terrebonne National Estuary Program (BTNEP) was approved by EPA in 1991. BTNEP is administered by EPA and the Louisiana Department of Environmental Quality (LDEQ). The BTNEP staff and office are located on the Nicholls State University Campus in Thibodaux. The Management Conference for BTNEP, which is charged with developing a CCMP, was composed of the following committees, created to facilitate development of the CCMP and public involvement in its development:

- Policy Committee
- Management Committee
- Scientific-Technical Committee
- Local Governments Committee
- Citizens Advisory Committee
- Coordinated Planning Alliance
- Ecological Management Alliance
- Sustained Recognition and Citizen Involvement Alliance, and
- Planned Balanced Economic Growth Alliance.

These committees have met tirelessly over the last five years to develop the CCMP for BTNEP. As a first step, the Management Conference was required to develop a statement of its vision of the estuary (i.e. vision statement). The adopted statement reads:

"We the people of Louisiana and the

Barataria-Terrebonne estuarine basins believe that the Barataria-Terrebonne ecosystem is a national treasure which represents a unique multicultural heritage.

Furthermore, we recognize that our ongoing stewardship is critical to its preservation, restoration, and enhancement. This stewardship can only be maintained by active support of those who live in the basin, and those who use its abundant resources locally, statewide, and throughout the nation.

Acknowledging the importance of this estuary to our environmental, cultural, and economic well-being, the people living and working in these two basins believe that we should have a balanced ecosystem that includes:

- Public education and informed citizen participation.
- Local, state, and national recognition and support.
- Maintained multi-cultural heritage.
- Sustained and restored wetlands that support viable fish and wildlife resources.
- Pollution abatement to protect the health of plants, animals, and people.
- Environmentally-responsible economic activity.
- Environmentally-compatible infrastructure (roads, bridges, levees, railroads, etc.)
- Comprehensive, integrated watershed planning among all its users.
- Harmonious use of the resources by many interests and resolution of user conflicts.

We pledge to work together to develop a plan to re-establish a chemical,



physical and biological balance in the Barataria-Terrebonne estuary so that diverse plant and animal communities and human health and welfare can be improved and sustained for present and future generations."

In carrying out its work, the Management Conference funded several projects and publications. Four of these projects were directed at determining the current status of the estuary and how it has changed over time and identifying problems facing the estuary in the future, with or without an adopted CCMP.

The four reports are: *Status and Trends of Hydrologic Modification, Reduction in Availability, and Habitat Loss/Modification; Status and Trends of Eutrophication, Pathogen Contamination, and Toxic Substances; Status, Trends, and Probable Causes of Change in the Living Resources; and Status and Trends of Land Use and Socio-Economics*. These reports provided the scientific explanation of problems in the estuary and recommended programs necessary to halt destruction trends impacting habitat and wildlife in the estuary. The principal findings and recommendations of these "Status and Trends" reports were summarized in a user-friendly report *Saving Our Good Earth: A Call to Action, Barataria-Terrebonne National Estuary Program Characterization Report*.

The BTNEP CCMP were formally approved by the Management Conference in June, 1996. The CCMP is composed of four documents: the Executive Summary; the Estuary Compact; the Technical Supplement; and the Appendix. The Estuary Compact is the heart and soul of the CCMP.

The Estuary Compact [subtitle: A

Public-Private Promise to Work Together to Save the Barataria and Terrebonne Basins] is composed of the vision statement, and "state of the estuary," and fifty one action plans for restoring and maintaining the chemical, physical and biological integrity of the estuary.

The action plans are divided into five categories: Program Implementation, Ecological Management, Sustained Recognition and Citizen Involvement, Economic Growth, and Coordinated Planning. Within each category are specific measures designed to :

"recommend priority corrective actions and compliance schedules addressing point and non-point source pollution to restore and maintain the chemical, physical, and biological integrity of the [Barataria-Terrebonne] estuary, including restoration and maintenance of water quality, a balanced indigenous population of shellfish, fish and wildlife, and recreational activities in the estuary, and assure that the designated uses of the estuary are protected."

For example, in the Ecological Management group some of the plans include: hydraulic restoration, freshwater and sediment diversions, evaluation of the effectiveness of reactivating Bayou Lafourche as a distributory of the Mississippi River, beneficial use of dredged and non-indigenous material, preservation and restoration of barrier islands, marsh management, oil and produced water spill prevention and early detection, reduction of agricultural pollution, protection of habitat for migratory and resident birds, and reduction of impacts from exotic vegetation. However the plans extend far beyond purely

scientific considerations. From the Sustained Recognition and citizen Involvement category some action plans are: participatory meetings and forums, citizen involvement programs and activities, citizen monitoring program, cultural heritage, urban green spaces, storm drain stenciling, legislative education, estuarine curriculum and development, continuing and informal education programs. The economic growth category includes: finding sources for new businesses; nature-based tourism and recreation; export of resources, products, and technology; new technology research and development; and education about regulatory intent.

As an approved program, the Barataria-Terrebonne National Estuary Program is now charged with implementing the CCMP. To oversee implementation, the CCMP established the BTNEP Management Conference, with oversight by the office of the Governor. The Program Office remains at Nicholls State University and continues under the auspice of the Louisiana Department of Environmental Quality.

For further information concerning the Barataria-Terrebonne National Estuary Program you can call 1-800-259-0869, e-mail at btep-db@nich-nsunet.nich.edu, or write: The Barataria-Terrebonne National Estuary Program
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News / Announcements

The Sea Grant Legal Program wishes to announce the addition of Sharonne O'Shea to our staff as coordinator. Ms. O'Shea received a B.A. in Biology and History from Alma College in Alma, MI in 1992, and a J.D. from the University of Oregon, in Eugene, OR with certificates of completion in Environmental

and Natural Resources law and Ocean and Coastal Law. She was also Associate Editor of the *Journal of Environmental Law and Litigation*. During 1995, Ms. O'Shea served as a Knauss Sea Grant Fellow in Senator John Glenn's office working on appropriations and Great Lakes issues. Since her arrival at LSU in No-

vember, she has concentrated on local Coastal Management issues, as well as keeping herself well-fed by learning about Louisiana culture; her first include gumbo, alligator, and raw oysters. The Sea Grant Legal Program is very pleased to have Ms. O'Shea on its staff.

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