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Federal Wetlands Regulatory Policy: Up to Its Ears in Alligators

Hope Babcock *

I. Introduction

Protecting the nation's dwindling wetland resources under section 404 of the Clean Water Act has been a persistent and discouraging proposition. Section 404 of the Act "lies like an open wound across the body of environmental law." Given the ecological and economic value of the resource, this seems puzzling - but only for a moment. An examination of the federal wetlands permitting program reveals significant problems. These problems, combined with ingrained attitudes about the sanctity of private property, lack of public appreciation of wetland values, and insufficient political will to protect them, make it easy to see why wetlands continue to disappear,

1. "It's time to stand the history of wetlands destruction on its head; from this year forward, anyone who tries to drain the swamp is going to be up to his ears in alligators." Keynote Address by President George Bush, Ducks Unlimited, Sixth International Waterfowl Symposium (June 6, 1989), reprinted in U.S. FISH & WILDLIFE SERVICE, WETLANDS: MEETING THE PRESIDENT'S CHALLENGE, (1990) [hereinafter WETLANDS: MEETING THE PRESIDENT'S CHALLENGE].

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and why the federal wetlands regulatory program is one of the most controversial of the country's environmental programs.

Recent attempts by the federal government to improve the regulatory program, while laudable, have only served to magnify the program's problems. Each attempt has become a lightning rod for the program's many opponents. Two of these attempts will be discussed in depth in this article. Both initiatives involved the issuance of agency staff guidance documents: one, an inter-agency agreement on federal policy for mitigating wetland losses; the other, a manual containing technical criteria for delineating wetland boundaries. The controversy surrounding these documents has swirled into the halls of Congress and has reached as high as the Oval Office, threatening to unravel gains made in wetlands protection during the first year of the Bush Administration and threatening the very continuation of the federal program in its current form.¹

While it may be startling that the debate over these administrative initiatives reached such heights and gained so much momentum in the political structure, the controversy should not have been unexpected. In fact, the brouhaha was, sadly, all too predictable from prior experience with this extremely truculent area of environmental policy.

This article examines these two initiatives and attempts to show how the hostility with which they were greeted is illustrative of the deep-seated problems plaguing the wetlands regulatory program. In order to clarify these problems, this article places the initiatives against a backdrop of wetland losses and of imperfections in the protective regulatory program. The rationale behind the initiatives is examined and their contents parsed for the seeds of what was to come. The article concludes with some general recommendations, based

¹ President George Bush's announcement that the wetlands policy of his Administration would be "no net loss of wetlands" was greeted as a welcome change from his predecessor, former President Ronald Reagan, whose Assistant Secretary of the Army, William Gianelli, had initiated a series of "regulatory reforms" to get the section 404 Program off the back of Americans and decrease the Corps' regulatory workload. For a detailed description of some of these initiatives, see Houck, supra note 3, at 780-84.
upon this analysis, concerning where improvements could be made in the federal approach to protecting wetlands.

II. The Value of Wetlands

Wetlands are among the most productive and valuable ecosystems in the world. A brief recitation of wetland values helps to illustrate the paradox of the negative response that greeted the two attempts to make the federal regulatory program more effective.

Wetlands are the “farmlands” of the aquatic environment. Their productivity has been compared favorably to our most productive cornfields. The detritus from wetland plant fragments forms the base of an aquatic food chain that supports higher consumers, such as various species of fish which are caught for both commercial and sport purposes. As a result, both inland and coastal wetlands are essential for maintaining economically valuable fish populations.

As particularly efficient converters of solar energy, the resultant biomass also serves as food for a wide variety of terrestrial and avian species, such as muskrat, moose, bear, and waterfowl. This ready supply of food makes a wetland the ideal environment for resident birds; providing both a year-round habitat and a critical breeding ground. In addition, wetlands provide over-wintering areas and feeding grounds for


6. Id.

7. Id.

8. River swamps in Georgia produce 13,000 pounds of fish per acre. Id. at 14 (citing Wharton, THE SOUTHERN RIVER SWAMP - A MULTIPLE USE ENVIRONMENT, 48 School of Business Administration Library, Georgia State University (1970)).

9. Scientific studies demonstrate that there is a direct correlation between shrimp production and the amount of intertidal marsh habitat. Id. at 13 (citing Turner, Intertidal Vegetation and Commercial Yields of Penaeid Shrimp, 106 TRANS. AMER. FISH SOC. 411-416 (1977)).


11. Id. at 19.
migratory waterfowl and shorebirds. In fact, the "prairie pothole" regions of the Dakotas have been called the nation's "duck factories" because of their importance as breeding grounds for waterfowl. Wetlands, in their natural state, contribute a variety of environmental and socioeconomic values to society. For example, 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.

Despite their importance, wetlands are not valued by society as a whole. In fact, there is a general perception rooted

13. Tiner, supra note 5, at 14-16.
14. Wetlands remove nutrients, filter chemicals and organic wastes, and trap sediments. Id. at 18-19.
15. Wetlands temporarily store flood water and reduce wave surges. Mangroves are considered so valuable in regard to the latter function that the Federal Insurance Administration has required communities to prohibit their destruction or forfeit federal flood insurance. Id. at 22-23.
16. For a more detailed discussion of these functions, see id. at 23.
18. It should be noted that some of the activities, namely timber production and peat mining, have caused significant wetland losses. For example, since 1970, timber companies in North Carolina, which own nearly 44% of that state's pocosin wetlands, have transferred nearly 500,000 acres to large-scale agriculture. Thirty-three percent of the state's original 2.5 million acres of pocosins have been converted to either agriculture or tree farms; another 36% have been partially drained, cleared or planned for development. Tiner, supra note 5, at 49-50.
19. While it is difficult to quantify these values, their importance to America's way of life is illustrated by the fact that in 1980 alone, 17% of the U.S. population took special trips to observe or photograph wildlife. Id. at 24.
in this country’s history that wetlands are a source of disease and pestilence. Wetlands are commonly seen as breeding grounds for mosquitoes and other nuisance insects, plants and wildlife, or as idle or waste lands to be ditched, drained, filled, and converted to a higher societal use.

The economic benefits of wetlands protection usually accrue to society as a whole, while the costs of conservation fall on the property owner in the form of lost investment opportunities, reinforcing negative attitudes toward wetlands conservation. The public benefits of leaving the resource in its natural state are not as easily quantified as are lost investment opportunities, nor are the immediate beneficiaries of a wetland left in its natural state as discernible. This imbalance in equities leads to a perceived injustice in most situations where a conflict over use erupts.

The pressure to convert wetlands to other uses is enormous. Land containing wetlands is valuable for water-based activities such as ports, canals, reservoirs and impoundments, marinas, and vacation homes. Wetlands may overlie mineral and energy deposits or support valuable stands of timber. Land composed of wetlands often offers farmers the best opportunity to increase their cropped acreage, thereby gaining the benefits of federal subsidies. In metropolitan areas, land containing wetlands is often the only available, flat, large, centrally located, cheap land, making wetlands attractive sites for shopping malls, industrial parks and residential developments.

III. Private Property Interest in Wetlands

Complicating the picture is the nation’s sanctification of

20. The Swamp Land Acts of 1849, 1850, and 1860 stand as testament to that fact. Under these acts, all swamp and overflow lands in fifteen states (Alabama, Arkansas, California, Florida, Illinois, Indiana, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio, Oregon, and Wisconsin) were granted to those states to be drained for agriculture by the construction of levees and drainage ditches. Under these laws, 65 million acres of wetlands were transferred from the federal government to the states. See The Swamp Land Act of 1849, c. 87, 9 Stat. 352; The Swamp Land Act of 1850, c. 84, 9 Stat. 519, The Swamp Land Act of 1860, c. 5, 12 Stat. 3. See also Tiner, supra note 5, at 33.
the rights of private property, which is rooted in the Due Process Clause of the Constitution. Despite a consistent line of cases sustaining most exercises of regulatory power over private property rights, the mythology persists that private property ownership is unrestricted. Nowhere is this mythology stronger than in the area of wetland regulation where the public benefits of restrictions are not easily discernible while the expectations of economic gain from conversions are clear.

The combination of negative attitudes toward wetlands, hostility toward the regulation of private property, and unre-

21. The Fifth Amendment of the Constitution provides in relevant part that "private property [shall not] be taken for public use, without just compensation." U.S. Const. amend. V.

22. Two recent decisions by the U.S. Court of Claims have thrown a shadow over the effect of the Fifth Amendment of the Constitution on the denial of a section 404 permit. See Florida Rock Indus., Inc. v. United States, 31 Env't Rep. Cas. (BNA) 1835 (Cl. Ct. July 23, 1990); and Loveladies Harbor, Inc. v. United States, 31 Env't Rep. Cas. (BNA) 1847 (Cl. Ct. July 23, 1990); but cf. Dufau v. United States, 22 Cl. Ct. 156 (1990) (holding that a 16-month permit processing delay was not extraordinary enough to create a temporary taking). Until these two decisions, the federal courts had consistently declined to find a "taking" when the action substantially advanced a legitimate state interest and/or denied the property owner the economically viable use of his land. See, e.g., Deltona Corp. v. United States, 657 F.2d 1184, 1192 (Cl. Ct. 1981), cert. denied, 455 U.S. 1017 (1982); Alaskan Arctic Gas Pipeline Co. v. United States, 9 Cl. Ct. 723, 726 (1986), aff'd on other grounds, 831 F.2d 1043 (Fed. Cir. 1987); Agins v. Tiburon, 447 U.S. 255, 260 (1980). See also Keystone Bituminous Coal Ass'n v. DeBenedictis, 486 U.S. 470 (1987); Nollan v. California Coastal Comm'n, 483 U.S. 825 (1987); First English Evangelical Lutheran Church of Glendale v. County of Los Angeles, 482 U.S. 304 (1987); United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985); Penn Central Transp. Corp. v. New York, 438 U.S. 104 (1978); Ciampitti v. United States, 22 Cl. Ct. 310 (1991) (holding that property owners are not entitled to compensation for a taking that allegedly occurred after the Corps denied a CWA section 404 permit because the value of the property had not been significantly diminished, and that any expectation that the property owners had that they could profitably develop wetlands was unreasonable); Lucas v. South Carolina Coastal Council, 21 Env't. L. Rep. (Env'tl. L. Inst.) 20,837 (S.C. Feb. 11, 1991), cert. granted, 60 U.S.L.W. 3371 (Nov. 19, 1991)(sustaining state setback line prohibiting construction of any permanent structure seaward of setback line); but see Whitney Benetits, Inc. v. United States, 32 Env't Rep. Cas. (BNA) 1768 (1991) (holding alluvial valley floor prohibitions in Surface Mining Control and Reclamation Act unconstitutional because they deprived the company of all economically viable use of its property, which could not be cured by the existence of a land exchange provision in the Act); Rybacheck v. United States, 33 Env't Rep. Cas. (BNA) 1473 (June 17, 1991) (government not entitled to summary judgment in suit by placer mine owners who alleged that Clean Water Act discharge permit limitations deprived them of all economically viable use of their property).
lenting development pressure has contributed to a significant reduction in the country's original wetland base. Over half of the lower forty-eight states' original wetlands have been destroyed.\textsuperscript{25} Between mid-1950 and mid-1970, over nine-million acres of wetlands were lost, an average annual net loss of 458,000 acres.\textsuperscript{24}

IV. Wetland Losses

The causes of wetland losses are many and diverse. While natural causes such as rising sea level, subsidence, drought, hurricanes, erosion, and animal activity have contributed to wetland losses, human activities remain the dominant cause.\textsuperscript{25} For example, agricultural activities, including drainage, account for eighty-seven percent of recent wetland losses.\textsuperscript{26} Similarly, although urban development has resulted in only eight percent of the documented conversions,\textsuperscript{27} it has been the pri-

\begin{itemize}
\item \textsuperscript{23} Office of Technology Assessment, OTA-0-206, U.S. Congress, Wetlands: Their Use and Regulation 87 (1984) [hereinafter Wetlands: Their Use and Regulation]. The following statistics illustrate the severity and geographic dispersion of these losses: California has lost 90% of its original wetland base; less than five percent of Iowa's natural wetlands remain; over 90% of Nebraska's Rainwater Basin has disappeared; and only 20% of the Lower Mississippi Alluvial Plain remains. See Tiner, supra note 5, at 32-33.
\item \textsuperscript{24} W. Frayer, T. Mynahan, D. Bowden, & F. Graybill, Status and Trends of Wetlands and Deepwater Habitats in the Coterminous United States, 1950's to 1970's 3 (Dept. of Forest and Wood Sciences, Colo. St. U. Ft. Collins 1983) [hereinafter Status and Trends of Wetlands]. The U.S. Fish & Wildlife Service recently estimated that, based on current rate of wetland losses, the nation will lose an additional 4,250,000 acres of wetlands by the year 2000. Wetlands: Meeting the President's Challenge, supra note 1, at 6.
\item \textsuperscript{25} The Office of Technology Assessment estimated in 1984 that human activities were responsible for 95% of the wetland losses that had occurred in the preceding twenty-five years. Wetlands: Their Use and Regulation, supra note 23, at 3. The U.S. Environmental Protection Agency has estimated, assuming the same level of vertical wetland growth and assuming that economic development does not prevent the formation of new wetlands, a five to seven-foot rise in sea level would result in approximately 30% to 80% loss of coastal wetlands. Protective bulkheading will increase that rate of loss to approximately 50% to 90%. U.S. Environmental Protection Agency, EPA-230-05-86-013, Office of Planning and Evaluation, Greenhouse Effect: Sea Level Rise and Coastal Wetlands, at iii (1988) [hereinafter Greenhouse Effect].
\item \textsuperscript{26} Tiner, supra note 5, at 31.
\item \textsuperscript{27} Id.
\end{itemize}
mary cause of coastal wetland losses, with a total of ninety percent of these losses directly attributable to human activities.

Two prime examples of estuarine wetlands loss which have resulted from urbanization are located in the San Francisco Bay area and in Florida. Today, in the San Francisco Bay area, less than nine percent of the original 200,000 acres of coastal marsh remain. In Florida, 11,000 acres of estuarine sub-tidal deepwater habitat, over 9,000 acres of estuarine non-vegetated wetlands, and 45,000 acres of estuarine vegetated wetlands, were lost to urban development between mid-1950 and mid-1987.

Louisiana contains roughly one-third of the coastal marshes in the mainland United States and has the highest rate of wetland loss in the country. This loss averages approximately 25,000 acres per year (or forty square miles).

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28. Between mid-1950 and mid-1979, thirty-thousand acres of estuarine sub-tidal deepwater habitat were lost to urban development. Status and Trends of Wetlands, supra note 24, at 24.

29. Id. at 24-25. See also Tiner, supra note 5, at 36 (citing Gosselink & Bauman, Wetland Inventories, Wetland Loss Along the United States Coast 173-187 (1980)).

30. California as a whole is estimated to have lost 91% of its original 3.5 million acres of coastal wetlands. See Chambers, Habitat Degradation and Fishery Declines in the United States, Proceedings of the Seventh Symposium on Coastal and Ocean Management, Long Beach, California, July 12, 1991. A recent report by a citizens group on San Francisco Bay shows that the South San Francisco Bay has lost 61% of its seasonal wetlands since 1956 and that if all planned development takes place total cumulative losses in the South Bay will reach 73% of the 1956 acreage. National Audubon Society, Endangered Habitat: A Report on the Status of Seasonal Wetlands in San Francisco Bay and a Recommended Plan for Their Protection (1989) [hereinafter Audubon Report].


32. Tiner, supra note 5, at 37 (citing Turner & Gosselink, A Note on Standing Crops of Spartina Alterniflora in Texas and Florida, 19 Contri. Mar. Sci. 113-118 (1975)).

33. Tiner, supra note 5, at 38 (citing Fruge, Effects of Wetland Deterioration on the Fish and Wildlife Resources of Coastal Louisiana (1982)). The United States Environmental Protection Agency estimates the annual rate of coastal wetland loss in the Mississippi River Delta to be fifty square miles per year due to the interaction of human activities, such as levee and navigation channel construction, and sea level rise due to land subsidence. Greenhouse Effect, supra note 25, at iii.
though the causes of coastal marsh loss in Louisiana are complicated because they are a combination of natural and man-induced causes, there can be no question that human activity has played a major role.44 Channels and canals used for both oil and gas development and for navigation have increased marsh erosion and salt water intrusion along the coast.35 Flood control levees have disrupted natural marsh building by preventing overflow of sediment-rich waters.36 The United States Army Corps of Engineers estimates that by the year 2040, nearly one million acres of additional Louisiana wetlands will be lost creating a total loss of 2.4 million acres.37 If this rate of loss continues unabated, the Gulf of Mexico shoreline may advance inland by as much as thirty-three miles in some areas.38

The recent decline in the Chesapeake Bay’s submerged aquatic grasses illustrates the devastating impact of indirect human activities on wetland resources. These grass beds provide a critical habitat for the estuarine-dependent fish of the Bay, the largest estuary in the United States. The grass beds have been declining since the 1960’s.39 Inadequately controlled, land-based activities in the bay watershed which discharge point and non-point source pollution into the bay’s wa-

34. What is uncalculated to date is the loss of coastal wetland habitat due to chemical pollution as a result of onshore and offshore oil and gas activities. For example, one billion barrels of polluted waters containing minute quantities of hydrocarbons, organics, heavy metals, and sometimes high levels of radioactive contaminants, such as radium, were discharged into coastal Louisiana in 1986. U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF INSPECTOR GENERAL FOR AUDIT, E1HWG9-13-9024-0400018, SPECIAL REVIEW REPORT (1990) (EPA is not adequately controlling the negative impacts of oil and gas activities on Louisiana coastal wetlands).

35. Id.

36. Tiner, supra note 5, at 38.

37. See LOUISIANA WETLAND PROTECTION PANEL, U.S. ENVIRONMENTAL PROTECTION AGENCY, EPA-230-02-87-026, SAVING LOUISIANA’S COASTAL WETLANDS, THE NEED FOR A LONG TERM PLAN OF ACTION 102 (1987) [hereinafter PANEL REPORT]. This report notes, in addition to the causes of wetland loss discussed in the text above, the effects of global climate change and sea level rise on the resource. According to this report, global sea level rise currently accounts for 10% to 15% of the sea level rise along the Louisiana coast and resultant loss of coastal wetlands, which number could increase significantly in the future. Id. at 32-34.

38. Id.

ters are primarily responsible for the decline of the grass beds.\textsuperscript{40} The Chesapeake Bay Program has identified the loss of submerged aquatic vegetation as a primary area of concern and remedial attention.\textsuperscript{41}

The effect of the loss of coastal wetlands has been both dramatic and immediate. Studies have shown that the productivity of the Gulf of Mexico shrimp fishery is directly proportional to the total area of intertidal marsh habitat, underscoring the urgency of Louisiana's wetland losses.\textsuperscript{42} The National Marine Fisheries Service estimated in 1983 that the annual fishery loss due to estuarine wetland destruction was approximately 208 million dollars.\textsuperscript{43}

Inland wetlands fare even worse, as few states have laws protecting them. Urbanization threatens freshwater wetlands in Northern and Central New Jersey. Peat mining and resort development are major causes of wetland losses in the Pocono region of Pennsylvania. Agricultural impacts, including silviculture practices, are responsible for significant losses of bottomland hardwood swamps of the mid-Atlantic, southeastern, and Gulf Coast States, where bottomland hardwoods are being clearcut for tree farms and commodity crops, like soybeans and corn. Phosphate mining is ruining freshwater wetlands in Florida and North Carolina. Puerto Rico's inland marshes are being transformed into sugar cane farms. Lacustrine marshes along the Great Lakes are being obliterated by industrial development. Construction of irrigation and drain-

\textsuperscript{40} Discharges from sewage treatment and industrial plants and from failing septic systems, as well as agricultural and urban runoff, have increased turbidity and sedimentation problems in the watershed. In addition, nutrient overloading and chemical pollution have adversely affected the size and vitality of these resources. \textit{See generally} \textit{Environmental Protection Agency, Chesapeake Bay: A Profile of Environmental Change} (1983); \textit{Environmental Protection Agency, Chesapeake Bay: A Framework for Action} (1983).

\textsuperscript{41} In 1976, Congress directed the Environmental Protection Agency to study the Chesapeake Bay's resources and water quality in order to develop appropriate management strategies. The result of that study was a series of reports profiling the environmental quality of the Bay watershed and recommending initiatives to improve and maintain that quality. \textit{See Panel Report, supra} note 37.

\textsuperscript{42} Chambers, \textit{supra} note 30 (quoting Turner, \textit{Louisiana's Coastal Fisheries and Changing Environmental Conditions} 363-70 (1979)).

\textsuperscript{43} Tiner, \textit{supra} note 5, at 36.
age facilities is destroying vast portions of the remaining inland wetlands in the Midwest corn belt states, the Northern Midwest, and the farming areas of California and the Northwest. Oil and gas development is threatening the once pristine tundra wetlands of Alaska.

How can these losses be occurring given the protective web of federal and state laws surrounding wetlands? The answer is quite simple - the web has significant holes in it. For purposes of this article, only the holes in the federal regulatory program are examined. However, inconsistencies, conflicts and limitations plague state programs as well as other federal programs affecting wetlands.

V. Wetlands Regulatory Program

The legal framework of the federal wetlands regulatory program is complex. One reason for this is the bifurcated administration of the program. Another explanation is the ambiguity of the statutory language, making the framework a prod-

44. See generally Tiner, supra note 5, at 33-53.
45. The high rate of wetland destruction has prompted some states to pass legislation protecting wetlands in the 1970's and 1980's. For example, all of the coastal states in the lower forty-eight, except Texas, have enacted laws to protect coastal wetlands. However, these laws vary considerably with respect to their protective abilities. Like their federal counterpart, some of these laws exempt major destructive activities or apply only to state-owned lands. At the other end of the spectrum is Delaware, whose Wetlands Act of 1973 caused that state's annual rate of estuarine wetland loss to drop from 450 acres per year to 20 acres per year. Id. at 33.
46. This program is known as the section 404 program because its authorization is found in section 404 of the Clean Water Act. CWA § 404, 33 U.S.C. § 1344 (1988).
uct of disparate administrative and judicial interpretations of legislative intent.\textsuperscript{48}

The starting point for the federal regulatory program can be found in section 301 of the Clean Water Act ("the Act").\textsuperscript{49} Section 301 makes it unlawful to discharge any pollutant into the waters of the United States except pursuant to the standard setting and permitting provisions of the Act. One of these permitting provisions is located in section 404 of the Act.\textsuperscript{50} Section 404 gives the Secretary of the Army\textsuperscript{51} the discretion to issue permits for the discharge of dredged or fill material into navigable waters.\textsuperscript{52} The Secretary's authority has been delegated through the Assistant Secretary (Civil Works) to the United States Army Corps of Engineers (Corps).

Permits issued by the Corps must be consistent with environmental guidelines issued by the United States Environmental Protection Agency (EPA).\textsuperscript{53} EPA also has the authority to veto and comment on permits issued by the Corps and to delegate the program to qualified states.\textsuperscript{54} The EPA and the Corps share the enforcement responsibilities under the Act.\textsuperscript{55} Federal resource agencies, such as the United States

\begin{footnotes}
\textsuperscript{48} Ambiguous statutory language leaves the outlines and content of the section 404 program vulnerable to the winds of political change and the fact-specific nature of litigation which sometimes results in the emergence of different interpretations in different circuits. See, e.g., Leslie Salt Co. v. United States, 896 F.2d 354 (9th Cir. 1990), cert. denied, 111 S.Ct. 1089 (1991); United States v. City of Fort Pierre, 747 F.2d 464 (8th Cir. 1984).

\textsuperscript{49} CWA § 301(a), 33 U.S.C. § 1311(a).

\textsuperscript{50} CWA § 404, 33 U.S.C. § 1344.

\textsuperscript{51} Section 404 is the only program in the Clean Water Act not administered by the EPA, and was the result of a compromise in the drafting of the original act. Since the Corps had developed considerable experience administering the precursor permitting program to section 404, section 10 of the River and Harbors Act of 1899, 33 U.S.C. §§ 401-413, 403 (1988), it seemed logical to grant it regulatory authority to administer the section 404 program as well, particularly, since there are some cases in which jurisdiction under both laws may be invoked.


\textsuperscript{53} CWA § 404(b)(1), 33 U.S.C. § 1344(b)(1). These regulations are commonly known as the 404(b)(1) guidelines, and are promulgated at 40 C.F.R. Part 230 (1990).

\textsuperscript{54} See infra note 57.

\textsuperscript{55} See CWA §§ 301(a), 308, 309, 404(n) and (s), 33 U.S.C. §§ 1311(a), 1318,
Fish & Wildlife Service and the National Marine Fisheries Service, share the right to comment on permits issued by the Corps with the EPA. 56

Regulatory authority under section 404 is thus shared between the Corps and the EPA. 57 This divided authority has resulted in a strained relationship between the two agencies with respect to many aspects of the program. From the beginning, the two agencies have disagreed about the jurisdictional reach of the program, 58 the activities covered by it, 59 and the binding nature of the section 404(b)(1) guidelines. 60 Most of these disagreements have been ironed out in court, making section 404 one of the most litigated of the federal environmental programs. Ironically, the two initiatives under study in this article were administrative attempts to eliminate some of those differences.

1319, 1344(n) and (s); see also Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning Federal Enforcement for the Section 404 Program of the Clean Water Act, 19 Envtl. L. Rep. (Envtl. L. Inst.) 35,183 (1989) [hereinafter Enforcement MOA].

56. CWA § 404(m), 33 U.S.C. § 1344(m). The Act also directs the Secretary to enter into agreements with these and other federal agencies to minimize delays in the processing of permits. CWA § 404(q), 33 U.S.C. § 1344(q). In addition, State Fish and Wildlife agencies may also comment on section 404 permit applications. 33 C.F.R. § 320.4(c).

57. EPA has the authority to deny (characterized as a permit "veto") the use of specified disposal sites for the discharge of dredged or fill material based upon the impact of the discharge on municipal water supplies, shellfish beds and nursery areas, or upon wildlife or recreational areas. CWA § 404(c), 33 U.S.C. § 1344(c). EPA also promulgates regulations (known as the 404(b)(1) guidelines, found in 40 C.F.R. Part 230 (1990)), which "guide" the Corps in its assessment of the environmental impact of activities permitted under CWA § 404(b), 33 U.S.C. § 1344(b). EPA has sole authority to delegate permitting authority under the program to the several states, under CWA § 404(h), 33 U.S.C. § 1344(h), and shares enforcement authority with the Corps under CWA §§ 404(n), (s), 33 U.S.C. §§ 1344(n), (s). The latter authority as well as the authority to determine the jurisdictional limits of section 404 are discussed later in this article. See infra notes 73-114 and accompanying text.


Congress intended that section 404 protect wetlands. However, in reality, the section authorizes the destruction of wetlands rather than the protection of these valuable resources. The Office of Technology Assessment calculated in 1984 that less than three percent of the permit applications under section 404 were denied. In fiscal year 1987, the Corps received 8,600 applications, approved 5,071, and denied 397. In 1987, for coastal Louisiana, 498 section 404 permits were issued and four were denied; a year later, 554 permits were issued and only three were denied. Some permit applications are withdrawn because the need for the project disappears due to redesign, economic changes, or because it is discovered that a permit is not needed. However, when an application does actually move forward into the permitting process, there appears to be a ninety-two percent approval rate.

One check on the Corps' permitting prerogative is the EPA's authority to "veto" permits under section 404(c) of the Act. However, the EPA has exercised this power sparingly,

62. A report prepared by the U.S. General Accounting Office states that the Corps issues permits over the objections of EPA and the U.S. Fish & Wildlife Service, more than one-third of the time. The Fish & Wildlife Service is authorized under section 404(m) of the Act, CWA § 404(m), 33 U.S.C. § 1344(m), to comment on individual and general permit applications. See Houck, supra note 3, at 788 (citing U.S. General Accounting Office, The Corps of Engineers' Administration of the Section 404 Program at 52 (1988)). These differences of opinion are rarely elevated to the Administration of the respective agencies, as provided for in CWA section 404(q), 33 U.S.C. § 1344(q). When elevated, the outcome is rarely changed. Houck, supra note 3, at 788.
63. WETLANDS: THEIR USE AND REGULATION, supra note 23, at 141.
64. Houck, supra note 3, at 787.
65. Id. at 788.
66. There are several reasons that a permit may not be needed even though the discharge is into a "wetland": the wetland may not be within the jurisdictional reach of section 404, the activity may be exempt, or the wetland may be covered by a general permit. The impact of these reasons are discussed later in the text of this article. See infra notes 73-114 and accompanying text.
67. Houck, supra note 3, at 788.
with good reason.\textsuperscript{69} Each use of the veto authority has caused a political outcry.\textsuperscript{70} While the agency has recently increased its use of section 404(c) vetoes,\textsuperscript{71} it is unrealistic to expect that the provision will stem the hemorrhaging of permits by the Corps.\textsuperscript{72}

The high rate of permit issuance has resulted in significant wetland losses,\textsuperscript{73} and is of grave concern to anyone inter-

\textsuperscript{69} Of the estimated 160,000 section 404 permits issued from the enactment of the program in 1972 to January 1, 1989, EPA exercised its veto authority only eight times. Houck, \textit{supra} note 3, at 790. For a discussion of the specifics of those vetoes, see \textit{id.} at 790-794.

\textsuperscript{70} A review of the most recent exercise of that power, stopping the multi-billion dollar Two Forks dam and reservoir in Colorado, gives some idea of how controversial the exercise of this power can get. The permit veto involved one former and one sitting President, ten United States senators, and hearings in two states at which hundreds of individuals turned out to speak on behalf of one side or the other of the issue.

\textsuperscript{71} EPA has issued section 404(c) vetoes in the Plantation Landing Resort Complex, Pamo Dam (San Diego), the Big River project (Rhode Island), and various salt marshes in South Carolina. See Houck, \textit{supra} note 3, at 793. In addition, EPA has vetoed the construction of a dam on the South Platte River, and a reservoir on Ware Creek, Virginia. See Final Determination of the U.S. Environmental Protection Agency's Assistant Administrator for Water Pursuant to section 404(c) of the Clean Water Act Concerning the Proposed Ware Creek Water Supply Impoundment James City County, Virginia (July 10, 1989). The latter determination was successfully challenged in the U.S. District Court for the Eastern District of Virginia by the project proponent on the ground that EPA did not demonstrate the non-availability of "practicable available alternatives" to the construction of the project and has been appealed. James City County v. Environmental Protection Agency, 758 F. Supp. 348 (E.D. Vir. 1990). In addition, EPA has threatened to veto projects for: the construction of a "designer" golf course in southeastern Florida which led to the reconfiguration of the golf course and the withdrawal of the EPA's threat; a commercial development on pilings in central New Jersey; and a drill site and associated gravel road involving 21.5 acres of Arctic tundra. Proposed Determination to Withdraw or Restrict the Specification of an Area for Use as a Disposal Site, Kaparuk River Unit, North Slope Borough, Ark., 56 Fed. Reg. 22,161 (1991).

\textsuperscript{72} For a similar analysis of the limitations of the section 404(c) veto authority, see Houck, \textit{supra} note 3, at 790-795.

\textsuperscript{73} The effect of these permitted losses historically has not been reduced by the requirement in the section 404(b)(1) guidelines to compensate unavoidable permitted wetland losses. 33 C.F.R. §§ 230.10(d) and 230.75(d) (1990). The Office of Technology Assessment estimated that in each of the years 1980 and 1981, section 404 permit applicants originally proposed the alteration of approximately 100,000 acres of wetlands. Permit processing resulted in the avoidance of 50,000 acres annually and for those 50,000 acres of wetlands that were permitted only 5,000 acres of compensatory mitigation was required. \textit{WETLANDS: THEIR USE AND REGULATION}, \textit{supra} note 23, at
ested in protecting wetland resources. This concern escalates when one realizes how few activities affecting wetlands actually require a federal permit. The narrow jurisdictional reach of the section 404 program severely limits the regulatory program's effectiveness and lessens the importance of trying to improve the permitting process. Section 404 regulates only the discharge of dredged or fill material into waters of the United States. It does not apply to many of the activities that have a significant and lasting adverse effect on wetlands. The chemical contamination of a wetland does not require a federal permit; nor does excavating wetland soils, flooding a wetland, shutting off the flow of fresh water into the wetland by constructing an upstream dam, or removing wetland vegetation.

What little section 404 does regulate, it regulates with numerous exceptions. The section exempts from its permitting requirements: "normal" farming, silviculture, and ranching.

74. For a thorough examination of the breakdown in the permitting process, see Houck, supra note 3.
75. The scope of the regulatory program is so limited, as this article shows, one could argue that a 100% permit denial rate would still leave vast areas of important, high quality wetlands at risk to development. For a contrary view, see generally Houck, supra note 3.
76. CWA § 404(a), 33 U.S.C. § 1344(a). While the courts have interpreted this phrase broadly, see, e.g., Avoyelles Sportsmen's League, Inc. v. Alexander, 511 F. Supp. 285-86 (W.D. La. 1981), aff'd in part and rev'd in part on other grounds, 715 F.2d 897 (5th Cir. 1983), it seems unlikely that it can be construed to reach the activities listed in the text above.
77. For example, 60% of the freshwater inflow into San Francisco Bay in average weather years, and 80% to 85% in dry years, is diverted by a melange of federal and state water projects. Davoren, Saving San Francisco Bay Once, Twice, Thrice, in Urban Wetlands, supra note 12, at 13 (1988).
78. While the chemical contamination of a wetland might be reached under other environmental laws, such as the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 - 6922, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §§ 9601 - 9675, as well as under other sections of the Clean Water Act, CWA § 402, 33 U.S.C. § 1342, these laws only apply if the activities are jurisdictional under these laws. Even so, activities, such as excavation of wetland soils, flooding, drainage, and removal of wetland vegetation probably cannot be addressed under other laws.
79. CWA § 404(f), 33 U.S.C. § 1344(f).
80. A consortium of environmental organizations, including the National Audu-
activities; maintenance of dikes, dams, and levees; construction and/or maintenance of farm or stock ponds, and irrigation ditches; maintenance of drainage ditches; construction of sedimentation basins on construction sites; and construction or maintenance of farm or forest roads and roads for moving mining equipment. 81

The exact reach of most of these exemptions has been litigated over the years. The courts have universally held that the exemptions should be given an extremely narrow reading. 82 However, inadequate monitoring and lax enforcement of the application of the exemptions has resulted in significant loss of wetland acreage nationwide. 83 For example, the farming and silvaculture exemptions, as well as the exemptions relating to dikes, dams, and levees, 84 have caused significant loss of coastal wetlands in the Gulf of Mexico and southeast regions of the country.

The Corps has devised its own regulatory exemptions to the wetlands permitting requirements. One of these excep-

81. CWA § 404(f)(1), 33 U.S.C. § 1344(f)(1). Section 404(f)(2) states that if the purpose of the exempt activity is to bring an area of navigable waters into a use that it was not previously subject to, a permit is required—the so-called "recapture" clause. Unlike the basic exemption, the courts have interpreted the recapture clause broadly. See, e.g., United States v. Akers, 785 F.2d 814, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20,538 (9th Cir. 1986); Bayou Marcus Livestock and Agriculture Co. v. Environmental Protection Agency, No. 88-30275 WEA (N.D. Fl. 1989).

82. See, e.g., Akers, 785 F.2d 814, 16 Envtl. L. Rep. (Envtl. L. Inst.) 20,538; United States v. Huebner, 752 F.2d 1235, 1241 (7th Cir. 1985), cert. denied, 106 S.Ct. 62 (1985); Avoyelles, 715 F.2d at 926; Bayou Marcus Livestock, No. 88-30275 WEA.

83. It has been conservatively estimated that over 80% of the historic wetland loss resulted from draining and clearing inland wetlands for agriculture. See Wetlands: Their Use and Regulation, supra note 23. The U.S. Fish & Wildlife Service estimates that agricultural development involving drainage is responsible for 87% of recent national wetland losses. Tiner, supra note 5, at 31. The Food Security Act of 1985, 16 U.S.C. § 3801, and the recent amendments to that Act strengthened incentives for farmers who refrained from draining and planting wetlands and should begin to reduce this rate of loss. See Food, Agricultural Conservation and Trade Act, Pub. L. No. 101-624, 104 Stat. 3,359 (1990).

tions allows de minimis or incidental discharges. This exemption has been applied in the coastal areas of the southeastern United States in order to deregulate the discharge of negligible amounts of soil associated with building dikes and drainage ditches. Despite a successful lawsuit forcing the Corps to take jurisdiction over pocosin wetlands, the effect of the de minimis regulatory exemption has devastated North Carolina’s pocosin wetlands.

In addition to these apertures in the regulatory program, the Corps can generically authorize the discharge of dredged or fill material under a nationwide or regional general permit. General permits allow similar activities having minimal individual or cumulative environmental impact to proceed in a wetland as though the activities did not require a permit. Even though notice must be given to the federal and state resource agencies regarding the use of certain general permits


86. The National Wildlife Federation has filed a suit against the Corps over, among other violations, the use of this exemption to allow the drainage of over 600 acres of bottomland hardwood swamps in North Carolina. North Carolina Wildlife Federation v. Suermann, Civil No. 90-713-Civ.-5-BO (E.D.N.C. 1991).


88. Approximately 44% of North Carolina’s pocosins are owned by major timber companies. Tiner, supra note 5, at 49 (citing Richardson, Pocosins: Ecosystem processes and the influence of man on system response, reprinted in C.J. Richardson, Pocosin Wetlands at 3-19 (1981)). Thirty-three percent of the State’s original pocosins have been converted to agriculture or managed forests, while 36% have been partially drained or cleared or planned for development. Tiner, supra note 5, at 50. Since 1970, the de minimis exemption has enabled these companies to convert 500,000 acres of pocosins to tree farms. Id. at 49.

89. Pocosins are freshwater wetlands that are hydrologically connected to the many estuaries that dot North Carolina’s shoreline. Pocosins help stabilize the water quality of these coastal systems and balance their salinity. In addition, they provide wildlife habitat to a wide variety of species and perform groundwater recharge functions. Seventy percent of the nation’s pocosins are in North Carolina, where they comprise about 2.2 million acres of that state’s freshwater wetland resource base. See generally Tiner, supra note 5. The Corps contended that pocosins are isolated wetlands and, therefore, non-jurisdictional under section 404.

and an opportunity given to those agencies to comment adversely on that use, the Corps need only give these comments "full consideration." The nationwide general permits cover disparate activities, such as the location of navigational buoys; the backfitting of oil and gas pipelines; the construction of bridges; and the placement of structures for exploration, production, and transportation of oil, gas and minerals. Under Nationwide Permit 26, up to ten acres of wetlands can be filled for any purpose without an individual permit. To date, the Corps has issued 26 nationwide general permits and numerous regional general permits. The use of these permits varies significantly in different

91. See generally 33 C.F.R. § 330.7.
92. See id. § 330.7(d).
93. Id. §§ 330.5(a)(1), 330.5(a)(10), 330.5(a)(11).
94. Id. § 330.5(a)(12).
95. Id. § 330.5(a)(15).
96. Id. § 330.5(a)(8).
97. Although section 404(e), 33 U.S.C. § 1344(e), restricts general permits to those activities that "are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment," Nationwide General Permit 26 does not conform to that statutory restriction. 33 C.F.R. § 330.5(a)(26) (1990). The latter permit was part of a settlement agreement in National Wildlife Fed'n v. Marsh, 568 F. Supp. 985 (D.D.C. 1983), aff'd, 14 Envtl. L. Rep. (Envtl. L. Inst.) 20,262 (D.C. Cir. 1984).
98. Specifically, Nationwide General Permit 26, 33 C.F.R. § 330.5(a)(26), authorizes the discharge of dredged or fill material from any activity into (a) non-tidal rivers, streams, and their lakes and impoundments, including adjacent wetlands, that are located above the headwaters; and (b) other non-tidal waters of the United States, including adjacent wetlands, that are not part of a surface tributary system to interstate waters or navigable waters of the United States (i.e. "isolated waters"), so long as those discharges do not cause the loss or substantial adverse modification of ten acres or more of such waters, including wetlands. Any discharge authorized under Nationwide General Permit 26 which causes the loss or substantial adverse modification of between one to ten acres must comply with the Corps' notification and review requirements, which include an opportunity for the federal and state resource agencies to request that the Corps require an individual permit be issued. The Corps need not accept these recommendations.
100. See, e.g., the recently issued regional general permit for Maryland, available from the Department of the Army, Baltimore District, Corps of Engineers, P.O. Box 1715, Maryland General Permit Non-Tidal Wetlands (MDGP-1), January 31, 1991.
regions of the country. The Gulf coast region appears to bear the full brunt of their application, with Nationwide Permits 8 and 26 causing most of the impact, while Nationwide Permit 26, alone has had a particularly devastating impact on the remnant wetlands of San Francisco Bay.

Although case law has made it clear that section 404 regulates most forms of wetlands, the extent to which the law

101. In 1980, 1,371 section 404 permits were issued by the New Orleans District and only 300 activities were authorized under nationwide and regional general permits. By 1986, the number of individual section 404 permits issued had shrunk to 609, while the number of general permits had skyrocketed to 1,162. Houck, supra note 3, at 787 n.108.

102. It has been estimated that Nationwide General Permit 26 allows a substantial share of the estimated 50,000 discharge activities authorized annually under the twenty-six nationwide general permits. See Complaint, North Carolina Wildlife Fed'n v. Suermann, Civ. No. 713 (E.D.N.C. 1990). See also WETLANDS FUNCTIONS AND VALUES, supra note 17; An Assessment of the Corps of Engineers' Section 404 Permit Program in Northern New Jersey (1980-1984), A Report Prepared by State College Field Office, Ecological Services at ii (August 1984) (documenting that nearly one-fifth of the wetland losses in the area were under Nationwide General Permit 26, over the specific objections of the U.S. Fish & Wildlife Service).

103. According to a study on the status of San Francisco Bay's seasonal wetlands, nearly 2% of that area's remaining wetlands are less than ten acres. GRANHOLM, SEASONAL WETLANDS IN SAN FRANCISCO AND SAN PABLO BAYS CURRENT STATUS, PROJECTED LOSSES, AND CUMULATIVE LOSSES SINCE 1975 (1989), in AUDUBON REPORT, supra note 30. Given that South Bay's seasonal wetlands declined 61% between 1956 and 1988, the fact that these wetlands are unprotected under the regulatory program as a result of Nationwide General Permit 26 is of grave concern.

applies to wetlands that are not "adjacent" to waters of the United States, such as "isolated" or "seasonal" wetlands, or freshwater vernal pools, is a matter of continuing regulatory uncertainty. The EPA has maintained that these wetlands are jurisdictional, while the Corps had held the opposite view until recently. This particular instance of jurisdictional ambiguity might seem inconsequential given the preceding recitation of programmatic deficiencies. However, it leaves critically important resources in various parts of the country vulnerable to development pressure, including the seasonal wetlands of San Francisco Bay, the pocosins of North Carolina, and the


107. The legal basis for this debate centers on whether the presence of migratory birds is sufficient to confer interstate commerce clause jurisdiction over these resources. See Op. Gen. Counsel, U.S. EPA, Clean Water Act Jurisdiction Over Isolated Waters (September 12, 1985); Oversight Hearings supra note 61, at 189 (EPA's statement listing the circumstances which provided the necessary interstate commerce nexus, including the existence of waters used by migratory birds). See also infra note 113.


110. But see Leslie Salt Co., 896 F.2d 354. Note, however, that this case involved an interlocutory ruling on the Clean Water Act's jurisdiction over seasonal wetlands, and therefore did not resolve the underlying legal question. Id.

111. Cf. National Wildlife Fed'n v. Hanson, 623 F. Supp. 1539 (E.D.N.C. 1985), aff'd on other grounds, 859 F.2d 313 (4th Cir. 1988). Note, however, that the U.S. District Court remanded the case to the Corps for a more in-depth analysis of the jurisdictional indicators than had been given prior to the permit's issuance, and,
playa lakes of Texas.\textsuperscript{112}

The limited jurisdiction of section 404, the continuing uncertainty over its exact regulatory reach, the various statutory and regulatory exemptions from the program’s permitting requirements, and the generous use of general permits by the Corps have created a porous regulatory program through which many activities slip. Given these limitations, as well as the program’s fragmented administrative responsibilities and the resistent attitudes towards wetland protection, it is not surprising that wetlands are continuing to disappear. The two initiatives under review in this article, which sought to make that program more effective and plug some of its holes, must be placed against this background.

VI. The Memorandum of Agreement

The first of these initiatives involves the publication by the EPA and the Corps of a joint-staff guidance document, called a “Memorandum of Agreement” (MOA),\textsuperscript{113} on federal
wetlands mitigation policy.\textsuperscript{114} The publication of this document ended years of negotiations over differences between the two agencies concerning the contents of that policy.\textsuperscript{118} These differences of opinion had caused delays in the processing of section 404 permits because the two agencies argued in the field over individual permit applications. These "field" debates extended the length of time that it took to review permit applications, which, in turn, increased project costs. Often it was the wetland resource that suffered. Therefore, both the regulated community and conservationists shared the same goal: to achieve a consistent regulatory policy with regard to mitigation of wetland losses between the two regulatory agencies.

The concept of mitigation of adverse environmental impacts did not originate with the publication of the Mitigation MOA. The origin of the mitigation concept\textsuperscript{116} lies in regulation. Their innocuous nature underscores the significance of the outcry that accompanied the publication of the Mitigation MOA.

\textsuperscript{114} Memorandum of Agreement between the Department of the Army and the Environmental Protection Agency Concerning Determination of Mitigation under the Clean Water Act section 404(b)(1), 20 Envtl. L. Rep. (Envtl. L. Inst.) 35,223 (Feb. 6, 1990) [hereinafter Mitigation MOA].

\textsuperscript{115} Two other memoranda of agreements were concluded by the Corps and EPA in 1989 without any attendant protest on topics which are potentially as, if not more, controversial than the one under study in this article. See Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning Federal Enforcement for the Section 404 Program of the Clean Water Act, 19 Envtl. L. Rep. (Envtl. L. Inst.) 35,183 (Jan. 19, 1989) [hereinafter Enforcement MOA]; Jurisdictional MOA, supra note 108. The Jurisdictional MOA announced the issuance of a federal manual to be used by the Corps, EPA, the Soil Conservation Service (SCS), and the U.S. Fish & Wildlife Service field staff to identify wetlands under the section 404, Swampbuster, and National Wetlands Inventory programs. See Federal Interagency Committee for Wetland Delineation, (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish & Wildlife Service, and U.S.D.A. Soil Conservation Service) Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1989) [hereinafter Manual]. The public and the regulatory response to the Manual comprise the second case study. See Part VII, infra.

\textsuperscript{116} Actually, a Presidential Executive Order, signed by President Carter in 1977, imposed mitigation requirements on federal actions that adversely affect wetlands a year before CEQ's regulations went into effect. Protection of Wetlands, Exec. Order No. 11,990, 3 C.F.R. 121, \textit{reprinted in} 42 U.S.C. § 4321 (1991). While an Executive Order does not have the legal affect of a regulation, it is intended to be binding on the Executive Branch to the extent that the policies contained in it are consistent
tions promulgated by the Council on Environmental Quality (CEQ)\(^{117}\) in 1978,\(^{118}\) implementing the National Environmental Policy Act (NEPA).\(^{119}\) The CEQ's regulations require applicants to avoid adverse environmental impacts, and where these impacts are unavoidable, to minimize their effect in a variety of ways, including compensation for whatever resource loss occurs.\(^{120}\)

EPA's section 404(b)(1) guidelines\(^{121}\) also require that the adverse environmental impacts of the issuance of a section 404 permit be mitigated through avoidance, minimization, and with the agency's enabling legislation.

117. The Council on Environmental Quality is authorized under the National Environmental Policy Act (NEPA) § 202, 42 U.S.C. § 4342 (1988), and is in the Executive Office of the President. CEQ's principle functions include assuring that federal agencies comply with the requirements of NEPA and reporting to Congress annually on the state of the environment.


120. 40 C.F.R. § 1508.20. CEQ's regulations define the term "mitigation" as: (1) avoiding impacts by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying impacts by repairing, rehabilitating or restoring the affected environment; (4) reducing or eliminating impacts over time by preservation and maintenance operations during the life of the action; and (5) compensating for impacts by replacing or providing substitute resources or environments. \(\text{Id.}\)

121. The section 404(b)(1) guidelines, 40 C.F.R. Part 230, contain the environmental criteria that the Corps must apply in issuing permits under that section of the law. They apply to both standard and general permits, (CWA §§ 404(a), (e), 33 U.S.C. §§ 1344(a), (e)), Corps civil work projects, federal construction projects which are not addressed in an environmental impact statement submitted to Congress, (CWA § 404(r), 33 U.S.C. § 1344(r)), and to permits that are issued by states with delegated authority to administer the section 404 program pursuant to §§ 404(g), (h)(33 U.S.C. §§ 1344(g), (h)). \(\text{See generally 40 C.F.R. § 230.2.}\) In addition to the criteria listed in the text of this article, the guidelines prohibit discharges of dredged or fill material if they cause or contribute to the violation of any state water quality standard, violate any applicable toxic effluent standard under CWA § 307, 33 U.S.C. § 1317, jeopardize the continued existence of a listed endangered or threatened species under the Endangered Species Act, 16 U.S.C. §§ 1531-1544 (1988), violate any requirement of the Secretary of Commerce to protect any Marine Sanctuary under the Marine Protection, Research and Sanctuaries Act, 16 U.S.C. §§ 1531-1544 (1988), or contribute to or cause the significant degradation of waters of the United States (defined to include adverse impacts on human health, life stages of aquatic ecosystems, ecosystem diversity, productivity and stability, recreation, aesthetic, and economic values). \(\text{See generally 40 C.F.R. §§ 230.10(b), (c).}\)
compensation. These guidelines reflect CEQ's mitigation requirements, and are binding on the Corps.

While EPA had been pursuing the mitigation policies set forth in the Mitigation MOA for many years under its regulations promulgated under section 404, the Corps had not been. The disagreement between the two agencies over whether a particular permitted activity required mitigation, and the contents and timing of what would be required, led to

122. The section 404(b)(1) guidelines impose a strong avoidance burden on applicants, 40 C.F.R. § 230.10(a), as well as a duty to take all "appropriate and practicable steps" to minimize potential adverse impacts on the aquatic ecosystem, 40 C.F.R. § 230.10(d). Subpart H to the guidelines identifies the ways in which the impacts of a proposed discharge on an aquatic ecosystem can be minimized. 40 C.F.R. §§ 230.70-230.76. These include the construction of "[h]abitat development and restoration to produce a new or modified environmental state of higher ecological value . . . ." 40 C.F.R. § 230.75(d). Subpart H, by authorizing restoration of degraded habitat or creation of new habitat as a means of minimizing the impact of a section 404 permit, provides a basis for the third element of the policy - compensation.


124. Prior to the issuance of the Mitigation MOA under study in this article, the Corps' mitigation policy allowing off-site compensatory mitigation was satisfied by "practically any permit condition or best management practice," and allowed consideration of the positive public interest aspects of proposed projects when determining whether mitigation was required. See 51 Fed. Reg. 41,208, 41,227 (1986). EPA's mitigation policies required stricter compliance with the sequencing requirements contained in its regulations and did not allow the alleged public purpose of a proposed action to influence the applicability of mitigation requirements.

125. The U.S. Fish & Wildlife Service applies yet a different mitigation policy in meeting its review responsibilities under CWA section 404(m), 33 U.S.C. § 1344(m), as well as in its other review functions under the Fish & Wildlife Coordination Act, 16 U.S.C. §§ 661-667(e) (1988), the National Environmental Policy Act, 42 U.S.C. §§ 4321-4370(a)(1988), the Endangered Species Act, 16 U.S.C. §§ 1531 - 1544 (1988), and the Federal Energy Regulatory Commission's Licensing Procedures, 40 C.F.R. Part 4 (1991). Under its regulations U.S. Fish & Wildlife Service requires that avoidance be recommended for the most valuable resources and that the degree of mitigation requested respond to the value and scarcity of the habitat at risk. See Notice of Final Policy, 46 Fed. Reg. 7,633-7,644 (1981). The National Marine Fisheries Service (NMFS), which reviews section 404 permit applications that affect coastal fishery resources, has, as a general policy for anticipating problems: identifying alternatives for achieving objectives; reducing the possibility of conflict; and minimizing adverse effects on living marine resources and their habitats. NMFS will also recommend measures to mitigate habitat loss where practicable alternatives are unavailable, such as habitat rehabilitation. See Notice of Effective NMFS Habitat Conservation Policy, 48 Fed. Reg. 53,147 (1983). In addition, states like New Jersey, Florida, and California have sui generis mitigation policies which they follow when evaluating wetland fill permit.
frequent clashes between them.126 These disagreements were aired at a 1986 Senate Oversight Hearing.127 An interagency work group, consisting of EPA, the Corps, Fish & Wildlife Service, and National Marine Fishery Service,128 was convened shortly after the hearings, to resolve these differences. However, the agencies could not come to an agreement concerning whether EPA's regulations required sequencing of mitigation, as was required by CEQ's mitigation regulations, or concerning the details of interagency coordination.

The inability of the federal agencies to coordinate their policies on mitigation and the resulting confusion angered the regulated interests, partly because it caused what they perceived to be unnecessary delays and additional project costs. This example of program breakdown was used, with some effectiveness, by the regulated community as part of its litany of what was wrong with the section 404 program.

From a conservationist's perspective,129 the conflict be-

126. The Corps granted wide discretion to its field staff in the definition and application of wetlands mitigation policies, which led to different positions being taken in similar situations depending on which part of the country a particular permit was applied for. Not infrequently, EPA contested the Corps' action, and often the differences of opinion resulted in litigation. See, e.g., Bersani v. Environmental Protection Agency, 674 F. Supp. 405 (N.D.N.Y. 1987), aff'd sub nom, Bersani v. Robichaud, 850 F.2d 36 (2d Cir. 1988), cert. denied, 489 U.S. 1089 (1989).

127. See Oversight Hearings, supra note 61.


between the two agencies meant that the resource was not being adequately protected. The Office of Technology Assessment (OTA), estimated in 1983 that ninety percent of the permitted wetland losses were uncompensated. With regard to “minimization” of wetland impacts, OTA reported in a 1982 survey of thirty-seven Corps District offices on the effects of pre-application consultation with applicants, that only fourteen offices reported substantial changes in project design as a result of these consultations. According to an earlier OTA study, only fifty-six percent of the section 404 permits issued were ever field-checked to determine the extent of compliance with permit conditions requiring some form of mitigation.

An assessment of “compensatory” mitigation in the State of Washington involving thirty-five projects over the six-year period from 1980 to 1986 showed that planned mitigation resulted in a substantial net loss of wetland acreage as well as a net loss of wetland diversity. Only fifty-four percent of the permits included some design criteria for the compensatory mitigation, and only fifty-one percent of the permits imposed article attended the Forum as a representative of the National Audubon Society. EPA, in contrast, required strict sequencing of mitigation under its regulations, allowing compensation only for unavoidable wetland losses.

Reflecting the experimental nature of wetlands restoration and creation science, the Mitigation MOA recommended that compensatory wetland mitigation should provide “at a minimum” one-for-one functional replacement “with an adequate margin of safety to reflect the expected degree of success associated with the mitigation plan,” and it recognizes that the ratio may be greater where “functional values of the area being impacted are demonstrably high and the replacement wetlands are of lower functional value or the likelihood of success of the mitigation project is low.” See Mitigation MOA, supra note 114.

Of significant concern to that community was the fact that the Corps did not, and still does not, have a system for tracking permits which have been conditioned to require compensatory mitigation. This makes it extremely difficult to accumulate statistics on the effectiveness of these mitigation requirements. It is even more difficult to determine to what extent pre-application consultations with Corps and EPA officials have resulted in projects being dropped, moved to another non-wetland site, or redesigned to avoid adverse impacts on wetlands.

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131. WETLANDS: THEIR USE AND REGULATION, supra note 23, at 145.

132. Id. at 143.

133. Id. at 179.

134. See Assessment, supra note 129, at 2. One hundred and fifty-two acres of natural wetlands were exchanged for 100 acres of restored or created wetlands.
some requirement to monitor the results of mitigation. 135

Prior to November 1989, the general consensus was that no one was happy with the situation as it existed. The dynamics of the negotiations between the agencies significantly changed with the Bush Administration and the release of the Final Report of the National Wetlands Policy Forum (Forum Report). 136 President Bush, early in his administration, announced that his administration would pursue a policy of "no net loss" of wetlands. 137 He adopted this goal at the suggestion of former New Jersey Governor Kean, who was then chairperson of the National Wetlands Policy Forum, 138 and Russell Train, 139 former President and now Chairman of the

135. Id. at 3.

136. The National Wetlands Policy Forum consisted of 20 individuals with widely divergent views on wetlands and their use. The Forum included three governors (former Governor Thomas Kean (NJ), who chaired the Forum, and Governor Booth Gardner (WA) and Carroll Campbell (SC), each of whom served as Co-Vice-Chairs), representatives from the environmental community and business (oil and gas, agriculture, and forest products industry), representatives from state agencies, a town supervisor, a rancher, and several academics. The Forum was convened at the request of former EPA Administrator Lee Thomas. Senior officials from EPA, the Corps, and the Departments of Agriculture, Interior and Commerce participated as ex-officio members, and attended all meetings. The Forum met continuously over a year and one-half. Three public workshops were held in May of 1988, in different parts of the country. The Final Report, published in the fall of 1988, reflected a consensus on all recommendations. Only the National Homebuilders refused to approve the Final Report, and withdrew at the last moment from the Forum. See Forum Report, supra note 129 at ix-x (1989).

137. This goal was announced in a speech the President made to Ducks Unlimited:

I want to ask today what generations to follow will say of us forty years from now. It could be that they will report the loss of many millions of acres more of wetlands. The extinction of species. The disappearance of wilderness and wildlife. Or they could report something else. They could report that, sometime around 1989, things began to change. That we began to hold onto our parks and refuges. That we protected our species. And that, in that year, the seeds of a new policy about our valuable wetlands were sown — a policy summed up in three simple words: 'no net loss.' I prefer the second vision of America's environmental future.

Wetlands: Meeting the President's Challenge, supra note 1, inside cover.

138. No net loss of wetlands was one of the key recommendations of the Forum. Forum Report, supra note 129, at 18-19.

139. Russell Train was Chairman of the Council on Environmental Quality and the first Administrator of EPA, under former President Nixon. A staunch conservationist and member of the Republican Party, Train's opinion on environmental policy
Board of the Conservation Foundation and World Wildlife Fund. The Forum Report contained, among other things, a stinging indictment of present federal mitigation policy and several recommendations for its reform. As a result of new agency heads, new faces at the negotiating table, new directions from the Oval Office, and the impetus created by the release of the Forum's report, negotiations between the two agencies suddenly accelerated, and the Mitigation MOA was concluded in less than a year. However, as soon as the document was signed, the consensus that had produced it began to come apart. As that consensus dissolved, the document it-

was highly regarded by this Administration, as it had been in the Nixon and Ford administrations. The Conservation Foundation, which merged with the World Wildlife Fund, and whose prior Executive Director, William Reilly, is Bush's EPA Administrator, facilitated the Forum's deliberations and published its final report. Thus, the Forum, representing a broad consensus of divergent views on wetlands and their use, was superbly positioned to play a pivotal role in shaping the Bush Administration's initial position on wetlands policy.

140. As is discussed later in this article, many of the Forum's recommendations were reflected in the Mitigation MOA. The Forum concluded that mitigation policies should be reformed to make them "more effective and coherent" if the "no net loss" goal was to be achieved, and made several recommendations as to how that could be done, including mitigation sequencing, mitigation banking and more effective monitoring of mitigation requirements. See Forum Report, supra note 129, at 42-44.

141. As noted previously, supra note 136, the agency heads served on the Forum in an ex officio capacity. EPA Administrator Thomas frequently attended Forum meetings, including some of the meetings held by representatives of Forum members.

142. A recent challenge to the Mitigation MOA brought by the City of Anchorage, Alaska was dismissed by a U.S. district court on the ground that the issue was not ripe for review. The court did not pass on the merits of the allegation that the MOA imposed new requirements, specifically the requirement to compensate wetland losses on a one-to-one replacement basis, and, therefore, should have been subject to the notice and comment provisions of the Administrative Procedure Act. See The Administrative Procedure Act, 5 U.S.C. § 553 (1988). The court ruled that the dispute would be more effectively resolved in a specific permit proceeding. Municipality of Anchorage v. United States, 32 Env't Rep. Cas. (BNA) 1199 (D. Ak. 1990). The underlying issue in that case concerned whether the MOA was an "interpretative rule" within the meaning of 5 U.S.C. § 553(b)(A) and, therefore, exempt from the Act's notice and comment provisions. For guidance on what makes a rule an interpretative rule, see Eastern Kentucky Welfare Rights Org. v. Simon, 506 F.2d 1278, 1290 (D.C. Cir. 1974), cert. granted, 421 U.S. 975 (1975), 426 U.S. 26 (1976); Gibson Wine Co. v. Snyder, 194 F.2d 329, 331-332 (D.C. Cir. 1952); Daughters of Miriam Center for the Aged v. Mathews, 590 F.2d 1250 (3rd Cir. 1978) (interpretative rules are those rules promulgated to give guidance to agency staff and affected parties about how agency intends to administer statute or regulation); Minority Business Legal Defense
self started to unravel, placing at risk the underlying regulatory policies which had been in existence for over a decade.

Given the document's intended purpose and actual content, as well as the political environment within which it was issued, the broad-based opposition that the Mitigation MOA generated caught many proponents of wetlands protection by surprise, including the regulatory agencies. The reasons for this opposition, however, went beyond the MOA to include the underlying public dissatisfaction with the government's methods of protecting wetlands.

Nothing in the document seems to warrant the extreme negative response. An examination of the Mitigation MOA shows that it was little more than a directive to the personnel of both agencies to interpolate CEQ's mitigation definition into the 404(b)(1) guidelines when processing "standard permits" under the 404 Program. In addition, consistent with CEQ's guidance, agency staff members were directed to progress through the various elements of mitigation in "sequence," beginning with avoidance and ending with compensation. Further, there is considerable flexibility built into the MOA's policy guidance. For example, an applicant is re-

& Education Fund Inc. v. Small Business Admin., 557 F. Supp. 37, 41-42 (D.D.C. 1982); and General Motors Corp. v. Ruckelshaus, 742 F.2d 1561, 1565 (D.C. Cir. 1984), cert. denied, 471 U.S. 1074 (1985) (the determinative factor is whether the agency intended to create new law or merely to "remind" affected parties of existing duties).

143. For practical reasons, the Mitigation MOA combined CEQ's five mitigation steps into three: avoidance, minimization and compensation.

144. Those individual permits that have been processed through application of the Corps' public interest review procedures, 33 C.F.R. §§ 320.1(a), 320.45, and EPA's section 404(b)(1) guidelines, 40 C.F.R. Part 230, including notice and receipt of comments. 33 C.F.R. § 325.2 Standard permits do not include letters of permission, or regional, nationwide or programmatic general permits.

145. Although the MOA focuses on the application of mitigation policies to wetlands, its actual application is broader, extending under the regulations of the two agencies to "special aquatic sites." See Mitigation MOA, supra note 114. Included among "special aquatic sites" are mudflats, vegetated shallows and coral reefs. See 40 C.F.R. §§ 230.40-230.45.

146. As noted previously, EPA's § 404(b)(1) guidelines already were being interpreted by EPA to require mitigation sequencing. Note 129 infra.

147. For example, the MOA: (1) does not require that the "no net loss" goal be met in each permit action; (2) considers mitigation sequencing policy to be met if the
quired to avoid wetland impacts only where "practicable," and to minimize those impacts to the extent "appropriate and practicable." The MOA exempts from the sequencing requirement those instances where the discharge is necessary to avoid environmental harm or where the two agencies agree that the discharge can "reasonably" be expected to result in environmental gain or "insignificant environmental losses." While the MOA states a preference for on-site, "in-kind" applicant can show that the proposed mitigation plan is in accordance with a Corps/ EPA approved comprehensive plan; (3) allows off-site and not-in-kind compensatory mitigation in some circumstances; (4) allows less than one-for-one acreage replacement for low value wetlands where the likelihood of mitigation success is high; and (5) allows mitigation banking. These adjustments to the basic requirements are drawn from the Forum's recommendations on mitigation. FORUM REPORT, supra note 129, at 24.

148. The MOA uses the words "appropriate" and "practicable" to qualify the mitigation burden imposed on applicants for section 404 permits. According to the MOA what constitutes "appropriate" mitigation is that which is based "solely on the values and functions of the aquatic resources that have been impacted." See Mitigation MOA, supra note 114. A determination of what is "practicable" mitigation is founded on the definition of "practicable" found in EPA's section 404(b)(1) guidelines, namely that the required mitigation must be "available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes." 40 C.F.R. § 230.3(q).

149. The original version of the MOA qualified what could be considered an "environmental gain" by including language that prohibited including in the calculation of "gain" the benefits that would allegedly accrue from the proposed compensatory mitigation. The language "or insignificant environmental losses" was added to appease the Alaskan oil and gas interests, who, the author was led to believe, had argued that their activities would have an "insignificant" impact on the wetland resources of the state, because 45% of the state was classified as wetlands. See Mitigation MOA, supra note 114. In addition, the MOA states that compliance with the "sequencing" requirement will be considered satisfied when the proposed mitigation is in accordance with a Corps and an EPA approved comprehensive plan, such as Special Area Management Plans, Advance Identification Areas, and State Coastal Zone Management Plans. Id.

150. Off-site compensatory mitigation was specifically included in the Mitigation MOA to assist the Alaskan oil and gas industry. That industry had argued that present technology and science did not allow them to restore or create tundra wetlands. This flexibility was to allow the industry to locate compensatory mitigation projects in the lower forty-eight states, for example, in the Pacific Flyway, where they also were engaging in oil and gas exploration, development and production activities. The language of the MOA, however, does not restrict the use of off-site compensatory mitigation to Alaska. To the extent that the Mitigation MOA allows even the possibility of off-site compensatory mitigation, something EPA and the conservation community opposed, the Mitigation MOA reflects the policies that had historically been
mitigation, it allows flexibility even here,\textsuperscript{151} including the use of mitigation banks.\textsuperscript{152}

While the policies reflected in the Mitigation MOA might not have been new or particularly onerous, and while they offered an element of greater predictability to the wetland permitting process (something long-sought by the regulated interests), the application of the sequencing and compensation requirements had been consistently opposed by those interests during the deliberations of the National Wetlands Policy Forum.\textsuperscript{153} Representatives from the regulatory agencies heard these complaints. Therefore, it should have been no surprise that the Alaskan oil and gas industry launched a negative

pursued by the Corps.

\textsuperscript{151} For example, the Mitigation MOA allows staff to use a one-to-one acreage replacement ratio as "a reasonable surrogate" for no net loss of functions and values, but notes that this ratio may be greater where function values of the affected area are "demonstrably high" and the value of the replacement wetlands is low or the likelihood of success of the mitigation project is low. See Mitigation MOA, \textit{supra} note 114.

\textsuperscript{152} Mitigation banks allow a prospective permittee to satisfy a future mitigation compensation requirement by contributing acreage or money to a "bank" for wetlands restoration or creation. This deposit can then be used at the time of permit issuance to satisfy compensatory mitigation requirements. Although mitigation banks are extremely controversial because of past abuses (e.g., inadequate monitoring and enforcement of banked acreage and permit compliance), the Forum recommended their use. \textit{Forum Report}, \textit{supra} note 129, at 42-44. The Mitigation MOA uses mitigation banks as a hedge against the scientific uncertainty that attends wetlands restoration and creation projects, while allowing applicants to proceed with proposed fills. See Mitigation MOA, \textit{supra} note 114.

\textsuperscript{153} ARCO Alaska had argued during the Forum that "tundra" were not wetlands, that special circumstances in Alaska necessitated the entire state's being relieved from the Forum’s recommended "no net loss of wetlands" goal, and that mitigation sequencing should not apply to the industry's activities in Alaska. The industry tried unsuccessfully to persuade the Forum members that Alaskan wetlands were both abundant and of low or limited value and that strict sequencing of mitigation would close down energy and mineral production in the State, particularly on the North Slope.

In fact, Alaskan wetlands, among other things support a multi-billion dollar fishing industry, and produce millions of migratory shorebirds and waterfowl annually. These tundra wetlands function as a safety net to many continental waterfowl populations in years of severe drought, and their importance is increasing as unchecked destruction of wetlands continues in the lower forty-eight. Although Alaskan wetlands comprise 170 million acres of the State's land base, the U.S. Fish & Wildlife Service's National Wetlands Inventory shows that only 11% of these wetlands are coastal wetlands and deepwater habitat; the very wetlands most threatened by the industry's activities in the State.
campaign against the Mitigation MOA shortly after its publication. What took everyone by surprise, however, was how quickly the broader Forum consensus behind that policy dissolved, and how quickly dissatisfaction with the document spread to other affected interests who had not participated in the Forum. In its efforts to take care of its own unique problems with the policies enunciated in the Mitigation MOA, the Alaskan oil and gas industry tapped into a much deeper and broader-based wellspring of opposition to, and frustration with, the federal wetlands regulatory program. By the time the fracas was over, the storm of protest that had been generated not only gained the Alaskan oil and gas industry the relief it sought from the application of the document’s sequencing requirements, but also imperiled the underlying policies

154. The fact that the Alaskan oil and gas industry led the charge against the Mitigation MOA was disturbing, since the industry had been vigorously represented in the Forum’s deliberations on this and many other issues, and had agreed with other Forum participants to support the Report as a “package,” including the mitigation recommendations. This agreement among the participants reflected the acknowledgment that all participants had gained something of value from the process, although perhaps not everything that had been wished for. In fact, specific changes had been made in the document to reflect many of the Alaskan oil industry representative’s concerns. Clearly not content with its failure to influence this aspect of the Forum’s recommendations, the industry renewed its attack on the MOA; this time targeting the White House and using the Alaskan congressional delegation to carry its message. The industry also joined a lawsuit brought by the City of Anchorage, Alaska challenging the legality of MOA under the Administrative Procedure Act, 5 U.S.C. § 553, and under the National Environmental Policy Act, 42 U.S.C. § 4332(c)(2). Anchorage v. Reilly, 32 Env’t. Rep. Cas. (BNA) 1199 (D.Ak. 1990), reh’g denied, No. A89-503 (D. Ala. Jan. 4, 1991)(LEXIS, Env. Library).

155. During the two and one-half month campaign against the MOA, the Alaskan oil and gas representatives were joined by two Cabinet Secretaries (Energy and Transportation), several members of Congress, representatives of the real estate development and farm lobbies, the White House Chief of Staff, and directors of other White House offices. Even the President was consulted on the contents of the document.

156. During the period of interagency review of the Mitigation MOA, an extremely controversial footnote was added to the document, which loosened the sequencing requirements even more. Footnote 7 created an exception to the sequencing requirement where there is a “high proportion” of wetlands. The history of Footnote 7 reveals that it was added to appease the Alaskan oil and gas interests, see supra note 154. However, because the area in which a “high proportion” can be found is not defined in the footnote, this exception could cover not only most of Alaska, but other important areas of the country where wetlands abound such as Louisiana and Dela-
themselves.\textsuperscript{157} Even more troubling was that the momentum started by the debate over the Mitigation MOA set the stage for the reception, given the second initiative under study in this article.

VII. The Wetlands Delineation Manual

The second initiative involved the publication\textsuperscript{158} by four federal agencies\textsuperscript{159} of a manual describing the technical criteria and field indicators to be used by those agencies in order to assure consistent wetland delineation under their respective laws.\textsuperscript{160} The conflagration that erupted over this initiative

\begin{itemize}
\item[157.] The Interagency Task Force on Wetlands indicated its continuing interest in the Mitigation MOA with a view toward making additional changes. This Task Force was appointed by President Bush in 1989, to solicit and receive public input on appropriate strategies for working towards a national goal of "no net loss." Individuals on the Task Force include representatives from the White House Offices of Cabinet Affairs, Policy Development, Management and Budget. Additionally, the Departments of Agriculture, Commerce, Defense, Energy, Housing and Urban Development, Interior, Justice, and Transportation were represented. Other organizations represented are the EPA, and the Council on Environmental Quality. The Task Force is chaired by a Special Assistant to the Director of the Domestic Policy Council. The mission of the Task Force is to provide recommendations on wetland policy to the Domestic Policy Council. In the summer of 1990, the Task Force held a series of meetings across the country on a variety of wetlands policy issues, including some on mitigation policy. See 55 Fed. Reg. 30,279-280 (1990). As of the date of this article, no further changes have been made.
\item[158.] See Manual, supra note 115. The release of the manual was preceded by the issuance of another memorandum of agreement between EPA and the Corps, entitled Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning the Determination of the Geographic Jurisdiction of the section 404 Program and the Application of the Exemptions Under section 404(f) of the Clean Water Act (January 19, 1989). See Jurisdictional MOA, supra note 108. The issuance of the Jurisdictional MOA went largely unnoticed even though it clearly stated that the Corps would abide by EPA's position on section 404 jurisdiction over isolated wetlands, a very controversial matter. However, neither the Jurisdictional MOA nor the Manual, like the Mitigation MOA before them, were released for public comment.
\item[159.] The agencies are the Environmental Protection Agency (EPA), the Corps of Engineers (Corps), the U.S. Fish & Wildlife Service, and the Soil Conservation Service.
\item[160.] Manual, supra note 116. The Corps and EPA were to use the Manual to identify jurisdictional wetlands under section 404 of the Clean Water Act. The SCS
was fueled by the frustrations released during the debate over the Mitigation MOA.

The historic failure of the Corps and EPA to agree upon what constitutes a wetland, even though they shared the same regulatory definition, caused innumerable problems for the regulated and conservation communities alike. These problems were not unlike the problems that had led to the issuance of the Mitigation MOA. Reflecting that concern, and noting that there were over fifty different definitions of wetlands employed in the various regulatory, research, survey, and other wetlands programs around the country, the National Wetlands Policy Forum identified the need to eliminate inconsistent definitions, and recommended delineation


161. See infra note 164.
163. Id.
164. As noted previously, there is one regulatory definition of wetlands that is used by both the Corps and EPA in their implementation of the section 404 Program. That definition is as follows:

[T]hose areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

33 C.F.R. § 328.3; 40 C.F.R. § 230.3. The U.S. Fish & Wildlife Service employs a different, and more inclusive definition of wetlands, to identify those areas of the country to be included in the National Wetlands Inventory:

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.


Wetlands are defined as areas that have a predominance of hydric soils and
methodologies to achieve that goal. Once again, the federal
to the Forum’s recommendations.

VIII. The Federal Manual for Identifying and Delineating
Jurisdictional Wetlands

The issuance of the Manual in early 1989 created no stir
of any kind in either the regulated or conservation commu-

nities. However, the period of calm ended abruptly when the
agencies started to apply the Manual’s delineation methodolo-
gies in the field, particularly in the farm fields of Gulf Coast
States the Delmarva Peninsula. The resulting fervor gath-
ered sufficient force to threaten the integrity of the entire sec-
tion 404 program, as no other federal wetlands regulatory ini-
tiative before had ever done. What went wrong? How did the
initiative move from consensus to descensus?

Looking at the Manual, it is difficult to believe that it
could have precipitated such a firestorm. The Manual is a
technical document, devoid of policy pronouncements. Like
the Mitigation MOA, it contains little that is new. Rather,
the Manual represents an effort by the four agencies to
achieve a “single, consistent approach for identifying and de-
lineating wetlands from a multi-agency perspective” by
merging the disparate manuals and approaches of the four
agencies into a single document. The only novel aspect to

that are inundated or saturated by surface of ground water at a frequency
and duration sufficient to support, and under normal circumstances do sup-
port, a prevalence of hydrophytic vegetation typically adapted for life in sat-
urated soil conditions, except lands in Alaska identified as having a high po-
tential for agricultural development and a predominance of permafrost soils.

MANUAL, supra note 115. These three definitions of wetlands are the only definitions
in use at the federal level.

165. FORUM REPORT, supra note 129, at 37-38.
166. MANUAL, supra note 115.
167. The four agencies had started meeting in May of 1988 to reconcile the dif-
fences between them on the methods used to identify wetlands under the various
programs each administered. On January 10, 1989, having reached agreement, they
adopted the MANUAL and on March 20, 1989 they finally started applying it.
168. See U.S. Army Corps of Engineers, Department of Defense, Notice of Meet-
169. MANUAL, supra note 115, at 1.
170. The MANUAL incorporates information from the CORPS OF ENGINEERS WET-
the 1989 Manual is that the federal agencies agreed after many years of disagreement.

The federal agencies, however, should have anticipated the outcry that would greet the Manual's application. In the first place, by using Fish & Wildlife Service indicators and methodologies for delineating wetlands, the Manual virtually guaranteed that more wetlands would be declared jurisdictional than under the prior practices of the two regulatory agencies. This alone would guarantee that the Manual would be ill-received once it was actually applied. Second, although not necessarily required by the new Manual, for the first time in the history of the program, the two federal regulatory agencies actually tried to delineate wetlands in agricultural production. This decision reversed years of neglect by the Corps, which had consistently treated the limited exemptions for certain agricultural activities in section 404(f), as complete programmatic exemptions for the entire industry. Now, for the first time, the Corps and EPA were in farm fields in force, identifying and delineating wetlands that had been cropped for years, sometimes generations. Their mere presence indicated to the largely unregulated and depressed segment of the economy that they had fallen under the regulation of the Clean Water Act. The result was pandemonium. Farmers in those areas suddenly discovered

LANDS DELINEATION MANUAL, EPA'S WETLANDS IDENTIFICATION AND DELINEATION MANUAL, and SCS's FOOD SECURITY ACT MANUAL WETLAND DETERMINATION PROCEDURES.

171. Indeed, preliminary work done under the 1989 Manual showed a remarkable similarity to the Fish & Wildlife Service Inventory Maps.


173. Further aggravating the situation, some agency personnel applied only a single wetlands indicator, hydric soils, in some areas of the country, most notably in the Southern and Mid-Atlantic States where alterations made it particularly difficult to locate all three indicators.

174. "As currently defined, wetlands could conceivably encompass 70% of the United States. It would then be off limits to further development or usage." Detroit News, January 28, 1991, editorial section. Maryland's Governor Schaefer wrote to William Reilly, EPA Administrator, to complain about the assertion of federal jurisdiction over non-tidal, vacant or farmed wetlands, and to warn that the application of the single indicator to Maryland farm land was "fatally" undercutting the State's support for a non-tidal wetlands protection program — a high priority of the Admin-
that fields which they had cropped for generations were jurisdictional wetlands within the meaning of section 404, potentially requiring a permit before they could be converted to another use, including a different type of crop. Letters and calls poured into EPA and the Corps. Soon the White House and Congress became involved as well. The Corps

175. As previously discussed, under the regulatory definition of wetlands, land displaying hydric soils, hydrophytic vegetation and sufficient hydrology are jurisdictional wetlands. See supra note 172. The MANUAL reflects that definition and requires that the agencies consider all three technical criteria in making a wetlands determination. However, in some circumstances where all three indicators are not present, either because they have been destroyed to evade wetlands jurisdiction or because of natural causes like drought or winter die-off of annual vegetation, under the MANUAL the agencies were allowed to hypothesize the missing indicator. See MANUAL, supra note 115, at §§ 4.20-4.23. In the case of areas currently in agriculture where the land was drained to the extent that it no longer met the hydrology criterion, agency staff was not to posit hydrology solely on soil characteristics. See Letter to The Honorable Patrick J. Leahy, U.S. Senate, from LuJuana S. Wilcher, U.S. Environmental Protection Agency, Assistant Administrator for Water, and Robert W. Page, Department of the Army, Assistant Secretary of the Army (Civil Works) (April 19, 1990). For reasons that are not clear, the Corps and EPA applied a single parameter to cropped land in the Gulf Coast States and the Delmarva Peninsula.

176. When coupled with the policies set forth in the Mitigation MOA, farmers suddenly saw themselves faced with having to acquire compensatory wetland acreage for farm fields that they had held for years for later conversion as part of their retirement nest egg.

177. See 33 C.F.R. § 323.4(a)(1). The most extreme example of this was occurring in Louisiana where soybean farmers were being told that they would have to compensate for lost wetlands when they converted their cropped fields into rice paddies. Since the cropped fields were now wetlands, their conversion to a new use was “recaptured” by section 404(f)(2), 33 U.S.C. § 1344(f)(2), requiring the issuance of a permit and triggering the compensatory mitigation burden. Given the low wetland value of a cropped field, and the comparatively higher wetland value of a rice paddy, this position by the Corps confounded even EPA and the Fish & Wildlife Service. Of even greater importance to the farmers was that banks were refusing to issue loans out of fear that property that once could be converted at a profit to another use could not be so converted if it was classified as a wetland.

178. By now the Farm Bureau had entered the fray and organized a national campaign to abolish the MANUAL. The Bureau was actually busing in farmers to voice their opposition to the MANUAL at the Interagency Wetlands Task Force hearings held in August and September. See infra note 198.

179. For example, on July 31, 1990, thirteen members of Congress met with White House Chief of Staff Sununu, Secretary of the Interior Lujan, EPA Administrator Reilly, Assistant Secretary of the Army (Civil works), and representatives from the Domestic Policy Council staff, including its Director Porter, to discuss the impact
and EPA attempted to accomplish damage control\textsuperscript{181} by sending a joint letter to Senator Leahy, Chairman of the Committee on Agriculture, Nutrition, and Forestry, explaining what they were doing to correct the problem.\textsuperscript{182} This letter was of the \textit{Manual} on the "Sunbelt" States. Assertions were made at the meeting that 53\% of Louisiana is now "wet" as a result of the Manual, as well as 40\% of Dorchester County, Maryland, and 80\% of Harris County, Texas. Clearly, hysteria was beginning to reign.


181. The extent to which the political appointees in the agencies were informed of these changes in prior practice before the Manual's application is uncertain. Judging from the lack of damage control once the uproar started and the slow reaction by the agencies, either the program directors were uninformed, misinformed, or informed and unwilling or unable to assess the consequences. In any event, the ensuing outcry threatened and still threatens to bring the entire regulatory program down.

182. Letter to The Honorable Patrick J. Leahy, Chairman, Committee of Agriculture, Nutrition, and Forestry, U.S. Senate from LaJuana S. Wilcher, Assistant Administrator for Water, U.S. Environmental Protection Agency, and Robert W. Page, Assistant Secretary of the Army (Civil Works) (April 19, 1990). In that letter, the two agencies reported that they were working on a general permit to authorize the dis-
quickly followed by a Memorandum for the Field ("Field Memorandum"), which explained the extent to which section 404 applies to agricultural activities, particularly to rice farming and catfish ponds.\textsuperscript{183} The Field Memorandum was accompanied by a Question and Answer paper (Q and A paper) intended for distribution to the farmers to allay their concerns.\textsuperscript{184} Despite their wide distribution, including publication of the Q and A paper in the American Farm Bureau newsletter, the howls of protest did not diminish,\textsuperscript{185} and have not diminished to this day.

The Corps and EPA could not stop the onslaught;\textsuperscript{186} it
was spreading like wildfire throughout the farming areas of the country. Similar to the Mitigation MOA before it, the attack had gained a life of its own beyond the initial grievance. Once again, a chord had been struck with respect to the federal regulatory program that resonated deeply in the public's consciousness.

The Corps panicked, fearing another White House or even a legislative roll. On September 26, 1990, the agency issued a regulatory guidance letter (RGL), RGL 90-7, exempting "prior converted" cropped wetlands from section 404 jurisdiction. While EPA looked the other way, the Corps had rolled itself, by carving a huge exception out of the regulatory program for the agricultural community.

The RGL excludes from the definition of regulated activities discharges into areas that had been converted to farming prior to the enactment date of the Food Security Act of 1985. This is accomplished by directing the Corps to con-
The phrase, "normal circumstances," in the definition of wetlands to exclude cropped wetlands that had been converted (i.e., manipulated, drained, or otherwise physically altered, to remove excess water from the land) prior to December 23, 1985, to the extent that those wetlands no longer exhibit wetland values. The RGL excludes from the exemption prairie potholes, playa lakes, and wetlands that are seasonally flooded or ponded for at least fifteen days during the growing season. In addition, it excludes wetlands where the hydrophytic vegetation has been destroyed for the specific purpose of evading wetlands jurisdiction. However, the guidance letter effectively de-regulates wetlands that had been converted to agriculture during the thirteen year period between the enactment dates of the Clean Water and Food Security Acts.

The legal validity of the RGL is highly questionable. Nothing in the Clean Water Act provides a basis for the sophistry employed by the Corps. Further, engrafting temporal boundaries and language — e.g., "prior converted wetlands" — from another law into the body of regulations implementing the Clean Water Act will only create future confusion; the very thing the publication of the Manual was intended to eliminate.

No argument can be mustered that the RGL advances the President's "no net loss" of wetlands goal. The effect of the RGL on wetlands is potentially devastating. The National

193. The Corps calls these three types of wetlands "farmed wetlands" to distinguish them from "cropped wetlands."

194. With regard to the latter exception to the exemption, the Corps may "reasonably infer" that the purpose of the physical disturbance is to avoid such jurisdiction and need not prove that fact. Id.

195. The RGL also allows the Corps to reclaim jurisdiction over prior converted cropped wetlands, if the land is abandoned and wetland conditions return. See The Soil Conservation Service National Food Security Act Manual § 512.17 (1988) for the definition of "abandonment."

196. The legal basis for the RGL is questionable at best, as the Clean Water Act is effective as of the date of enactment in 1972. There is no language in section 404 which allows the Corps to carve out from regulatory control, wetlands which otherwise might meet the regulatory definition of wetlands, but which have lost some or all of the wetland indicators between 1972 and 1985.
Wildlife Federation estimates that the RGL will release from regulatory jurisdiction forty million acres of prior converted cropped wetlands. One area that is particularly vulnerable to the effect of the RGL is San Francisco Bay. There, twenty-eight percent of the wetlands are "farmed" wetlands which are seasonally ponded or wet, but may not meet the RGL's requirement for surface ponding during the growing season.

What began as an attempt to improve the efficacy of the 404 Program ended up nearly scuttling the entire program. While it appears less likely now that the program will be destroyed as a result of the onslaught against it triggered by the Delineation Manual, there are still efforts afoot in Congress and the current Administration to reduce its protective effectiveness. The particular window of vulnerability for the program will remain open during the debates on reauthorization of the Clean Water Act, which should begin in earnest next session of Congress. It remains to be seen if it can be closed or will be flung open wider still.

Could the debacle on the Manual have been avoided? Perhaps it could have been had the agencies proceeded more slowly and publicly in their development of the Manual, or understood the depth of that hostility toward the program. Instead, the four agencies assumed that the goodwill gener-

197. National Wildlife Federation is a national environmental organization with over one million members and is an active advocate for wetlands protection at the national level.

198. See Letter from Jay Hair, President National Wildlife Federation to Dr. G. Edward Dickey, Acting Assistant Secretary of the Army (Civil Works) and William K. Reilly, Administrator, U.S. Environmental Protection Agency (October 25, 1990)[hereinafter Hair Letter].

199. An additional problem may be posed by the RGL for "farmed" wetlands in the Bay area and other comparable coastal areas as a result of Soil Conservation Service mapping of these areas. Many believe that the SCS have mapped "farmed" wetlands as "prior converted cropped" wetlands. Hair Letter, supra note 198.

200. Ironically, most of these farmed wetlands would revert back to wetlands if present agricultural practices such as disking and draining were discontinued. This fact makes these wetlands particularly valuable for wetland restoration sites as part of a compensatory mitigation or wetlands mitigation banking program. See AUDUBON REPORT, supra note 30, at 38.

201. Id.
ated during the deliberations of the National Wetlands Policy Forum would transcend publication of the Forum’s report and turn itself into a broad-based support for the program. The agencies relied on this assumption in their decision to proceed swiftly behind closed doors in the waning months of the Bush Administration as they deliberated over the Manual’s contents.

IX. Conclusion

What can be learned from this analysis of the 404 program, and in particular, these two case studies, about the fate of wetlands protection in this country? At a minimum, this analysis should raise questions about the wisdom of relying solely on the 404 program to save wetlands. First, the program is significantly flawed, barely capable of protecting the resource even in the best of times. The probability of being able to improve the program, fill the regulatory gaps, eliminate the exemptions, and tighten the general permitting regulations seems low, if the morphology of the two case studies contains any lessons.

Even if the scope and content of the existing 404 program could be improved, wetlands would continue to disappear. The structure is just too creaky to bear much more weight — nor should the program bear the entire burden of protecting and enhancing the national wetland resource base. If this country is serious about halting the demise of our wetland resource base, then dramatic initiatives must be taken which go beyond applying yet another bandage to the 404 program.

Without touching the 404 program, Congress could make major improvements in the legal framework affecting wetlands. For example, Congress could use its authority under the Wilderness Act202 and the Federal Land Policy and Management Act203 to protect wetlands as part of the national wilderness system by designating qualifying wetlands on public lands. Prime candidates for such systems would be wetlands

on public lands that are part of a migratory flyway or have been designated wetlands of international significance under RAMSAR. Surely, Congress could direct the federal land managers to do a better job preserving, protecting, and enhancing wetlands on public lands, including wetlands which are part of the national wildlife refuge system, and require the federal government to expend funds to restore wetlands that have been degraded as a result of earlier misguided land management policies. At minimum, Congress could add to the federal financial incentives for wetlands protection, improve opportunities for private organizations to acquire wetlands, and eliminate the remaining federal programs that convert or subsidize conversion of wetlands by private interests.

One must target more than just the Congress of the United States to make significant improvements in wetlands protection. State houses, governor's mansions and local land use authorities are equally important to those seeking to slow the rate of wetland loss. Wetlands are being lost incrementally and inexorably at the local level to urban sprawl, poor road design, marinas, homes, and the like. The first line of defense must be at this level.

The best tool that state and local governments possess is the authority to plan the use of lands within their respective political boundaries — a tool that the federal government does not at present have. With this tool, states and local


206. Amending the Tax Code, 26 U.S.C. §§ 1-8023 (1988), to increase the deductible allowed for gifts of appreciated real property and carry forward period for the unused portion of the deduction would make gifts of real property containing wetlands that much more attractive.


208. The Maryland General Assembly has before it legislation to manage growth in the Chesapeake Bay Region. The bill is the result of a year-long study by Governor Shaefer's Commission on Growth in the Chesapeake Region. The draft bill, released
governments can set aside wetlands and other high quality habitat from development. Municipalities could reform zoning and building codes to minimize the impact on wetlands by allowing cluster developments as well as the use of transferable development rights and impact fees. Public services, such as roads, utility lines, and sewage treatment facilities could be offered in non-wetland areas. Each of these would encourage the location of development in upland areas, away from wetlands.209

None of these suggestions probably has much chance of success, however, until the perceived individual inequities of the present program are addressed. Until individual property owners no longer think of themselves as unfairly disadvantaged economically by their ownership of wetlands, opposition to wetland protection efforts will continue. In light of this notion, how can a change in mindset can be accomplished without draining the federal treasury, especially in this era of fiscal conservatism.210 That it must be done is without question.

Whether any of these suggestions will lessen the apparent sting of the federal regulatory program remains to be seen.211

in late November 1990, recommended focusing 65% of new growth in developed areas (i.e., lands that are essentially all incorporated or are at least already 75% developed) and “growth areas” (lands that will be serviced with sewers within the next 20 years). Little, if any development is to be allowed on so-called “sensitive lands” (floodplains and steep slopes) and limited development on rural lands, with cluster zoning, leaving 85% of the land in open space, being required for development of tracts of greater than twenty acres.

209. The state of Vermont has taken another approach to controlling growth by establishing a Trust Fund that provides money for both affordable housing and conservation — often two activities that are perceived as conflicting. Over the two and one-half year period the project has been in operation, 28,300 acres of natural resource and agricultural lands have been preserved and 1,657 units of affordable housing constructed.

210. One far-reaching approach might be to create a market in transferable development rights like the futures market in air emission allowances authorized under Title IV of the 1990 amendments to the Clean Air Act. Pub. L. No. 101-549 (Nov. 15, 1990). Under such a program, a property owner of wetlands would be given development rights, which could be banked, sold or transferred, in other areas of the state where development is not restricted. The net effect of such a program would be to move development out of wetland areas.

211. This is not to say that improvements of a more modest nature than those set forth in the text cannot be made and have a significant impact on wetlands protection. For example, significantly improving publicly available information on wet-
The fact that opposition to protecting wetlands remains as high as it does, as reflected in the two case studies, is deeply troubling; especially in an era of heightened environmental consciousness and feigned Presidential leadership in wetlands protection. What is clear is that until the community that benefits from leaving the resource in its natural state is expanded through some of the initiatives suggested in this article, or until Americans change their attitudes about the sanctity of private property, it is unlikely that the negative perceptions concerning wetlands protection will change. Perceived inequities in the 404 program must be lessened or the individual property owner will remain a dormant force, waiting to be mobilized by any organized interest seeking to convert the resource to a private use by weakening the regulatory program.

The country is entering a critical stage with respect to protecting one of its most important natural resources. The federal wetlands regulatory program, like the resource it tries to protect, is in need of significant restoration. Infallible regulatory programs, however, are a chimera. Even if the program could be made foolproof, which seems unlikely at this time, it would be a mistake to think that that is all that is required. Other approaches, only a few of which are catalogued here, should be pursued, and every effort made to expand the community that benefits from leaving the resource in its natural state.

land locations, values, functions, and threats to impairment of these values and functions would make a major improvement in wetlands protection as well as wetlands restoration and creation. See Forum Report, supra note 129, at 57-59.