# RECENT DEVELOPMENT

## THE SYSTEMIC ASSUMPTIONS OF WETLAND MITIGATION: A LOOK AT LOUISIANA'S PROPOSED WETLAND MITIGATION AND MITIGATION BANKING REGULATIONS

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## I. INTRODUCTION

Assumptions are dangerous in wetlands law. For instance, it is a general assumption that the section 404 wetland permit program[1] was the first and most significant federal involvement in wetlands law. This assumption is dangerous not only because it is wrong, but also because it taints the view of the federal role in wetlands law. The first wetlands law was the Swamp Lands Act of 1849.[2] Its purpose was to drain swamps. The United States government gave to the several states all swamp and overflowed lands[3] in order to raise money "whether from sale or by direct appropriation in kind, [to be] . . . applied exclusively, as far as necessary, to the reclaiming said lands, by means of levees and drains."[4] Thus, our country's first wetland policy was one directed toward wetland elimination.[5] For most of our collective history swamps and wetlands were considered useful only for draining and filling.

The environmental movement, beginning in the late 1960s, fostered federal laws such as the National Environmental Policy Act of 1969[6] and the Federal Water Pollution Control Act Amendments of 1972.[7] There was a new national awareness and respect for the environment. Section 404, described by one commentator as "one of the simplest statutes to describe and one of the most painful to apply,"[8] was also part of this movement. The country was beginning

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1. The section 404 program refers to section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. § 1344 (1988).

2. 43 U.S.C. § 981 (1988). Congress passed the Swamp Lands Act of 1849 to give Louisiana title to the swamp and overflowed lands within its borders for the general purpose of controlling floods in the Mississippi basin. In 1850 the act was extended to the states of Alabama, Arkansas, California, Florida, Illinois, Indiana, Iowa, Michigan, Mississippi, Missouri, Ohio and Wisconsin. Minnesota and Oregon were added in 1860. By 1954, 100 years after the act was established, an estimated 65 million acres of these lands were granted to these fifteen states for reclamation. WILLIAM M. MITSCH & JAMES G. GOSSELINK, WETLANDS 416 (1986).

3. 43 U.S.C. § 982 (1988).

4. *Id.* § 983.

5. MITSCH & GOSSELINK, *supra* note 2, at 416.

6. 42 U.S.C. § 4321 (1988).

7. 33 U.S.C. § 1251 (1988).

8. Oliver Houck, *Hard Choices: The Analysis of the Alternatives Under Section 404 of the Clean Water Act and Similar Environmental Laws*, 60 U. COLO. L. REV. 773 (1989) [hereinafter Houck, *Hard Choices*]. The easy description is:

> Section 404 requires a federal permit for nearly all work in nearly all waters of the United States. Day in and day out, more than ten

to recognize the true value of wetlands and the valuable functions they perform.[9] Swamps have become a national tourist destination. Society has changed its ways to embrace wetlands and recognize their value . . . or has it?

In fact, to credit society with such progress in wetlands awareness would be another wrong assumption. In 1991, the Louisiana delegation sponsored identical bills in both houses of Congress, H.R. 1330 and S. 1463,[10] in which the attitude was at best ambivalent about wetlands. The bills' proposed findings stated that wetlands "play an integral role in maintaining the quality of life . . . [and] serve important ecologic and natural resource functions . . . [but] they also present health risks in some instances where they act as breeder grounds for insects that are carriers of human and animal diseases."[11] The U.S. Army Corps of Engineers' (Corps) self-proclaimed "user friendly regulators" handle 90,000 to 100,000 section 404 permit actions yearly. Eighty thousand of these permits

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> thousand times a year, in states so dry that water is wealth, in regions so wet that the first objective is to stay dry, and across all of the wet meadows, prairie potholes, ponds, bogs, creeks, and tributaries in between, section 404 permit applications set up potentially bloody confrontations among developers, regulators, and environmentalists.

*Id.*

9. The functions usually attributed to wetlands include water purification, sediment trapping, wildlife habitat, flood flow discharge and desynchronization, and groundwater recharge. *See* ENVIRONMENTAL LAW INSTITUTE REPORT, *WETLAND MITIGATION BANKING* 1 (1993) [hereinafter ELI REPORT]. The report adds the functions of shore anchoring and dissipation of excessive forces, nutrient retention and removal, food chain support, fisheries habitat, active recreation, and passive recreation and heritage value. *Id.* at 85. For another list of wetlands values, see also Hope Babcock, *Federal Wetlands Regulatory Policy: Up to its Ears in Alligators*, 8 PACE ENVTL. L. REV. 307 (1991) which states, "wetlands help maintain water quality, control erosion, discharge and recharge ground water, and provide opportunities for the harvest of indigenous products including timber, fish, shellfish, peat, cranberries, and wild rice. Wetlands also provide valuable recreational opportunities, such as bird watching, canoeing, hunting, and fishing." *Id.* at 310 (citations omitted).

10. H.R. 1330, 102d Cong., 1st Sess. (1991) (introduced by Rep. Hayes); S. 1463, 102d Cong., 1st Sess. (1991) (introduced by Sen. Breaux) [both bills hereinafter referred to as the Hayes-Breaux Bill]. The bills called for a complete restructuring of the 404 program, including classifying all wetlands as type "A," "B," or "C" wetlands. Type "A" wetlands would be saved but paid for, type "C" would be able to be developed with little fanfare, and type "B" would need to be permitted before development.

11. Hayes-Breaux Bill, §§ 2(a)(1), (2) and (6). For a detailed discussion of this proposed legislation see Denis Collins Swords, *The Comprehensive Wetlands Conservation and Management Act of 1991: A Restructuring of Section 404 That Affords Inadequate Protection for Critical Wetlands*, 53 LA. L. REV. 163 (1992).

are handled through the Nationwide Permit Program.[12] Of the approximately 15,000 permits that receive individual attention, two-thirds are granted, most with some conditions. Only 500 section 404 permits are denied per year and 4,500 are withdrawn by the applicant, often because a general permit could be applied.[13]

It is wrong to assume that the Corps' user friendly attitude does not accurately reflect society's attitude about our wetlands. Wetlands have very little "hard cash" value. Without the potential to drain, fill and develop, marsh wetlands in Louisiana are valued between $200 and $400 per acre. Timbered wetlands have a market value of up to $1,000 per acre, depending on the timber value.[14]

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12. Nationwide Permit Program, 33 C.F.R. § 330.1 (1993). Actual permits are included in Appendix A. The Corps does not issue a permit under the program for each individual action. Some activities do not require the permittee to even notify the local Corps District Engineer. *Id.* § 330.1(e)(1). However, some have notice provisions. In all cases the district engineer can modify the Nationwide Permit if it is found that the proposed activity would have more than minimal individual or cumulative net adverse effects or may be otherwise contrary to the public interest. *Id.* § 330.1(d). The regulations list 36 types of dredge and fill activities eligible for a national permit. Eleven of these activities require notice be given to the Corps prior to acting under the permits.

13. Lance D. Wood, Assistant Chief Counsel for Environmental Law and Regulatory Programs, U.S. Army Corps of Engineers, Address at the ALI-ABA Inverse Condemnation and Related Government Liability Course panel discussion on "Takings Issue in the Context of Endangered Species Protection and Wetlands Regulation," (Sept. 30-Oct. 2, 1993) (notes on file with the *Tulane Environmental Law Journal*) [hereinafter Wood Speech].

14. Discussion with Yvonne Barbier, Acting Chief Appraiser for the New Orleans District Corps of Engineers, Jan. 12, 1994. The New Orleans District has the largest civil works acquisition project in the United States in the Atchafalaya Basin, which is almost entirely under section 404 jurisdiction. In addition, the Corps is the lead agency for the Coastal Wetlands Planning, Protection and Restoration Act of 1990, Public Law 101-646, 16 U.S.C. 3951 [hereinafter CWPPRA], which has a statutory budget of $70 million per year for marsh creation projects, approximately $40 million of which is for marsh creation projects in coastal Louisiana.

For a good discussion of the value of wetlands as developable property and the value of wetlands as nondevelopable property, see West Jefferson Levee District v. Coast Quality Construction Corp., 620 So. 2d 319 (5th Cir. 1993). In this case a big issue was whether the property could be developed, even though a 404 permit had already been denied the developers by the New Orleans District Corps. Both parties' appraisers testified that the value of the land without a 404 permit to develop was $400-440 per acre, and the value with a 404 permit was $23,000-25,000 per acre. *Id.* at 332-33. The difference in the consolidated cases amounted to a difference between $250,990 deposited by the levee district, and over $50 million awarded to the landowners by the trial court, plus interest until paid. The trial court award was reduced about $12 million on appeal. The Louisiana Supreme Court granted writs and heard oral arguments on January 19, 1994.

In his 1988 presidential campaign, George Bush promised "no net loss" of wetlands.[15] To put the expression "no net loss" into perspective, imagine that President Bush had announced a program of "no net loss" for the National Art Gallery. Under such a program, the Government could sell Picassos, Monets and Van Goghs to the highest bidder in an attempt to reduce the federal deficit. The museum staff would be sent to the nation's "starving artist sales" and losses of great paintings would be mitigated at a ratio of at least 1.5:1 and, depending on the artist sold, as high as 3:1. One Salvador Dali could be replaced with upwards of three sofa-sized seascapes.[16]

The no net loss of wetlands policy assumes that wetlands are replaceable, or at least re-creatable. This is a dubious assumption. Wetland creation and restoration was the target of a study by the Florida Department of Environmental Regulation (DER). In examining 119 wetland creation sites required in sixty-three permits, the DER found that only four of the sixty-three permits were in full compliance.[17] In thirty-four percent of the cases, no mitigation had ever been attempted even though wetlands loss had occurred. At the sites involving freshwater mitigation where artificial wetlands were actually built, only twelve percent were successful.[18] While the study did not explicitly distinguish between "creation" of wetlands and "restoration" of wetlands, the study indicates that the overall success rate of mitigation efforts found better, albeit limited, success with restoration projects than with true marsh creation[19] projects, which had a failure rate of nearly 100 percent.[20]

The fact is, we cannot replace the irreplaceable. Even if the enforcement of the permit conditions and the monitoring system

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15. Some would say it was the second most regretted promise of his presidential campaign. *See* Virginia S. Albrecht, *The Federal Wetlands Regulatory Program*, C750 ALI-ABA 113, 189 (1992).

16. The no net loss policy of the 404 program on the national level is not as bad as this example, but many worry about the practicalities of replacement or creation of wetlands and wetlands functions and mourn the loss of wetlands as much as an art lover would mourn the loss of a great painting. *See generally* Houck, *Hard Choices*, *supra* note 8.

17. John R. Flicker, *The Disney Wilderness Preserve*, 20 ENVTL. & URB. ISSUES 10, 12 (Summer 1993).

18. *Id.*

19. *Id.* Wetlands are "built" in both restoration and creation projects. The difference is whether the land was ever a wetland before.

20. ELI REPORT, *supra* note 9, at 53.

improves, and technology advances rapidly,[21] much of wetlands destruction will never be replaced.

The Corps could theoretically stop issuing section 404 permits.[22] However, there would still be 80,000 actions in the wetlands performed under the Nationwide Permit Program.[23] If the Corps revoked all Nationwide Permits, there would still remain significant wetland activities that are statutory exceptions to the 404 programs, such as normal farming, silviculture and ranching, maintenance and emergency reconstruction of dikes, dams and levees, construction of farm or stock ponds or irrigation ditches, construction of temporary sediment basins, and construction or maintenance of farm roads or forest roads and temporary mining roads.[24]

If all the exceptions were revoked by Congress, the existing problem of illegal filling of wetlands would magnify beyond its already serious proportions. In fiscal year 1993 (October 1992 to September 1993) the Corps reported 6,695 unauthorized activities in wetlands and issued 918 after-the-fact permits nationwide.[25] Wetlands were either voluntarily restored or ordered restored on 1,227 illegally filled wetlands sites.[26]

The reality of wetlands is that they will continue to be lost from many causes, including development, illegal fill, and excepted activities.[27] Even if federal and state governments were to adopt a

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21. Even if we had the technology to create or restore wetlands, we would still have the philosophical question of whether we should create or restore them. Just because we have the technology to balance stones on top of each other does *not* mean that we should recreate Stonehenge elsewhere and build a shopping mall over the original site. *See* Theodore J. Griswold, *Messing with Mother Nature: The Quagmire of Wetland Mitigation Banking*, 13 CAL. REG. L. REP. 1, 6 (1993) (quoting William Sutherland & Chris Gibson, *Habitats to Order: Man Made Habitats Are No Substitute for the Real Thing*, 117 NEW SCIENTIST 70 (1988)).

22. For the sake of argument, we will assume that the administration would be with full knowledge that it will not be willing to take on the additional liability under the Fifth Amendment for regulatory takings.

23. Wood speech, *supra* note 13.

24. 33 U.S.C. §§ 1344(f)(1)(A)-(F) (1988).

25. Telephone Interview with Ronald Ventola, Chief of the Regulatory Functions Branch of the New Orleans District Corps of Engineers (January 14, 1994) (on file with the *Tulane Environmental Law Journal*). For the same time period, the New Orleans District reported 152 unauthorized wetland filling activities, 34 after-the-fact permits issued and 17 restored sites. These figures, shocking as they are, do not include the illegal activities that were not discovered by the Corps' enforcement staff. *Id.*

26. *Id.*

27. *Id.*

rigorous wetlands protection policy, many wetlands activities would still need to be mitigated.

In addition to the activities of man, natural forces must be taken into account.[28] Rising sea level, subsidence, drought, hurricanes, erosion, and animal activity all contribute to the destruction of our wetlands.[29] Louisiana experiences these influences in great magnitude and as a result, perhaps the state's biggest problem is not that wetlands are being filled and developed into dry lands, but that wetlands are disappearing and becoming open water.[30] Realizing that action must be taken to protect the state's wetland areas, the Louisiana Legislature passed Act 1040 of 1990,[31] requiring the Department of Natural Resources (DNR) to promulgate new regulations on mitigation, mitigation banking, and variances to mitigation requirements.

This article will examine certain systemic assumptions. First, it will examine the basic assumptions to all mitigation and mitigation banking systems by taking a comparative look at the federal system and the systems of Oregon, Maryland, Florida and Louisiana. Next, it will analyze the Louisiana Legislature's assumptions in the statutory instructions given to the DNR. Third, it will look at the DNR's assumptions in setting up the system of mitigation and mitigation banking that will be used in all state permitted wetland actions in the Louisiana Coastal Zone.[32] The article will conclude with a suggested

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28. The assumption could be made that if wetlands are being destroyed by natural means, then perhaps man should not interfere. No part of our wetlands environment is natural anymore. Subsidence eats at the Louisiana Coastal Zone because the Mississippi River is leveed and no longer nourishes and deposits sediment in the marshes, because it no longer overflows its banks every spring. Saltwater intrusion destroys wetlands along man-made pathways created by innumerable oil and gas canals and massive public works projects. *See* Oliver Houck, *Land Loss in Coastal Louisiana: Causes, Consequences, and Remedies*, 58 TUL. L. REV. 3 (1983) (detailing the man-assisted causes of "natural" wetlands loss) [hereinafter Houck, *Land Loss*].

29. Babcock, *supra* note 9, at 313.

30. Interview with Major General Thomas Sands, retired (Nov. 18, 1993) (notes on file with the *Tulane Environmental Law Journal*). General Sands was formerly District Engineer for the New Orleans District. *See also* Houck, *Land Loss*, *supra* note 28 at 25, for a discussion of this alarming phenomenon.

31. 1990 LA. ACTS 1040 § 1 (codified at LA. REV. STAT. ANN. § 49:214.41 (West 1992) [hereinafter ACT 1040].

32. This paper will analyze the FOURTH DRAFT of the MITIGATION REGULATION FOR THE LOUISIANA COASTAL ZONE Proposed in the Notice of Intent, 20:3 LA. REG., Mar. 20, 1994. The regulations will amend Louisiana Administrative Code Title 43, Part I, Chapter 7. [hereinafter FOURTH DRAFT]. On January 4, 1994, Quin Kinler, Special Projects Coordinator

method of creating a viable private mitigation banking system in Louisiana.

## II. GENERAL ASSUMPTIONS FOR ALL MITIGATION AND MITIGATION BANKING SYSTEMS

If the basic assumption of the section 404 program were the same as the basic assumption of the Endangered Species Act,[33] that is, "until we know what is important and what is not important we should save it all," there would be no need to mitigate for wetland loss. However, in section 404 Congress decided to permit the destruction of wetlands and merely require that the destruction be mitigated.[34] A mitigation system tells the permittee what must be

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for the Louisiana Department of Natural Resources, stated that the Third Draft, dated October 22, 1993, was first due to be published in the *Louisiana Register* on December 20, 1993, but was delayed until the DNR made changes to the accounting system for "in lieu" fee payments to be collected and disbursed. The regulations were next due to be published for public comment on February 20, 1994. Telephone Interview with Quin Kinler, Special Projects Coordinator for the Louisiana Dept. of Natural Resources (Jan. 4, 1994) (notes on file with the *Tulane Environmental Law Journal*). The Third Draft represents an eighteen-month process where the DNR canvassed the thinking of over 500 participants. There were many compromises in the negotiations for the promulgation of the Third Draft. The Third Draft reflects the assumptions of a wide array of wetland interests including the Federal Government, the oil and gas industry, the consumptive group (hunters, trappers and fishermen), the nonconsumptive group (birdwatchers and recreational users), and landowners. *Id.* In a further telephone conversation with Mr. Kinler concerning the status of the Third Draft he stated that the regulations were delayed for review by the Secretary of the DNR and a new publication date was not available. The Fourth Draft was a product of DNR's internal review. Telephone Interview with Quin Kinler, Special Projects Coordinator for the Louisiana Dep't of Natural Resources (Feb. 7, 1994) (notes on file with the *Tulane Environmental Law Journal*).

33. 16 U.S.C. §§ 1531-44 (1988).

34. The basis of this system and the reason it is not like the Endangered Species Act is that there are "good" and "bad" wetlands, or in the case of the Hayes-Breaux Bill, there are type "A," type "B," and type "C" wetlands. *See supra* note 10. Most scientists discount the ability to distinguish "high" value wetlands from "low" value wetlands. *See* Timothy D. Searchinger, *Wetlands Issues 1993: Challenges and a New Approach*, 4 MD. J. CONTEMP. LEGAL ISSUES 13 (1992-93). This article explains:

> The importance of a wetland also depends on its relationship to other portions of the landscape. A wetland neighboring a dense forest may play a relatively small role in taking up pollutants, but if the forest becomes an agricultural field, the wetland would become more important. . . . The functions served by an individual wetland also vary significantly over time. Regions of the United States undergo multi-year fluctuations in precipitation. A wetland that seems less vital during wet years may become more vital in dry years, or vice-versa. One wetland may become vital only after another wetland is destroyed.

done to compensate for the wetlands loss by 1) avoidance of the activity that affects the wetlands altogether; 2) minimization of the impact of the activity on the wetlands; 3) restoration of the wetlands lost to the activity; 4) creation, enhancement, restoration or protection of wetlands somewhere else to replace wetlands destroyed by the permitted activity; or 5) payment of money to the government or someone else to mitigate the impact of the permitted activity.

### *A. The Federal System*

The Federal mitigation system is defined in the February 1990 Memorandum of Agreement (MOA) signed by the Corps and the EPA.[35] This document defines the minimum mitigation requirements for all significant wetland activity in the United States. A permittee may possess a state-issued wetlands permit, but prior to compliance with the federal program, no dirt can be moved. The states may add additional requirements but cannot lessen federal requirements.[36]

The MOA strives to "achieve a goal of no overall net loss of values and functions."[37] To achieve this goal, the MOA requires that all impacts be completely avoided whenever there is an alternative that would have a less adverse impact on wetlands.[38] Where such an alternative is not available, the MOA requires that the permittee take all appropriate and practicable steps to minimize adverse impacts.[39] When unavoidable impacts remain after all minimization, the MOA requires compensatory mitigation for those impacts.[40] This process, referred to as sequencing, is usually condensed into three phases:

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*Id.* at 19.

35. Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines, 54 Fed. Reg. 51,319 (1989) [hereinafter MOA]. Under the Section 404 program both agencies have jurisdiction. The Corps has primary jurisdiction to issue permits subject to the EPA's veto. 33 U.S.C. §§ 1344(a), (c) (1988).

36. MOA, *supra* note 35, at 51,321.

37. *Id.* at 51,320. *But see generally* Oliver A. Houck, *More Net Loss of Wetlands: The Army-EPA Memorandum of Agreement on Mitigation Under the Section 404 Program*, 20 Envtl. L. Rep. (Envtl. L. Inst.) 10,212 (June 1990) [hereinafter Houck, *More Net Loss*]. Professor Houck predicts that "[a] new mitigation industry will emerge, complete with banks, bubbles, and trades more likely to satisfy the eye than to maintain the nation's remaining wetlands inventory." *Id.* at 10,215.

38. MOA, *supra* note 35, at 51,321.

39. *Id.*

40. *Id.*

avoidance, minimization, and compensation. Before compensatory mitigation techniques such as wetland restoration, creation, preservation or enhancement can even be considered, the permit applicant must demonstrate that every effort has been made to avoid all effects on the wetlands, and to minimize wetland loss through careful location and design.[41]

When determining the type of compensatory mitigation to be utilized, some choices must be made. The mitigation can be on-site, adjacent or contiguous to the project site, or off-site, meaning anywhere in other wetlands areas.[42] The mitigation can focus on replacement of the same functional values or habitat types as the wetlands affected ("in-kind" mitigation) or can focus on values not the same as the wetlands affected ("out-of-kind" mitigation).[43]

When requiring compensatory mitigation, there are four choices: creation of a wetland in an area that was never a wetland, creation of a wetland in a nonwetland tract that was formerly a wetland (commonly referred to as restoration), enhancing a degraded wetland, and preserving a wetland by purchasing it and setting it aside. A mitigation system must determine which types of mitigation to allow, when to allow them, and which types of mitigation to encourage or discourage.

A mitigation system must also determine whether to either allow or encourage mitigation banking or both. The concept of mitigation banking started as a system where a permittee, almost exclusively a governmental agency, such as a highway department or port authority, would create, enhance, restore or preserve a wetland in anticipation of a large project. These wetland activities were credited to the permittee's "account." These "credits" were then withdrawn from the permittee's account as wetlands were affected by that permittee's project. The system worked much like a checking account where wetland credits were deposited for a specific project before the project started and were withdrawn as needed during construction. The concept of mitigation banking has expanded to include "commercial" mitigation banks where a third party can

41. *Id.* *See also* ELI REPORT, *supra* note 9, at 15.
42. *Id.*
43. *Id.*

deposit credits and later sell those credits to permittees.[44] The system must decide whether to allow only state-run banks, or to include private commercial banks.

Mitigation banks are recognized by the MOA as an acceptable form of compensatory mitigation under specific criteria designed to insure an environmentally successful bank.[45] Simple purchase or preservation of an existing wetland may only in exceptional circumstances be accepted as mitigation.[46] The MOA promises additional guidance on mitigation banking but has not yet provided any.

The Federal MOA, however, "specifies a clear preference for on-site, in-kind replacement of wetland functions and values."[47] Where off-site compensatory mitigation is undertaken, it should be in the same geographic area, *i.e.*, in physical proximity and, to the extent possible, in the same watershed as the permitted activity.[48] Restoration is preferred over creation because of the greater likelihood of success and the reduction of impacts to potentially valuable uplands.[49] The MOA establishes a minimum one-to-one

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44. Mitigation banking is described in the following passage from the ELI Report:

> Within the last decade an alternative approach to onsite compensatory mitigation has begun to emerge: wetland mitigation banking. In wetland mitigation banking, larger offsite wetland areas are used to mitigate for a number of independent wetland development conversions. The land developer itself need not produce the compensatory wetland values; instead, the developer can purchase them from another entity that has produced and banked them for this purpose. The banked "compensation credits" are recognized by the regulatory agency as providing suitable compensation for wetlands impacts.

ELI REPORT, *supra* note 9, at 1.

Using July 31, 1992 as a cutoff date, the ELI Report found 46 existing banks in 17 states. Nearly seventy-five percent of the existing banks were government-run for mitigation of public works projects. Six banks were controlled by private developers and used solely for advanced mitigation of their own proposed projects. Only one bank was privately owned and offered credits for commercial sale to the general public—the Fina La Terre Bank in Louisiana. *Id.* at 5. *See also* Robert D. Sokolove & Pamela D. Huang, *Privatization of Wetland Mitigation Banking*, 7 NAT. RESOURCES & ENV'T 36 (1992).

45. MOA, *supra* note 35, at 51,321.

46. *Id.* Unless the wetland has very unique functions and is in imminent danger of being lost, this mitigation method is not allowed by the MOA. It is not consistent with the underlying policy of no net loss. *Id.*

47. *Id. See also* ELI REPORT, *supra* note 9, at 16.

48. MOA, *supra* note 35, at 51, 321.

49. *Id.* "Creation" is taking a site that was never a wetland (or at least had not been a wetland in a very long time) and making a wetland "from scratch." The MOA states that

ratio as a rule of thumb for replacement of wetland function and values.[50] Acreage is used by the MOA as a "reasonable surrogate" for no net loss of function and values.[51]

### *B. The State Systems*

The first requirement of any state mitigation and mitigation banking system is that it substantially conform to the Corps-EPA MOA.[52] For example, even though a developer obtains approval from the state to build a warehouse facility in a wetland, the Corps must deny the 404 permit if it is determined that the activity is not water dependent and that there is an abundance of alternative nonwetland sites. In order to conform to the MOA, the state system must adopt the sequencing requirements.[53] The states must also adopt, to a certain extent, the federal preference for on-site, rather than off-site, mitigation.[54] The MOA states:

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there is continued uncertainty regarding the success of wetland creation and that the likelihood of such success has to be taken into account before accepting creation as mitigation. *Id.* The distinction between restoration and enhancement is that in restoration the site was once a wetland but is no longer one; enhancement is done on an existing, functioning wetland. There are ethical and philosophical problems with enhancement. If a wetland is manipulated to provide better habitat for a target species, such as waterfowl, the wetlands may be seriously degraded for nontarget species. It is wrong to assume that even the environmentalists agree on which functions are the best. According to Maj. Gen. Sands, the National Marine Fisheries Service (NMFS) may want more open water for fish habitat, while the U.S. Fish and Wildlife Service (USFWS) may want more marsh for wildlife habitat. With enhancement, someone has to choose between the value of existing wetland functions and the value of new wetland functions. Someone must play God. Sands, *supra* note 30.

50. MOA, *supra* note 35, at 51,321.

51. *Id.*

52. *Id.* at 51,320. A State mitigation system must conform to the MOA or 1) only deal with mitigation for activities that the 404 program does not permit, like the small projects covered by the Nationwide Permits that do not require mitigation (it should be noted that some Nationwide Permits require mitigation and all could require some mitigation on a case-by-case basis); 2) deal with activities that section 404 does not cover, like farming or ranching activities; or 3) be willing to run the risk of making a duplicate system. *Id.*

53. There is some debate as to whether the federal sequencing requirements will assure the failure of all privately owned "for profit" mitigation banks because they will effectively suppress the market demand for credits. The ELI Report addresses this debate and concludes that "[unless the] sequencing result[s] in virtually no decision allowing wetland development it might affect the viability of mitigation banking." ELI REPORT, *supra* note 9, at 118. The market for mitigation credits would be smaller with sequencing, but there would still be a market.

54. On-site is usually referred to as on or adjacent to the project site that requires mitigation. MOA, *supra* note 35, at 51,321.

> Compensatory actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands) should be undertaken, when practicable, in areas adjacent or contiguous to the discharge site (on-site compensatory mitigation). If on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographic area if practicable (i.e., in close physical proximity and, to the extent possible, the same watershed).[55]

Thus, it can be inferred that the assumption of the federal system is that on-site mitigation is always better than off-site mitigation.[56] There are, of course, logical reasons to favor on-site mitigation from an ecological standpoint. The damage suffered by a wetland area is compensated in the exact area where it is lost. The wetlands are restored on-site to continue to provide the fish and wildlife habitat, flood storage, water purification and other wetland functions to the same area affected by the permitted activity.[57]

However, the strong federal preference for on-site mitigation may not be well-founded.[58] If the project cuts off access to food sources, on-site mitigation might not be the best location for the present wildlife habitat. For example, a man-made swamp placed next to a shopping mall to mitigate for wetlands lost to a parking lot may technically be on-site mitigation, and yet may not be practical for the existence of the swamp and its wildlife.

Furthermore, some benefits to off-site mitigation are not available with on-site mitigation. One large off-site area is usually better from an ecological standpoint than many small sites scattered over a large area. The larger tract is a more productive habitat, functions better for water purification and water retention for floodwater storage, and is more attractive for recreational

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55. *Id.*

56. This federal preference for on-site mitigation is important because it affects the viability of commercial mitigation banks. Commercial banks are always off-site from the permitted project. Accordingly, state systems that opt to encourage commercial mitigation banks face a dilemma. They must conform to the MOA, yet offer as much flexibility as possible to allow off-site mitigation.

57. *See supra* note 9 for discussion of other wetland functions.

58. *See* ELI REPORT, *supra* note 9, at 57.

opportunities.[59] Additionally, enforcement of one mitigation banking permit is easier for regulators than enforcement of a series of many on-site projects.

The biggest problem with on-site mitigation is that it puts the mitigation for wetlands loss in the hands of a sometimes hostile developer. *Dufau v. United States*[60] illustrates the problem. In this case, the plaintiff was in the process of filling 112 acres, seventy of which were wetlands interspersed with uplands in a system of ridges and swales so integrated that it was difficult to delineate the wetlands from the uplands. The tract was impossible to develop without affecting the wetland portions of the tract, thus triggering the 404 permit process.[61] Dufau began to fill the site without a permit. When the Corps discovered the illegal filling operation, it issued a cease and desist order and required an after-the-fact permit before the project could proceed.[62] As part of the after-the-fact permit negotiations, Dufau agreed to set aside thirteen acres of bottomland hardwood wetlands on-site as partial mitigation for clearing and filling about fifty-seven of the seventy acres of wetlands. He also agreed to contribute $3,700 to a wildlife management area project.[63] After Dufau was issued the after-the-fact permit, he proceeded to harvest all of the timber from the thirteen-acre parcel he had agreed to set aside for mitigation. He then applied for a permit to fill the thirteen-acre on-site mitigation tract, which was granted in exchange for an off-site mitigation effort that cost Dufau $1,995.36.[64] According to the New Orleans District Corps, Dufau was issued the second 404 permit to fill the mitigation site because he had destroyed all of the wetland value on the tract by his "management" of the mitigation lands.[65] The suit arose when Dufau sued for compensation for the temporary or permanent taking of his land by the exercise of the Corps' 404 jurisdiction.[66]

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59. *Id.* at 71-75.
60. 22 Cl. Ct. 156 (1990).
61. *Id.* at 158.
62. *Id.*
63. *Id.* at 159.
64. *Id.* at 160.
65. Interview with Robert D. Northey, attorney in charge of the case for the New Orleans District Corps of Engineers (Jan. 5, 1994) (notes on file with the *Tulane Environmental Law Journal*). Mr. Northey is now in the Albuquerque District Corps office.
66. *Dufau*, 22 Cl. Ct. at 160.

The present on-site preference system does not work. A California Department of Fish and Game biologist estimated that ninety percent of the on-site wetland mitigation projects in Southern California are never completed as required.[67] As previously mentioned, studies of mitigation sites in Florida showed that over half of the mitigation efforts were not successful, and that many were never even commenced.[68] Studies of mitigation in Oregon, Washington, and Gulf Coast states also showed substantial noncompliance with on-site mitigation permit requirements.[69]

### *C. A Comparison of State Mitigation Banking Systems*

A strong system of mitigation banking is much better for the health of wetlands than an unenforceable system of on-site mitigation administered by the permittee. On-site mitigation under the present system is in the hands of the developer, who has no incentive to make it work, no expertise to make it work, no desire to make it work, and sometimes, as in *Dufau*, is hostile to the whole program. Because of these problems, some states have enacted statutes that allow mitigation banking. Consider four state systems—Oregon, Maryland, Florida and Louisiana[70]—and the choices made by each state.

To set up a mitigation banking system, states must address the following issues:

1) Who will be allowed to operate a mitigation bank: the state, private parties or both? If a state decides to operate the bank

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67. ELI REPORT, *supra* note 9, at 109.

68. *Id.*

69. *Id.*

70. These four states were chosen because the Oregon mitigation banking scheme is the oldest and most comprehensive, and Maryland's is the newest system to be adopted. Telephone Interview with James McElfish, Environmental Law Institute (Nov. 11, 1993) (notes on file with the *Tulane Environmental Law Journal*). Florida's regulation of the mitigation banking system, like Louisiana's, was still proposed at the time of writing and was expected to become final just before Louisiana's. The comments about Oregon's system were based on OR. REV. STAT. §§ 196.600-.665 (1987) and Jacquelyn Corday, *Freshwater Wetlands Law: Two Different Local Government Approaches in Oregon*, 6 J. ENVTL. L. & LITIG. 113 (1991); Maryland comments were based on MD. NAT. RES. CODE ANN. §§ 8-1201 and Richard H. McNeer, *Nontidal Wetlands Protection in Maryland and Virginia*, 51 MD. L. REV. 105 (1992); the comments on Florida's system are based on FLA. STAT. ANN. § 373.4135 (1993) and the proposed regulations dated September 29, 1993 [hereinafter Fla. Proposed Regs.]; the Louisiana comments were based on LA. REV. STAT. ANN. § 49:214.41 (West 1993) and the Third Draft of the proposed regulations, *see supra* note 32.

alone, the regulations do not have to address issues like long term management, operation and maintenance requirements.

2) Will the state system follow the federal system of sequencing contained in the MOA? Virtually all state permitted projects will require a 404 permit. Thus, if the state does not follow the federal preferences for mitigation, the permittee must comply with both the state and federal systems.

3) Will there be flexibility in the on-site/off-site restrictions? The commercial mitigation banking industry needs flexibility from the state to encourage the purchase of credits. If all projects are required to perform on-site mitigation, regardless of the circumstances, the bank will have no customers.

4) How flexible will the restrictions on off-site location be, *i.e.*, how far away can the bank sell its credits? The MOA requires that off-site mitigation be in the same geographic area and, to the extent possible, in the same watershed as the permitted activity.[71] The more flexible the state requirements, the more likely that the commercial banker will be able to sell its credits.

5) What "currency" will be used? The Federal MOA uses acreage as a "reasonable surrogate" for loss of wetlands values and functions.[72] A state may adopt this simplistic system in which a bank is given one credit for every acre created or restored. A more complex system uses habitat functions of the new or improved wetlands as a means of determining the credits available for sale. The most complex system uses a variety of wetlands functions as currency. The more functions that are considered when assigning credits, the more likely the exchange will be accurate; yet greater accuracy is also more costly and difficult to determine.

6) Will the banker be able to sell credits before the bank is operational? The state must weigh the risk of potential bank failure after credits are sold against the incentive to private banks of allowing private sales. If the bank can sell its credits during construction, it obtains a return on investment and assures that it has paying clients. The state may require bonding or insurance provisions to minimize the risk of failure.

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71. MOA, *supra* note 35, at 51,321.
72. *Id.*

7) What will the compensation ratio be? The Federal MOA requires that one acre of wetlands affected be mitigated with a minimum of one acre of replacement.[73] The greater the mitigation ratio, the better for the banker since the bank will be able to sell more credits faster.

8) Will the state statutes and regulations assure long term maintenance of the wetland mitigation bank? The stability of a private mitigation system is essential. The system must require long term maintenance of the banks, because if the bank fails absent a contingency plan, many entities would suffer. The state wetlands inventory would suffer. The taxpayers would suffer because the state would have to bail out the wetlands bank. Finally, the industry would suffer because legitimate wetlands banks would be tainted with the failures of unscrupulous or incompetent operators.

9) Will the state subsidize the mitigation banking industry? There are many forms of subsidies, ranging from the state allowance of credit sales in advance of a bank's full operation to an allowance for bankers to place private banks on state lands. The state actually building, operating and maintaining a bank is the ultimate state banking subsidy, but it is not an industry subsidy.[74]

Figure A illustrates how four different states answered these questions.[75]

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73. *Id.*

74. These questions are many of the same ones raised in the ELI Report. *See* ELI REPORT, *supra* note 9.

75. Some of the determinations have to be subjective. In choice four—flexibility in the area covered in the mitigation bank—the determinations were based on the reading of the statute or the regulations. A determination was made that the Florida system allowed the greatest flexibility because the area covered by the permit is determined by the regulator at the time the mitigation bank is permitted. *See* Fla. Proposed Regs. 17-342.600(2). The Louisiana system was considered the least flexible because it requires the mitigation bank to be in the same basin to the greatest extent practical, and in the same habitat type as the permitted activity. This sets up fifty separate areas in the coastal zone that will require fifty banks to service the state. *See* FOURTH DRAFT, *supra* note 32, at sec. 724.I.4.a. and b. and sec. 724.I.6. Since both systems were proposed at the time of writing this paper the "as applied" Louisiana system may be more flexible than the "as applied" Florida system in the long run. The reader is cautioned not to rely on the chart but to research the statutes and regulations and discuss the application of each with the regulators of each individual state.

## III. STATUTORY ASSUMPTIONS OF THE LOUISIANA MITIGATION AND MITIGATION BANKING SYSTEM

The Louisiana Legislature made two significant assumptions in passing Act 1040.[76] The first assumption defined "ecological value" as "the ability of an area to support vegetation and fish and wildlife populations."[77] The effect of this statutory definition was that the state's proposed regulations in the Fourth Draft equate wetland loss only with habitat loss. The mitigation for wetland loss is therefore only the recreation of habitat for fish and wildlife, ignoring the many other wetland values.[78] Even if a site provides critical environmental values,[79] if the site has low habitat values, the mitigation requirements for the destruction of the site will be low and the other values will not be replaced.[80]

The other significant assumption of the statute is embodied in paragraph (E), which states:

> The owner of the land on which a permitted activity is to occur shall have the option of requiring on-site or off-site compensatory mitigation on his property, notwithstanding any geographical limitations otherwise required by the regulations adopted by the secretary, provided that the secretary determines that the proposed mitigation is acceptable and sufficient.[81]

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76. LA. REV. STAT. ANN. § 49:214.41 (West 1992).

77. *Id.* § 49:214.41(A)(2).

78. *See supra* note 9 for a listing of values.

79. For example, a site could provide environmental values such as critical flood storage.

80. The nation as a whole learned the value of wetland/floodplain retention during the Midwest floods of 1993. It was the top news story of 1993, as selected by a survey of news executives by the Associated Press and reported in the January 1, 1994 *Times-Picayune*:

> 1. FLOOD - The numbers only told part of the story: 48 dead, more than $10 billion in damage, farmlands twice the area of New Jersey inundated, 100 rivers over flood stage and 15 waterways at all-time high levels, 70,000 people displaced, 421 counties declared disaster areas, 50 towns ravaged, 70 percent of the region's levees overwhelmed, barge traffic grounded, the Mississippi at St. Louis over flood stage for a record 80 days.

Robert Dvorchak, *Great Flood Leads News of 1993*, TIMES-PICAYUNE, at A1, A3 (Jan. 1, 1994).

81. LA. REV. STAT. ANN. § 49:214:41(E) (West 1992).

This part of the statute can be broken down into two troubling assumptions. The statute assumes, first, that the landowners do not apply for permits which result in damage to their own land and second, that the damage is sustained by the landowner.

The first assumption is wrong because it assumes the destruction of wetlands only by third parties. And yet, very few entities other than utilities, oil and gas companies and public works projects affect wetlands without first owning the unencumbered title to the land. The provision to require mitigation to be performed on the landowner's land "notwithstanding any geographical limitations otherwise required by the regulations"[82] makes some twisted sense if the Legislature is trying to protect innocent landowners. If a large development company/landowner decides to build a large marina/residential homes complex affecting 20 acres of wetlands, the Third Draft allows the developer to circumvent the on-site/off-site decision because it owns other wetlands on which to build the mitigation project.[83] Why does the development company/landowner have a choice, since the developer is not the "innocent" landowner the legislature was obviously trying to protect?

This provision, no matter what its justification, will present problems because it does not conform to the Federal MOA.[84] For example, potential conflicts exist when a third party seeks to place a utility line across an "innocent" landowner's wetlands. The Corps could decide that the special circumstances of the project require on-site mitigation under the MOA, while the landowner could choose off-site mitigation remote from the impacts. Therefore, this provision will require the third party to mitigate the activity twice.

The second part of this "landowner rights" assumption is even more troubling because it assumes that only the landowner is hurt by the development of the wetlands. The Louisiana Legislature has set up a system that calls for avoidance, minimization, and compensatory mitigation except when the landowner owns nonimpacted land and

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82. *Id.*

83. *See* THIRD DRAFT, *supra* note 32.

84. MOA, *supra* note 35. *See* Figure B for the MOA sequencing requirements and Figure C for the Fourth Draft sequencing requirements. If the MOA must be followed in virtually all cases, it is obvious from these two figures that Louisiana will have great difficulty implementing such a different and complex system.

requires the permittee to place the mitigation where the landowner chooses. For example, if a landowner has land in a saline marsh and a pipeline is going through a freshwater marsh that the landowner also owns in another part of the state, the landowner can opt for the mitigation on the saline marsh no matter how important it is to mitigate the freshwater marsh loss.

As stated above, the value of wetlands to most landowners is tied to their ability to drain, fill and develop the wetlands.[85] *Coast Quality* clearly illustrates this fact.[86] What is the landowners' damage if they are being paid $200 per rod for a pipeline that will bisect their wetlands? What if the pipeline company pays wetland and upland owners the same amount? What is the special damage to the wetland owner that must be mitigated by operation of this unique provision?

Admittedly, landowners such as the Louisiana Land and Exploration Company (LL&E) use their wetlands as a source of income from hunting and trapping leases, crawfish leases and other activities. If special damage occurs to wetlands owned by these companies as a result of a pipeline being constructed through their wetlands, this damage should be anticipated and mitigated in an easement/right of way contract. If the companies receive revenue from hunting or trapping leases, then those revenues should be recovered from the third party requesting the right of way. Why is the state in the business of making sure LL&E and similar companies are specially compensated for their wetland losses? It seems that the state is making sure the companies are being compensated for loss of wetland values, even though they are being paid for those values by the permittee.

The state's position is based on confusion over the definition of "wetland value." The market value of the land to the landowner (usually $200-400 per acre)[87] is separate from the value to the state, the public, and the fish and wildlife. In the preamble to the State and Local Coastal Resources Management Act of 1978,[88] the legislature recognized some of these "other" values of wetlands. The Act stated that wetlands and proper wetlands management by landowners are a

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85. *Supra* note 14 and accompanying text.

86. *West Jefferson Levee Dist. v. Coast Quality Constr. Corp.*, 620 So. 2d 319 (La. Ct. App. 1993); *see supra* note 14.

87. *See supra* note 14.

88. LA. REV. STAT. ANN. § 49:214.21 (West 1992).

part of the estuarine system which is the basis of Louisiana's fishing industry. Further they reduce erosion and improve the quality of the habitat for fish and wildlife; produce greater numbers of fish and wildlife which can be harvested by recreational and commercial fishermen and hunters; provide new jobs related to the planning, construction, operation and maintenance of wetland management programs; provide new jobs related to harvest, processing and distribution of fish and wildlife and increased recreational use of the resources, and that they provide potential for the development of new aquaculture and mariculture industries.[89]

The unique value of a state's wetlands belongs to the citizens of that state, not the landowners. The loss of wetlands value is a loss to the fishing industry, the hunters, the unemployed, and the public at large. A state's responsibility to protect the interests of its citizens requires the state to ensure that mitigation is performed in the optimal area for the wetlands, not the optimal area for the landowner.

## IV. ASSUMPTIONS OF THE LOUISIANA DRAFT REGULATIONS

### *A. The Incorporation of Statutory Assumptions*

The Fourth Draft of the regulations necessarily incorporated the statutory assumptions discussed in the preceding section. However, the Fourth Draft took the first statutory assumption a step further. The statute defines "ecologic value" as the ability to support *vegetation* and fish and wildlife.[90] However, the Fourth Draft drops the "ability to support vegetation" from its quantification of wetland values.[91]

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89. *Id.* § 49:214.21 (preamble).

90. *Id.* § 49:214.41(2) (West 1992).

91. During the drafting process of the First and Second Draft, DNR received comments from the environmental nonconsumptive group consisting of the Sierra Club, the Coalition to Restore Coastal Louisiana, and the Louisiana Audubon Council. The comment of the nonconsumptive group to the apparent deletion of the word "vegetation" from the valuation of the wetlands was as follows:

> The Act [1040], by its terms, defines ecological value to include the ability of an area to support vegetation, as well as fish and wildlife. The reference to vegetation is not mere surplusage. It is well established that vegetation provides many benefits beyond fish and wildlife habitat, including water quality enhancement and flood and storm protection. Any mitigation program that fails to protect the full range of values afforded by vegetated areas will fall short of the mandate of Act 1040 and

Section 724.C of the Fourth Draft, *Quantification of Anticipated Net Gains and Unavoidable Net Losses of Ecological Value*, explains how Louisiana will value the wetlands lost in development and those gained by mitigation. The processes are identical. First, the DNR determines the Habitat Suitability Index (HSI) for a particular wetland.[92] If a developer applied for a permit to build a project filling seven acres of wetlands in brackish marsh, the DNR would look at the following six variables:[93] 1) percentage of wetland covered by emergent vegetation;[94] 2) percentage of open water area dominated by aquatic vegetation;[95] 3) marsh edge and interspersion;[96] 4) percent of open water area equal to or less than 1.5

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> will permit serious injuries to coastal areas to go unmitigated. . . . Accordingly, these regulations should reflect a more comprehensive approach to mitigation than merely protecting habitat values. At a minimum they should require mitigation for diminished flood protection, water purification, aquifer replenishment, and aesthetics.

Nonconsumptive Group Comments to Mr. Quin Kinler, Special Projects Coordinator of the Louisiana Department of Natural Resources (Sept. 14, 1992) (on file with the *Tulane Environmental Law Journal*) [hereinafter Nonconsumptive Group Comments].

With this comment, the DNR had a opportunity to expand the mitigation regulations to include more wetlands values than habitat alone. The DNR seems to have ignored the suggestion. They have changed the word "wetlands" to "vegetative wetlands" a few times, requiring the offsetting of "vegetative wetlands" with compensatory mitigation. FOURTH DRAFT, *supra* note 32, at sec. 724.B.1.C. & B.2. The effect is to limit the regulations further rather than expand them.

92. ENVIRONMENTAL WORK GROUP, COASTAL WETLAND PLANNING, PROTECTION, AND RESTORATION ACT TECHNICAL COMMITTEE, WETLAND VALUE ASSESSMENT METHODOLOGY AND COMMUNITY MODELS 13 (June 2, 1993) [hereinafter CWPPRA MODEL]. These models were developed and used by the CWPPRA task force for valuing marsh creation. Since the CWPPRA does not create bottomland hardwoods and swamp environments, the DNR developed their own Habitat Assessment Model. LA. DEP'T OF NAT. RESOURCES, HABITAT ASSESSMENT MODELS FOR FRESH SWAMP AND BOTTOM LAND HARDWOODS WITHIN THE LOUISIANA COASTAL ZONE (Jan. 10, 1994); *see* CWPPRA, *supra* note 14.

93. CWPPRA MODEL, *supra* note 92, at 5. This paper will not attempt to explain the complexities of this system. It will only illustrate in a simplified fashion how the HSI is determined for just one habitat type. Each habitat has different variables which are weighted in the formula.

94. *Id.* at 5. The assumption is that the higher the percentage the better the marsh since emergent vegetation provides foraging, resting, and breeding habitat for a variety of fish and wildlife species.

95. *Id.* at 6. The higher the aquatic plants, the better the marsh, because they serve as a source of food and cover for wildlife.

96. *Id.* at 7. This variable is complex. A relatively high degree of interspersion in the form of stream courses and tidal channels is assumed to be optimal. The interspersion is measured by comparison to sample illustrations. Too much interspersion can indicate marsh degradation.

feet deep, in relation to marsh surface;[97] 5) average annual salinity;[98] and 6) aquatic organism access.[99] After the variables are determined and given appropriate weight, the numbers are placed in the equation and the wetlands are assigned a HSI value between 0.0 and 1.0. For illustration, a wetlands in Eden would have a HSI value of 1.0 and a wet asphalt parking lot would be assigned a 0.0 value.[100]

97. CWPPRA MODEL, *supra* note 92, at 8. The optimum open water less than or equal to 1.5 feet is stated to be 70-80%.

98. *Id.* The best range salinity is between 6 parts per thousand (ppt) and 10 ppt. Brackish marsh is defined as between 3 ppt and 16 ppt.

99. *Id.* at 9. Because brackish marshes are more important as providers of habitat for fish and shellfish, they are given a higher value for aquatic organism access than are freshwater marshes.

100. Interview with Quin Kinler, Special Projects Coordinator for the Louisiana Department of Natural Resources (Nov. 2, 1993) (notes on file with the *Tulane Environmental Law Journal*).

Figure D. Marsh Types of the Coastal Zone*

* Used with the permission of Ivor van Heerden, CCEER.

After the HSI is determined, the Cumulative Habitat Units (CHU) or the Average Annual Habitat Unit (AAHU), whichever is most appropriate for the given situation, is determined by another formula that multiplies the number of "project acres" by the HSI, which is annualized over the project years.[101] Then the CHUs or AAHUs are determined for the wetland site in the anticipated "with the project" state and the "without the project" state. The difference is the amount of anticipated gains or losses for the project. The "project acreage" is based on the following factors: 1) the acreage directly affected for the permit application drawings; 2) the acreage anticipated to be impacted by the activity;[102] and 3) the amount of acreage that would be lost had nothing been done—that is, the amount of the wetlands loss that nature causes determined on a basin-by-basin basis.[103] There are nine basins in the Louisiana Coastal Zone.[104] The loss rate used by the Fourth Draft is shown in Figure E.

Figure E. Annual land loss percent by hydrologic basin, for the period of 1978 to 1990, based on data from the National Wetlands Research Center, National Biological Survey.

| Hydrologic Basin | Annual Loss % |
|---|---|

101. FOURTH DRAFT, *supra* note 32, at sec. 724.C.2., C.3 & C.4.

102. *Id.* at sec. 724.C.5. This is how the regulations take "indirect impacts" into account. The indirect impact of an activity, such as building an access canal to an oil and gas site, can be enormous. *See* Houck, *Land Loss*, *supra* note 28. It remains to be seen how the DNR will quantify these indirect impacts since many of the effects of wetland activity not only continue years after the project is complete, but increase over time. Professor Houck states that:

> [T]he size of newly-dredged canals does not account for the entire, or perhaps even the majority, of the increase in canal surface area recorded between any two periods of time. Numerous studies have shown that each of these channels and ditches widens over time with little further assistance from man. . . . The annual increase in canal width has been estimated to range from about two to fourteen percent per year, a *doubling* in from five to sixty years.

*Id.* at 34-35 (citations omitted, emphasis in original).

103. FOURTH DRAFT, *supra* note 32, at sec. 724.C.5.c. The DNR is waiting for figures on a sub-basin basis and may use them for the published regulations. The Nonconsumptive Group Comments, *supra* note 91, object to allowing developers credit for annual land loss rates because it makes no sense to allow credit for past sins. Man's activities are the major cause of "natural" land loss. *See generally* Houck, *Land Loss*, *supra* note 28, at 15.

104. *See* map at Figure D for the locations of the nine basins. The FOURTH DRAFT, *supra* note 32, adopted the nine basins definition used for the CWPPRA marsh creation. Figure E illustrates the six wetlands types.

| | |
|---|---|
| Pontchartrain | 0.08 |
| Breton | 0.15 |
| Miss. River | 0.16 |
| Barataria | 0.71 |
| Terrebonne | 0.54 |
| Atch. River | 0.01 |
| Teche-Verm. | 0.08 |
| Mermentau | 0.38 |
| Calc.-Sabine | 0.28 |

Figure E

The Fourth Draft also distinguishes six different habitat types for each basin.[105] Each basin contains all six habitat types, except the Mississippi and Atchafalaya Basins, which lack saline and brackish marsh types. The habitat types are generally stratified from north to south as follows: bottomland hardwoods (BLH), fresh swamp or swamp forest, fresh marsh, intermediate marsh, brackish marsh, and saline or salt marsh.[106]

105. *Id.* at sec. 700.
106. *Id.* at sec. 724.H.6.

Figure F. Dominant Plant Species in Different Wetland Types*

* Used with the permission of Ivor van Heerden, CCEER.

### *B. The "Wetlands Function and Value Can Be Bought" Assumption*

The Fourth Draft adds the concept of "in lieu" fees to be paid to the Louisiana Wetlands Conservation and Restoration Fund (Wetlands Fund)[107] set up by DNR. The fee is determined by calculating the Annual Base Mitigation Cost (ABMC) which measures the average cost to build one AAHU for one year for the specific habitat type in the specific basin by the Coastal Wetlands Planning, Preservation, and Restoration Act (CWPPRA) agencies.[108] The ABMC for each basin is shown in Figure G.

In-lieu fees are not cheap. Figure H illustrates the actual cost of affecting one acre of wetlands in each of the nine basins for the three representative habitat types in four different kinds of wetlands based on their HSI, ranging from high quality to lower quality. In the earlier example affecting seven acres of brackish marsh, the fee would be from $12,565 for low quality marsh in the Terrebonne Basin to $8,268 for maximum quality marsh in the Pontchartrain Basin.

107. *Id.* at sec. 724.E.1.c. & H.
108. *Id.* at sec. 724.H.6.

In-lieu fees may be paid to the state by the developer if the developer shows that the landowner lacks an approved mitigation bank, that that there is not an acceptable Individual Mitigation Proposal (IMP) in the basin not on the landowner's land, and that the project affects an area of five acres. If the project is greater than five acres, the developer can still pay the state if, in addition to the three circumstances above, no nonlandowner mitigation banks are located in the basin.[109]

Until a substantial number of banks are established, a permittee will be able to buy mitigation from the state (with cash, not mitigation bank credits) for nearly all projects. The landowner will not go through the time and expense of creating and negotiating an individual compensatory mitigation proposal.[110]

Payments are made to the Wetlands Fund in-lieu of performing mitigation.[111] The Wetlands Fund supplements DNR's ongoing effort to create, restore, protect and/or enhance the wetlands in the affected hydrologic basin.

The nonconsumptive group is concerned with DNR using the Wetlands Fund as a source of general financing.[112] They argue that if the money is used to build wetlands benefit projects, the state would merely be performing as mandated by the Louisiana Constitution. Due to the fungible nature of money, in-lieu fees would be deducted from the DNR budget requirements for those activities the DNR is constitutionally required to perform.[113]

The state bases the value of the contributions to the Wetlands Fund on the cost estimates of marsh creation projects proposed in the CWPPRA.[114] The problem with using these figures is that *not one acre* of marsh had been created or restored under the CWPPRA at the

109. *Id.* at sec. 724.I.6.

110. *See* the Nonconsumptive Group Comments, *supra* note 91, Task Six comments.

111. FOURTH DRAFT, *supra* note 32 at sec. 724.H.1.

112. Nonconsumptive Group Comments, *supra* note 91, Task Six comments, No. 1.

113. *Id.*

114. The CWPPRA is not used for swamps and bottomland hardwoods (BLH) because the Act is authorized to create only marsh-type environments. The state extrapolated from "similar" CWPPRA projects to arrive at a figure for swamps and used four sets of actual costs for replanting on two state-owned wildlife refuges for the estimates of the BLH.

time of the Third Draft.[115] The estimates are based on the assumptions of five federal agencies[116] and the DNR that the proposed projects will be constructed within budget and will function as planned.

### *C. The "Twenty Years is Enough" Assumption*

The Third Draft makes another significant assumption by defining "project life" as twenty years for marsh habitats and fifty years for forested habitats.[117] This definition is problematic in that the state requires only twenty years of mitigation for permanent marsh wetlands loss. The DNR's response to initial objections to its "twenty years is enough mitigation" was:

> Project years. Because the current permitting system seldom ensures that mitigation measures are maintained for an extended length of time, the draft regulations, via establishment of 20-year mitigation credit areas or support of state-sponsored projects, potentially offer a substantial increase in mitigation longevity.[118]

The limited time frame pervades the regulations. There are no provisions for long term maintenance of the restored or constructed wetlands. There are no requirements that the state hold a long term interest in the mitigation lands. Every other state mitigation banking system analyzed above requires the banker to assign fee title or a perpetual easement to the state to insure that the wetlands created or restored is not developed later. The assumption that "twenty years is enough mitigation" reflects Louisiana's strong stand on landowners' rights.

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115. Telephone Interview with Mary Kinsey, Attorney, New Orleans District Corps Real Estate Division (Jan. 14, 1994) (notes on file with the *Tulane Environmental Law Journal*).

116. The U.S. Fish and Wildlife Service, the Soil Conservation Service, the EPA, the National Marine Fisheries Service and the Corps.

117. FOURTH DRAFT, *supra* note 32, at sec. 700 & 724.F.

118. SUPPORTING DISCUSSION FOR THE WORKING DRAFT OF MITIGATION REGULATIONS FOR THE LOUISIANA COASTAL ZONE (Nov. 18, 1992).

### *D. The "Long Term Investment" Assumption*

If the mitigation bank is performing as predicted or better than predicted, the Fourth Draft does not require bankers to post a bond or to make any financial assurances. The Third Draft allows the withdrawal of only twenty-five percent of the credits of banks in marsh habitats within the first five years of operation, twenty-five percent more after each five-year increment has passed.[119] The assumption is that the banker will ensure the bank's existence in order to sell credits. If the bank does not perform as expected even if rectified by the banker, the penalty under the Fourth Draft is to delay the credits for the bank even longer.[120] See Figure I for DNR's Mitigation Bank Approval Process.

119. FOURTH DRAFT, *supra* note 32, at sec. 724.F.6.h.i.a. & F.6.h.ii.a. The withdrawal of credits allowable is ten percent for forested wetlands, reflecting the fifty-year project life. *Id.*

120. *Id.* at sec. 724.F.6.j.

### *E. The "If You Regulate, They Will Come" Assumption*

The last and perhaps most significant assumption of the Fourth Draft is that entrepreneurs will request permits to build mitigation banks. Under the present scheme, however, entrepreneurs will not make these requests. Under the Fourth Draft, the mitigation banking industry will largely be confined to two classes of bankers—landowners trying to save their wetlands from loss who will construct wetlands creation, restoration or preservation projects[121] and developers and other industries performing mitigation in connection with a specific project who build a bigger project in anticipation of a profit. In short, the only banks that will be built are those which would have been built anyway.

Commercial banks are not provided for under the Fourth Draft because too many problems ensue. Some of these problems are:

1) Instability. Stability in the federal and state programs is necessary for the proper functioning of private mitigation banks. Legislation such as the Hayes-Breaux bill is introduced in Congress each year. If a bill similar to the Hayes-Breaux bill is passed, mitigation banks would be out of business. Because of this instability, no reasonable businessman will invest large sums of money in a project when the government has the power to eliminate all potential customers.

2) Too many zones. If a banker wanted to cover all activities in the Louisiana Coastal Zone with at least one bank, he would need to build up to fifty different banks at a cost of up to $100,000 each.[122] This level of investment is too onerous to have great potential for success. The regulations allow a bank to skirt two and possibly three different habitat types with a large bank (the Fina La Terre bank has five habitat types in its 7,014 acres[123]), but a bigger bank may involve a greater initial investment than two or three

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121. Wetland preservation projects are used here in a different way than above. These projects are not merely for purchasing and setting aside a wetland. These preservation projects, commonly referred to as marsh management projects, actually take steps to keep a wetland from subsiding and/or eroding away and becoming open water.

122. There are nine different basins and six different habitat types. Thus, there are fifty-four different combinations. Since two basins, the Mississippi and the Atchafalaya, do not have saline and intermediate marsh habitats, there are actually only fifty zones. *See* FOURTH DRAFT, *supra* note 32, at sec. 724.H.6.

123. ELI REPORT, *supra* note 9, at app. B.

smaller banks. The DNR should allow more flexibility in order to encourage banking. For instance, if a bank creates critical habitat for an endangered species, the DNR should allow the bank to sell credits anywhere in coastal Louisiana.

3) Potential site deficit. Finding sites for the new banks is a significant problem. Bankers will be competing with the six CWPPRA agencies, which have a total budget of $40 million per year for the creation of wetlands in coastal Louisiana. Finding appropriate, inexpensive sites with potential for success will become more difficult as the CWPPRA continues to construct lists of priority projects. There is no indication that the Louisiana coastal area will have the same problem of finding sites as the San Francisco Bay area, where there is over $1 million to perform mitigation yet no sites for implementation.[124] Site selection is critical to success. The CWPPRA agencies are working hard to find sites which are easy to engineer and likely to succeed. The longer it takes a state to improve the system, the more critical site selection will become.

4) Landowner rights. The Fourth Draft, like Act 1040, recognizes "landowner rights".[125] The sequencing system denies commercial customers the approval of banks for no apparent justification, other than a strong landowner lobby.

5) In-lieu fees. In-lieu fees discourage the very class of businesses such as large landowners, developers and the oil and gas industry that may build banks. By being able to purchase permits, these business will not invest the time, trouble and capital necessary to build a bank to mitigate for future activity.

6) Crediting time frame. A condominium developer in a state which allowed the sale of only twenty-five percent of the units in the first five years and did not allow full occupancy for the first fifteen years would find it nearly impossible to be successful. Similarly, such a system of assuring banking compliance harms the bankers, the customers and the DNR. Under a different compliance scheme, such as the one that is used in Florida, good-faith bankers would have a better chance for financial success and unscrupulous bankers would not easily be able to take advantage of the system.

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124. Griswold, *supra* note 21, at 2.

125. FOURTH DRAFT, *supra* note 32, at sec. 724.I.2.

7) Mitigation ratio. There is no allowance for the risk of failure in the requirement that one acre (or AAHU) destroyed be compensated with at least one acre of mitigation. Some state systems require that an acre destroyed be replaced with up to ten acres of mitigation.[126] However, Louisiana does not even require 1:1 acreage mitigation. Because the system equates wetland value with habitat value, twenty acres of valuable wetlands with poor habitat value can be mitigated with three acres of very high habitat wetlands. A system that also mitigates for acreage reflects the realization of the minuscule success rate of mitigation as a whole. Any increase of the mitigation ratio would help not only banking, but also the protection of wetlands.

In addition, the DNR could target illegal fills by requiring 10:1 ratios for their impacts. The effect would be to turn bankers into bounty hunters. Bankers would report the illegal fills in their area because it would create customers. This increased ratio for illegal filling would assist the DNR in permit enforcement and in fighting the serious problem of permit violations.

8) Variances. The Fourth Draft, in conformance with Act 1040, allows the Secretary to grant a variance for mitigation on projects that the applicant demonstrates are made impracticable if mitigation is required. The applicant must also show that the project has a clearly overriding public interest.[127] The Secretary of the DNR must give public notice before granting a variance.[128] All oil and gas activities have an inherent overriding public interest[129] and could be the exception that swallows the rule. In Louisiana, a politician risks little by choosing the oil and gas industry over remote wetlands, even with full disclosure. Every variance granted reduces the viability of mitigation banking.

9) Fees. The Fourth Draft provides for fees of $500 to $10,000 for processing mitigation banking proposals and a $50 to $10,000 fee for periodic review of mitigation banks once every five years.[130]

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126. ELI Report, *supra* note 9, at 92.
127. FOURTH DRAFT, *supra* note 32, at sec. 724.J.1.b.
128. *Id.* at sec. 724.J.3.c.
129. *Id.* at sec. 700.
130. *Id.* at sec. 724.F.3.

## IV. A SYSTEM BASED ON A DIFFERENT ASSUMPTION

Wetlands mitigation banking is a method of performing mitigation in advance of wetlands impacts. Banks gain credits which are withdrawn as wetlands are destroyed. Banks are, in effect, zero balance checking accounts. Credits are deposited to cover the "check" written by the project.

In order to make private mitigation banking a viable industry, the state must recognize the potential of banks as "savings institutions." In order to slow or reverse the trend of wetlands loss, Louisiana must bank more wetlands than it allows to be destroyed. Louisiana must invest money in the preservation of wetlands by purchasing the unsold credits. The state needs to encourage private mitigation banks by guaranteeing that the successful bank will sell its credits whether or not other wetlands in the state are destroyed. The system proposed below will do just that, by combining the CWPPRA with the Fourth Draft.

### *A. The Coastal Wetlands Planning, Preservation, and Restoration Act*

The United States Congress recognized the problem of the disappearing wetlands in Louisiana when it passed CWPPRA in 1990. Since then, approximately $40 million has been appropriated yearly for marsh creation in the Louisiana Coastal Zone.[131] Under the Act, the Secretary of the Army, acting through the Corps of Engineers, is chairman of the Louisiana Coastal Wetlands Conservation and Restoration Task Force (Task Force). The complete Task Force consists of the Secretary of the Interior (represented by the U.S. Fish and Wildlife Service), the Secretary of Agriculture (represented by the Soil Conservation Service), the Secretary of Commerce (represented by the National Marine Fisheries Service), the Administrator of the Environmental Protection Agency and the Governor of the State of Louisiana (represented by the DNR).[132] It is the obligation of this Task Force under the Act to produce a yearly

131. Telephone Interview with Oscar Rowe, Chairman of the Planning and Evaluation Subcommittee of the CWPPRA (Feb. 10, 1994) (notes on file with the *Tulane Environmental Law Journal*). Mr. Rowe stated that approximately $30 million is appropriated from the federal government and $10 million from the State of Louisiana.

132. CWPPRA, *supra* note 14, § 3951(9).

priority list of coastal wetlands restoration projects that will be constructed using the Act's appropriations.[133] A coastal wetlands restoration project is defined under the Act as:

> any technically feasible activity to create, restore, protect, or enhance coastal wetlands through sediment and freshwater diversion, water management, or other measures that the Task Force finds will significantly contribute to the long-term restoration or protection of the physical, chemical and biological integrity of coastal wetlands in the State of Louisiana, and includes any such activity authorized under this title or under any other provision of law, including, but not limited to, new projects, completion or expansion of existing or on-going projects, individual phases, portions, or components of projects and operation, maintenance and rehabilitation of completed projects . . . .[134]

In order for a project to be placed on the priority list, it must be "sponsored" by a Task Force member who determines whether the project is cost effective and sound from an engineering perspective.[135] The state must also "sponsor" the project by paying twenty-five percent of its cost. This cost sharing must be in the form of at least five percent cash, and the remaining twenty percent may "take the form of [credit for] lands, easements, or right-of-way, or any other form of in-kind contribution determined to be appropriate by the lead Task Force member."[136] The only requirement for the state's twenty-five percent share is that it must come from a nonfederal source.[137] Theoretically, anyone could put up the state's share.

Once the project is approved by the Task Force and placed on the list, the Corps must determine that the project will be "administered for the long-term conservation of such lands and waters and dependent fish and wildlife populations."[138] Following this

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133. *Id.* § 3952(a)(1).
134. *Id.* § 3951(6).
135. *Id.* § 3952(a)(2).
136. *Id.* § 3952(f)(3).
137. *Id.*
138. *Id.* § 3952(e). The District Engineer for the New Orleans District Corps, in consultation with the other members of the Task Force, has determined as a matter of policy that "long term conservation" means twenty years. This policy choice had far-reaching

determination, the Corps makes available the seventy-five percent federal share of the project's cost.[139]

### *B. Merging CWPPRA and the State Mitigation Banking System*

The Louisiana proposed mitigation banking system is plagued with the problems outlined above. These problems have a common denominator—customers. If the mitigation banking industry could sell its credits, most of the problems with the present system would become immaterial. In the present mitigation banking system, though, bankers must wait for wetlands to be destroyed before credits can be sold. There is no logical reason for this requirement.

The state and federal governments are committed to restoring marsh wetlands in the Louisiana Coastal Zone. The problem is determining where the money comes from. The simple solution is to use CWPPRA money to buy excess credits from the mitigation banking industry.[140] The Fourth Draft can set the price for unsold credits in the in-lieu fee system. If the banker can build a successful mitigation bank for less money than the average of the CWPPRA projects, the bank profits.

The DNR must choose the buy-out time frame. The DNR could, for example, agree that after the wetlands bank has been functioning for three years the state will present the bank to the CWPPRA Task Force for inclusion on the priority list for that year. The bank, if placed on the priority list, would be purchased by the Task Force after four years of operation.[141]

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effects because the DNR included the twenty years in the Third Draft as the time frame used in determining project life for mitigation projects in marsh environments.

139. *Id.*

140. Actually, the CWPPRA Task Force will not purchase excess credit. Under the Act, the Task Force would buy the entire mitigation banking operation, including a twenty-year easement over the land, to operate the project. *Id.* § 3954.

141. Figure J is a flow chart that illustrates the present system where a CWPPRA project is included on the priority list. Figure K shows a possible modification of that flow chart to allow the inclusion of functioning commercial mitigation banks on the priority list.

Are the systems compatible? There is nothing in the statute to prevent the Task Force from including functioning banks on the priority list. The Act specifically allows for the acquisition, operation, maintenance and rehabilitation of completed projects.[142]

However, there is a potential logistical problem with the proposal. CWPPRA section 3953(b) requires preparation of a Louisiana Coastal Wetlands Restoration Plan (Plan) to identify all coastal wetlands restoration projects, in order of priority, based on cost-effectiveness. After the formation of the Plan, a project must be included in the Plan before it can be included on the priority list. A project must be on the priority list to be authorized.[143] In order for a bank to be placed on the priority list, it must be coordinated with the Task Force and placed in the Plan. Dealing with federal project authorization, even with the streamlined authorization contained in CWPPRA, takes years of advance planning. It remains to be seen if private industry will have the patience.

The DNR is the key to the success of this proposal. The DNR must be willing to act as a coordinator and liaison between the banking industry and the Task Force for the proposal to be successful. The Federal Task Force members may not be anxious to welcome competition from the private mitigation banking industry into what has been a purely governmental domain. The DNR has to be willing to advocate for the proposal if it wants to foster the private mitigation banking industry.

If the problems of this system can be worked out, everyone wins. The state will obtain wetlands for as little as twenty-five percent of their cost. The federal government will have viable working projects for inclusion on the priority-list projects in which the banker has already taken all of the risk for engineering, site selection, and cost of construction. The banking industry has guarantees that its credits will be purchased for at least the average of the CWPPRA projects cost, and the citizens of the state reap the benefits of the functions and values of the restored wetlands.

142. CWPPRA, *supra* note 14, § 3951(6).
143. *Id.* § 3953(b),(c).

## V. CONCLUSION

Every system has assumptions and every system has realities. This paper has examined the assumptions in wetlands law in order to understand the realities. The hard reality of wetlands is that wetlands activity will be permitted and wetlands will be destroyed. Wetlands destruction will be mitigated under the federal system and under the Louisiana system. Both mitigation systems have problems and do not adequately stem the tide of wetlands loss in the state. The United States and the State of Louisiana have recognized this fact by joining in partnership to promote a massive program for the restoration of coastal wetlands.

It is time to bring in another partner: the innovative spirit of private industry. The issue of wetlands management is too important not to focus all possible resources toward the solution.