

COMMENT

Strengthening Wetland Protection Programs Through State Regulation

This Comment examines the need for state regulation that works concurrently with federal and private wetland protection programs to preserve wetlands. The Comment focuses on the limits of wetland protection under section 404 of the Clean Water Act and federal and private economic incentive and acquisition programs. It discusses the requirements for a comprehensive state statute and offers a model statute to further the goal of wetland protection.

INTRODUCTION

Wetlands play a critical role in the nation's complex and delicate ecosystem. They provide year-round habitats for indigenous birds and are important wintering areas and feeding grounds for migratory waterfowl and other wildlife.¹ Wetlands perform vital water protection and purifying functions by enhancing groundwater recharge and filtering natural and man-made pollutants.² They also serve as valuable recreational and aesthetic resources.³ Wetlands include a wide variety of marshes, bogs, and swamps: areas that remain wet during all or part of

¹ UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, WETLANDS OF THE UNITED STATES: CURRENT STATUS AND RECENT TRENDS 14 (1984) [hereafter CURRENT STATUS]. See *infra* text accompanying notes 24-26.

² One commentator asserts that natural ecosystems such as wetlands support society in several ways. Wetlands can: (1) regulate the hydrological cycle by enhancing groundwater recharge and moderating the rate of surface runoff; (2) stabilize biogeochemical cycles by building and retaining of topsoil; and (3) purify the environment by decontaminating organic wastes. Darnell, *Overview of Major Development Impacts on Wetlands*, NATIONAL WETLAND PROTECTION SYMPOSIUM 19, 21 (1977). See also *infra* text accompanying notes 27-33.

³ See *infra* note 34 and accompanying text.

the year.⁴ They exist in all areas of the United States, including riparian wetlands of the west, wetlands in the central midwest, and freshwater wetlands of the northeast.⁵ The majority of wetlands in the United States occur along the Gulf and Atlantic Coasts and in the north-central states, especially Minnesota.⁶ Wetlands in Alaska cover sixty percent of the state, over two hundred million acres.⁷

Despite increasing recognition of their importance,⁸ development, ag-

⁴ Brown, *Home Rule Wetlands Protection in Massachusetts*: Lovequist v. Conservation Comm'n of the Town of Dennis, 9 BOSTON C. ENVTL. AFF. L. REV. 103, 103 (1980). The Office of Technology Assessment distinguishes basic wetland types by three primary factors: (1) location (coastal or inland); (2) salinity (freshwater or saltwater); and (3) dominant vegetation (marsh, swamp, bog, and tundra). OFFICE OF TECHNOLOGY ASSESSMENT, WETLANDS: THEIR USE AND REGULATION 29 (1984) [hereafter WETLANDS]; see also U.S. ARMY CORPS OF ENGINEERS, PRELIMINARY GUIDE TO WETLANDS OF THE WEST COAST STATES 10 (1978) (distinguishing nine basic wetland types through three primary factors that include physiognomy, growth form, and environmental factors: saltwater aquatic, saltwater coastal flat, saline inland flat, saltwater marsh, saltwater swamp, freshwater aquatic, freshwater flat, freshwater marsh, and freshwater swamp). Freshwater marsh vegetation contains soft-stemmed plants, grasses, sedges, rushes, water lillies, cattails, reeds, arrowheads, pickerel weed, smartweed, and wild rice. WETLANDS, *supra*, at 29. Saltmarshes include genus *spartina*, and species *juncus*, and *salicornia*. *Id.* at 31. Bogs usually consist of thick peat deposits and support a covering of mosses. *Id.* at 30. Tundra is a wet arctic grassland dominated by lichen, mosses, grasses, sedges, and dwarf woody plants. *Id.* Swamps consist of three categories. Shrub swamps and wooded swamps locate along sluggish streams. Mangrove swamps define any salt-tolerant, intertidal tree species. *Id.* at 30-31. See also United States v. Riverside Bay View Homes, Inc., 474 U.S. 121 (1985) (holding that U.S. Army Corps of Engineers' (Corps) definition of wetlands was adequate); CURRENT STATUS, *supra* note 1, at 3 (stating that "there is no single, correct . . . definition of wetlands, primarily because of the diversity of wetlands and because the demarcation between dry and wet environments lies along a continuum"). For a general discussion of wetlands under § 404, see *infra* notes 48-69 and accompanying text. For a discussion of how wetland definitions pertain to state regulation, see *infra* text accompanying notes 152-69.

⁵ Baldwin, *Fortifying Federal and Regional Cooperation*, 24 ENVIRONMENT No. 7, 17 (Sept. 1987).

⁶ *Id.*

⁷ *Id.*

⁸ The legislative history of the Emergency Wetlands Resources Act of 1986 states that:

The Department of the Interior, in expressing its views on the . . . Act, states that it is "well established that the loss of wetlands is one of the most serious environmental problems facing the Nation today, with far-reaching implications not only for fish and wildlife resources but also for outdoor recreation, business, agriculture and flood control."

S. REP. NO. 445, 99th Cong., 2d Sess. 2, reprinted in 1986 U.S. CODE CONG. & ADMIN. NEWS (100 Stat.) 6114.

ricultural conversion, groundwater pumping, grazing, and flood control projects have irreparably damaged wetlands. These activities destroy and impair hundreds of thousands of acres of wetlands each year.⁹ As a result, less than half of the 215 million acres of wetlands that existed at the time of European settlement remain.¹⁰

Although federal laws and programs have been established to prevent wetland destruction, they do not comprehensively protect wetlands, but merely slow the rate of loss.¹¹ Federal statutes have attempted to prevent wetland destruction primarily through section 404 of the Clean Water Act.¹² However, despite the federal government's use of section 404,¹³ inadequate funding, enforcement problems, and a narrow jurisdictional scope limit its effectiveness.¹⁴ Moreover, recent legislative and administrative proposals may further reduce section 404's limited abil-

⁹ 16 U.S.C. § 3901 (Supp. IV 1986). *See infra* text accompanying notes 35-37.

¹⁰ CURRENT STATUS, *supra* note 1, at 29.

¹¹ *See infra* text accompanying notes 35-37.

¹² 33 U.S.C. § 1344 (1982). Other federal statutes that protect wetlands include: the Rivers and Harbors Appropriation Act § 10, 33 U.S.C. § 403 (1982) (providing guidelines for structures built in navigable waters); the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464 (1982) (protecting coastal wetlands); the National Environmental Policy Act, 42 U.S.C. §§ 4321-4361 (1982 & Supp. III 1985) (requiring environmental impact report for major federal and state projects); the Land and Water Conservation Fund, 16 U.S.C. §§ 4601-04 to 4601-11 (1982) (authorizing funds to state and local governments for planning, acquisition, and development of land and water areas and facilities). An executive order also regulates wetlands. *See* Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (1977) (requiring approval for any wetland project unless "no practicable alternative" exists).

¹³ The U.S. Army Corps of Engineers estimated that for 1980-81, processed permits, if completed as requested, would have resulted in direct and indirect conversions of approximately 100,000 acres of wetlands per year. WETLANDS, *supra* note 4, at 141. The Corps authorized projects that resulted in conversion of approximately 50,000 acres. *Id.*

¹⁴ William R. Gianelli, Assistant Secretary of the Army, describes the limitations of § 404:

It is important to point out that wetlands subject to section 404 can be destroyed in a number of ways without any requirement for a Corps permit. They can be destroyed by excavating, draining, flooding, clearing, or even shading without the need for a Corps permit as long as those activities do not include the discharge of dredged or fill material. So, it is clear that section 404 does not serve as the Nation's comprehensive wetlands protection law.

WETLANDS, *supra* note 4, at 167-68 (quoting Mr. Gianelli before the House Committee on Merchant Marine and Fisheries on § 404, Aug. 10, 1982); *see also infra* notes 48-69 and accompanying text.

ity to protect wetlands.¹⁵

In addition to section 404, the federal government has enacted several economic incentive programs to discourage private landowners from converting wetlands for agriculture or development.¹⁶ However, these programs rely solely on the landowner's voluntary cooperation to prevent conversion. Federal and private land acquisition programs are only partially effective because they acquire a small portion of the wetlands that need preservation.¹⁷ These limited laws and programs have encouraged some states to enact statutes to supplement existing wetland protection.¹⁸

State statutes work concurrently with section 404 and other federal programs to prevent wetland destruction.¹⁹ However, although several states have enacted wetland statutes,²⁰ most are poorly drafted²¹ or the

¹⁵ Since 1981, the Reagan Administration has advocated reform of § 404. *See* PRESIDENT'S TASK FORCE ON REGULATORY RELIEF, ADMINISTRATIVE REFORMS TO THE REGULATORY PROGRAM UNDER SECTION 404 OF THE CLEAN WATER ACT AND SECTION 10 OF THE RIVERS AND HARBORS ACT (1982). The 97th and 98th Congresses considered bills to return Corps jurisdiction to navigable waters under the traditional federal test. S. 777, 97th Cong., 1st Sess., 127 CONG. REC. 2584 (1981); H.R. 393, H.R. 3083 & H.R. 3962, 97th Cong., 1st Sess. (1981); H.R. 1570, 98th Cong., 1st Sess. (1983). The President's Task Force on Regulatory Relief targeted § 404 for extensive review and revision. The Task Force recommended adoption of five measures to reduce § 404's regulatory burdens: (1) reduce § 404's jurisdiction to traditionally navigable waters; (2) reduce permit processing time; (3) transfer more permitting authority to the states; (4) expand the use of general permits; (5) reduce conflicting or overlapping policies and responsibilities. *See* Wakefield, *Reducing the Federal Role in Wetlands Protection*, 24 ENVIRONMENT 4 (1982). *See infra* note 58 and accompanying text for a discussion of the traditional federal test of navigable waters. For a discussion of these and other attempts to limit § 404, *see* Comment, *Corps Recasts § 404 Permit Program, Braces for Political, Legal Skirmishes*, 13 ENVTL. L. REP. (ENVTL. L. INST.) 10,128 (1983).

¹⁶ *See infra* text accompanying notes 70-76.

¹⁷ *See infra* text accompanying notes 77-83.

¹⁸ For a discussion of these statutes, *see infra* text accompanying notes 97-129. Other factors also encourage state wetland regulation: (1) wetland areas can overlap government jurisdictions; (2) watershed supply to wetlands often overlap government jurisdictions; (3) local governments often lack expertise and funds to identify and evaluate wildlife, floods, erosion, and to determine impact of development; and (4) control and protection of wetlands is linked with traditional state protection of wildlife and public rights in navigable waters. J. KUSLER, *OUR NATIONAL WETLAND HERITAGE* 65 (1983).

¹⁹ *See infra* text accompanying notes 97-129.

²⁰ *See infra* notes 97-98 and accompanying text.

²¹ *See infra* text accompanying notes 103-13.

state's jurisdiction is too narrow.²² Thus, present state statutes do not adequately protect wetlands.

This Comment argues that the future preservation of wetlands depends primarily on state legislation that works concurrently with private and government programs to support and strengthen wetland protection. Comprehensive and better-tailored wetland statutes will balance the need for construction and development against the need to prevent wetland destruction. This Comment describes the statutory procedures and guidelines best suited for this purpose.

Part I describes the importance of wetlands and government recognition of the necessity of wetlands regulation. Part II discusses wetland protection under the Clean Water Act, economic incentive programs, and federal and private acquisition programs. Part II also describes the major administrative and regulatory conflicts surrounding section 404 and state implementation problems. Part III analyzes the benefits and deficiencies of existing state statutes. Part IV offers a model wetland statute to enable states to develop a comprehensive and effective state wetland statute.

I. THE IMPORTANCE OF WETLANDS

Wetlands are areas of great natural productivity.²³ The most significant function of wetlands is their ability to provide vital habitat for fish and wildlife.²⁴ Of the 276 threatened and endangered animal species in the United States, eighty species depend on wetlands for survival.²⁵

²² See *infra* text accompanying notes 114-19.

²³ Wetlands provide at least seven vital services: (1) habitat for various mammals and marsh birds; (2) food sources for migratory birds; (3) study and sanctuary areas; (4) shields from wave action, erosion and storm damage; (5) storage areas for storm and flood waters; (6) recharge areas for groundwater; and (7) natural water filtration. Ablard & O'Neill, *Wetland Protection and Section 404 of the Federal Water Pollution Control Act Amendments of 1972: A Corps of Engineers Renaissance*, 1 VT. L. REV. 51, 52 (1976); see Caplin, *Is Congress Protecting Our Water? The Controversy Over Section 404, Federal Water Pollution Control Act Amendments of 1972*, 31 U. MIAMI L. REV. 445, 455 (1977).

²⁴ COUNCIL ON ENVIRONMENTAL QUALITY, OUR NATION'S WETLANDS: AN INTERAGENCY TASK FORCE REPORT 2 (1978) [hereafter OUR NATION'S WETLANDS]. Wetlands provide essential nesting, wintering, and resting grounds for many species of migratory waterfowl, other waterbirds, and many songbirds. WETLANDS, *supra* note 4, at 53. Wetland vegetation comprises a significant component of the diet of ducks, geese, and swans. *Id.*

²⁵ See Endangered Species Act, 16 U.S.C. §§ 1531-1543 (1982 & Supp. III 1985). For a list of endangered species and designation of critical habitat under the Act, see 50 C.F.R. §§ 424.01-424.21 (1986) and 50 C.F.R. §§ 17.11-17.12 (1986); *Hearings on S.*

Further, two-thirds of the commercial fish and shellfish harvested along the Atlantic coast and in the Gulf of Mexico, and almost one-half of Pacific coast fish and shellfish depend on coastal estuaries and their wetlands for food sources, spawning grounds, or nurseries for their young.²⁶ Wetlands also perform important water purifying functions by holding nutrients, recycling pollutants,²⁷ and preventing lake eutrophication.²⁸ Wetlands reduce shoreline erosion²⁹ and help protect water tables from saltwater intrusion³⁰ and urbanized areas from flood.³¹ They also moderate local temperatures³² and maintain regional precipitation.³³ Finally, wetlands provide significant recreational, scientific, and

777 *Before the Subcomm. on Environmental Pollution of the Senate Comm. on Environmental and Public Works*, 97th Cong., 2d Sess. 4 (1982) (Hair, J., testifying on behalf of 12 environmental groups); *see also* WETLANDS, *supra* note 4, at 56 (estimating that 20% of all plant and animal species on the federal government's list of endangered or threatened species depend on wetlands for food and habitat).

²⁶ OUR NATION'S WETLANDS, *supra* note 24, at 2.

²⁷ *Id.* at 23. Wetland ecosystems act as pollution filtration systems. Cowdery, Scheuerman & Lombardo, *The Valuation of Wetlands*, 1 J. OF LAND USE & ENVTL. L. 5 (1985). A plant's natural ability to store phosphorous and nitrogen and convert them to nutrients purifies wastewater. *Id.* A 1972 report by the University of Miami on the Kissimmee-Okeechobee Basin estimated that a 1500-acre marsh can use nearly all the nitrogen and one-fourth the phosphorous contained in the effluents from sewage treatment plants serving a community of 62,000 people. *See* UNIVERSITY OF MIAMI, CENTER FOR URBAN AND REGIONAL STUDIES, *THE KISSIMMEE-OKEECHOBEE BASIN: A REPORT TO THE CABINET OF FLORIDA* 29 (2d ed. 1972). For further case studies, *see* Grant & Patrick, *Tinicum Marsh as a Water Purifier*, TWO STUDIES OF TINICUM MARSH (1970).

²⁸ Eutrophication is a natural aging process accelerated by pollution. OUR NATION'S WETLANDS, *supra* note 24, at 24-25. Sewage, fertilizer, and other pollutants increase the nutrients entering a lake. *Id.* As the growth of algae and other plants increases, oxygen levels decrease. Resulting sedimentation allows growth of aquatic plants and the lake becomes a wetland. *Id.*

²⁹ WETLANDS, *supra* note 4, at 46.

³⁰ OUR NATION'S WETLANDS, *supra* note 24, at 36.

³¹ Only recently has the Corps recognized wetlands as flood control buffers. A flood may be less destructive when marshes and swamps slow water velocity and desynchronize peaks of tributary streams as the waters flow through impeding vegetation and into the main channel. OUR NATION'S WETLANDS, *supra* note 24, at 27; *see also* U.S. ARMY CORPS OF ENGINEERS, NEW ENGLAND DIVISION, *NATURAL VALLEY STORAGE: A PARTNERSHIP WITH NATURE* 177 (1976) (describing Corps' implementation of natural flood control using wetlands in the Charles River Plan).

³² Wetlands have a moderating effect on temperature because water warms and cools slowly in comparison to land temperatures. WETLANDS, *supra* note 4, at 60.

³³ Wetlands contribute to rainfall through evapotranspiration — a loss of water from soil by evaporation and from plants by transpiration. Wetland drainage can result in regional rainfall deficits. *Id.*

aesthetic resources.³⁴

State and federal governments recognized only recently that wetlands are an irreplaceable environmental resource. Unfortunately, misuse and conversion have irreversibly altered or destroyed many wetlands.³⁵ Some studies estimate the loss of original wetland acreage as high as forty percent for the continental United States with higher losses in individual states.³⁶ Despite an increase in government protection, de-

³⁴ For example, New York's Tidal Wetlands Act states that wetlands provide beneficial recreational use: "[T]idal wetlands provide hundreds of square miles and millions of days of recreation, hunting, fishing, boating, hiking, bird watching, photography, and camping for many thousands of citizens . . . and visitors." N.Y. ENVTL. CONSERV. LAW § 25-0101 (McKinney 1984); *see also* Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (1977).

³⁵ *See OUR NATION'S WETLANDS*, *supra* note 24, at 1. Historically, the federal government equated wetlands with wastelands and encouraged conversion and development. In fact, a 19th and early 20th century national policy promoted the filling of wetlands for "reclamation" purposes. For example, the Swamp Lands Acts of 1849, 1850, and 1860 granted 15 public domain states nearly 65 million acres for swamp reclamation purposes. *See* U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, WETLANDS OF THE UNITED STATES, CIRCULAR NO. 39, at 5 (1956) [hereafter CIRCULAR NO. 39].

Major causes of wetland loss include conversions to agricultural use, urban use, deep water, timber production, rangeland uses, and mining. WETLANDS, *supra* note 4, at 92-93 (quoting from Frayer, Monahan, Bowden & Grayhill, *Status and Trends of Wetlands and Deepwater Habitats in the Coterminous United States, 1950's to 1970's*, in DEPARTMENT OF FOREST AND WOOD SERVICES, COLORADO STATE UNIVERSITY 31 (1983)). Agricultural conversion resulted in large losses of wetlands: 729,000 acres of freshwater and saltwater wetlands. *Id.* Similarly, losses in urban areas totalled 1,132,000 acres. *Id.* Other uses (*e.g.*, mining and timber) totalled 629,000 acres. *Id.* The major development activities responsible for conversion include dredging and excavation, filling, draining, clearing, and flooding. *See infra* note 51 and accompanying text.

³⁶ OUR NATION'S WETLANDS, *supra* note 24, at 1. However, estimates of original wetland acreage and wetland loss vary. For example, the Soil Conservation Service estimated that original wetlands in the continental United States totalled 127 million acres. CIRCULAR NO. 39, *supra* note 35, at 15. The National Wetlands Trend Study estimated original wetlands at approximately 149 million acres. *See* WETLANDS, *supra* note 4, at 90. The 1954 Fish and Wildlife Service Inventory concluded that only 82 million acres remained. CIRCULAR NO. 39, *supra* note 35, at 15. Several surveys estimate dramatic state wetland loss. For example, in 1954 only 450,000 acres remained of California's original 3.5 million acres of wetlands, a loss of over 85%. WETLANDS, *supra* note 4, at 90. Surveys of Connecticut wetlands in 1959 estimated 45% of coastal marshes destroyed since 1914. Rankin, Jr., *Salt Marshes as a Source of Food*, CONNECTICUT'S COASTAL MARSHES: A VANISHING RESOURCE, CONNECTICUT ARBORETUM, CONNECTICUT COLLEGE 12 (1961). In Florida between 1950 and 1973, development and agriculture destroyed an estimated 12 million acres or 60% of the state's wetlands. Smallwood, *The Warren S. Henderson Wetlands Protection Act of 1984: A*

struction continues. One study estimates that losses have averaged more than 550,000 acres per year since the mid-1950s, an area twelve times the size of the District of Columbia.³⁷

Initially, courts responded cautiously to federal and state efforts to protect wetlands³⁸ because they perceived that the resulting land use regulation interfered with landowners' rights.³⁹ However, many courts now recognize the value of wetlands when evaluating the effects of proposed development in wetland areas.⁴⁰ Judicial acceptance is based on increasing recognition of the state police power to conserve natural resources;⁴¹ realization that wetland regulation does not necessarily constitute a taking;⁴² and increasing enactment of federal statutes and pol-

Primer, 1 J. LAND USE & ENVT'L L. 211, 211 (1985). Some sources estimate that 40% of wetland destruction occurred between 1970 and 1973. *Id.*

³⁷ CIRCULAR NO. 39, *supra* note 35, at 89; *see also* S. REP. NO. 445, 99th Cong., 2d Sess. 1, *reprinted in* 1986 U.S. CODE CONG. & ADMIN. NEWS (100 Stat.) 6113.

³⁸ Dawson, *Wetland Regulation*, 5 ZONING & PLAN. L. REP. 161 (1983) (finding that state court decisions reviewing validity of wetlands regulation tend to follow a pattern of initial caution, then gradual acceptance of regulations as courts become aware of wetland importance).

³⁹ Dawson, *supra* note 38 at 162; *see also infra* note 42 and accompanying text.

⁴⁰ *See, e.g.*, *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985); *United States v. Carter*, 18 Env't Rep. Cas. (BNA) 1804, 1806 (S.D. Fla. 1982) (holding that area was a wetland after considering the "vital roles in the life support systems of South Florida" including flood storage, water quantity and quality, surface water supply, and wildlife habitat); *Just v. Marinette County*, 56 Wis. 2d 7, 14, 201 N.W.2d 761, 768 (1972) (holding that "changing of wetlands and swamps to the damage of the general public by upsetting the natural environment and the natural relationship is not a reasonable use of the land"); *see also* Cowdery, Scheuerman & Lombardo, *supra* note 27, at 1 (discussing wetland valuation to determine market value for sales and eminent domain, and estimating damages in wetland destruction).

⁴¹ *See Just*, 56 Wis. 2d at 14, 201 N.W.2d at 768; Comment, *Conflicting Interests in Southern Louisiana's Wetlands: Private Developers Versus Conservationists, and the State and Federal Regulatory Roles*, 56 TUL. L. REV. 1006, 1024 (1982) (stating that Louisiana's courts have recognized wetland protection statutes as an exercise of police power authority).

⁴² *See Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922) (stating general rule is that if the regulation goes too far, it is a taking); *Riverside Bayview Homes, Inc.*, 474 U.S. at 126 (holding that possibility that application of a regulatory program may result in taking of property is no justification for curtailing program if compensation is available); *Zabel v. Tabb*, 430 F.2d 199 (5th Cir. 1970) (holding that private land for which a development permit was desired was not a taking even though the only use for which the land could be used was a breeding ground for wildlife); *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, 638 F. Supp. 126 (D. Nev. 1986) (holding agency's regional plan a valid exercise of police power to prevent a public harm resulting from loss of clarity to lake due to sediment and did not constitute eminent domain); *see also* Comment, *Wetlands Regulation: The "Taking" Problem*

icy provisions⁴³ that protect wetlands.⁴⁴

Recognition of wetlands' ecological and health benefits has led to the present wetland protection systems. However, because these systems only protect a small portion of the total wetland acreage in the United States, they are inadequate to withstand the development pressures that threaten wetlands.

II. CURRENT WETLAND PROTECTION PROGRAMS

Because of the effort to balance the preservation of wetlands⁴⁵ with the landowners' right to develop property,⁴⁶ current federal legislation

and *Private Property Interests*, 12 URB. L. ANN. 301 (1976).

⁴³ See Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (1977).

⁴⁴ Dawson, *supra* note 38, at 161; see *Zabel*, 430 F.2d at 199 (holding that Corps could refuse to authorize dredge and fill project for ecological reasons); *Just*, 56 Wis. 2d at 14, 201 N.W.2d at 768 (holding that damage to environment is not a reasonable use of land); see also National Environmental Policy Act, 42 U.S.C. §§ 4321-4370a (1982 & Supp. III 1985); Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661-668ee (1982 & Supp. III 1985). A 1977 Senate Report states:

The objective of [section 404] is to protect the physical, chemical, and biological integrity of the Nation's waters. Restriction of jurisdiction to those relatively few waterways that are used or are susceptible to use for navigation would render this purpose impossible to achieve. Discharges of dredged or fill material into lakes and tributaries of these waters can physically disrupt the chemical and biological integrity of the Nation's waters and adversely affect their quality. The presence of toxic pollutants in these materials compounds this pollution problem and further dictates that the adverse effects of such materials must be addressed where the material is first discharged into the Nation's waters.

S. REP NO. 370, 95th Cong., 1st Sess., *reprinted in* 1977 U.S. CODE CONG. & ADMIN. NEWS 4326, 4400; see also *United States v. Byrd*, 609 F.2d 1204, 1210-11 (7th Cir. 1979) (finding Corps justified in regulating wetlands because of negative effect that destruction of wetlands could have on "biological, chemical and physical integrity of the lakes they adjoin"); Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (1977) (stating that wetland loss arises mainly from unwise land use practices and that the federal government can influence practices in project construction, property management, and financial or technical assistance).

⁴⁵ See Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (1977).

⁴⁶ The executive order, *id.*, requires that:

each [federal] agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

Id. The agency considers both economic and environmental factors. *Id.* at 26,962. The order states its purpose as "[avoiding] to the extent possible the long and short term

provides only piecemeal protection that results in wasteful wetland conversion.⁴⁷

A. *Scope of the Federal 404 Program*

The Clean Water Act represents Congress' effort to "restore and maintain the chemical, physical and biological integrity of the nation's waters."⁴⁸ Section 404 of the Clean Water Act applies this policy to

adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands." *Id.* at 26,961.

⁴⁷ See Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (1977) (exempting federal agencies' issuance of permits, licenses, or allocations to private parties for activities involving wetlands on nonfederal property).

⁴⁸ 33 U.S.C. § 1251(a) (1982). The § 404 permit program minimizes adverse impacts on wetlands by prohibiting discharge of solid materials onto wetlands. The Corps requires a permit for the discharge of dredge or fill material unless the activity qualifies as an exemption. *Id.* §§ 1344(a)-(b) (Supp. III 1985). Dredge material is material excavated or dredged from waters of the United States. 33 C.F.R. § 323.2(c) (1987). Fill material is "any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of an [sic] waterbody." *Id.* § 323.2(e). The authority to regulate dredge or fill material controls activities affecting water quality, including deposits of material excavated from lake, river, or stream beds (dredged material) and upland soil and structures placed in waters (fill material). See *United States v. Tull*, 615 F. Supp. 610, 622 (D.C. Va. 1983), *aff'd*, 769 F.2d 182 (4th Cir. 1985) (finding that fill material composed of sand and debris is an offending pollutant within meaning of the Clean Water Act); *Avoyelles Sportsmen's League, Inc. v. Alexander*, 473 F. Supp. 525, 532 (W.D. La. 1979) (finding that sheared trees, vegetation, scraped soil, and leaf litter from landclearing within wetlands constitutes "dredge or fill material" for purposes of § 404's permit requirements).

The exempted activities are: (1) normal farming, forestry, and ranching activities; (2) maintaining currently serviceable structures; (3) constructing or maintaining farm or stock ponds or irrigation ditches, or maintaining drainage ditches; (4) constructing upland temporary sedimentation basins; (5) constructing or maintaining farm or forest roads, or temporary mining roads, if done in accordance with best management practices; and (6) activities regulated under a state-approved program under 33 U.S.C. § 1288(b)(4) to control minor discharges through best management practices. 33 U.S.C. §§ 1344(f)(1)(A)-(F) (1982).

The Corps must follow Environmental Protection Agency (EPA) guidelines in evaluating permit applications. 40 C.F.R. §§ 230.1-230.80 (1987). The EPA also reviews permit applications, *id.* § 231.1, and recommends issuance, restriction, or denial to the Corps, *id.* § 231.3. The EPA has the authority to supersede Corps permit issuance if it finds the environmental impact unacceptable. *Id.* § 231.1. The EPA can also designate sites as suitable or unsuitable for filling in advance of any permit requests. *Id.* § 230.88. In addition to review by the EPA, the Corps must give notice to the Fish and Wildlife Service and National Marine Fisheries Service. *Id.* § 231.3(d)(2). Final determinations are published in the Federal Register. *Id.* § 231.6. Violations include work undertaken without a permit or activities exceeding the limitations of an issued permit.

wetlands by requiring permits for activities that may affect wetlands. However, for several reasons, section 404 does not adequately implement or enforce comprehensive wetland management and protection.

The U.S. Army Corps of Engineers (Corps) has primary veto authority to enforce section 404 through its permit program.⁴⁹ However, less than ten percent of the 550,000 acres of wetlands converted annually are subject to section 404 permits⁵⁰ because the permits regulate only the discharge of dredge or fill material onto wetlands.⁵¹ The Corps does not regulate activities that cause a gradual transition of wetland vegetation,⁵² or activities on nonwetland areas that impact wetland ar-

See United States v. Carter, 12 Env'tl. L. Rep. (Env'tl. L. Inst.) 20,682, 20,683 n.1, 18 Env't Rep. Cas. (BNA) 1804, 1807 n.1 (S.D. Fla. 1982) (finding developers violated Corps cease and desist order when they deposited crushed rock fill on floodplain without permit). The Corps usually does not file enforcement actions until it notifies the landowner by a cease and desist letter. 33 U.S.C. § 1344(s) (1982). This allows time for the problem's administrative resolution. *Id.* When the Corps finds a violation, it requires the property owner to file an "after-the-fact" application. *See* United States v. Stoeco Homes, Inc., 498 F.2d 597 (3d Cir. 1974), *cert. denied*, 420 U.S. 927 (1975) (requiring permit when development caused area not previously subject to Corps jurisdiction to become part of the navigable waters); *see also* Orleans Audubon Soc'y v. Lee, 742 F.2d 901 (5th Cir. 1984) (holding the Corps' decision to abandon after-the-fact permit process on the grounds that discharge was not into "navigable water" was not arbitrary or capricious even though the decision differed from Corps' previous decisions); 33 C.F.R. §§ 326.1-326.5 (1987) (providing Corps policy, practice, and procedures for activities performed without prior authorization).

⁴⁹ 33 C.F.R. § 320.2(f) (1987).

⁵⁰ WETLANDS, *supra* note 4, at 144. In some cases the wetlands converted do not fall within the scope of § 404. *But see* United States v. Riverside Bay View Homes, Inc., 474 U.S. 121 (1985) (holding that wetlands formed by high groundwater table conditions only infrequently subject to flooding — which is the Corps' definition of wetlands — are subject to § 404 jurisdiction).

⁵¹ The Corps regulates discharge or fill material, which includes any material if the "primary purpose is to replace aquatic area with dry land or change the bottom elevation of a water body." 33 C.F.R. § 323.2(e) (1987). Prior to 1986, this interpretation excluded Corps regulation of any activity that involved excavating, draining, clearing, and flooding of wetlands. *Id.* § 323.2(l) (1986). However, the 1987 regulations do not include "plowing, cultivating, seeding and harvesting for the production of food, fiber, and forest products." *Id.* § 323.2(f) (1987). This is an even broader exclusion that results in less protection for wetlands:

Removal of water from wetlands through drainage ditches, tiles, and canals is the primary source of wetland conversion in some parts of the country, such as south Florida, prairie potholes, [sic] North Carolina. The 404 program does not cover wetland drainage unless the material removed from the ditches or canals is deposited back in the wetland area.

WETLANDS, *supra* note 4, at 168.

⁵² For example, WETLANDS, *supra* note 4, at 169 observes:

eas.⁵³ Moreover, the Corps frequently ignores cumulative impacts when granting permits⁵⁴ and often allows exemptions from the permitting process.⁵⁵ These exemptions, which range from normal farming and ranching activities to mining-road construction, drastically limit section 404's ability to protect wetlands.⁵⁶

[D]uring the dry season in Florida, sawgrass has been mowed and chopped into the soil. Grass seed and fertilizer are then spread by aerial application. When sawgrass sends up new shoots, cattle are introduced. Since they feed on the sawgrass preferentially, the seeded grass becomes the dominant species. The area is no longer a wetland as defined by the Corps.

⁵³ These activities include erosion that may accumulate onto wetlands, runoff containing pesticides and herbicides, and diversions for irrigation and other uses. *Id.*

⁵⁴ Cumulative impacts are those environmental impacts that result from the incremental impact of a development activity when added to other past, present, and reasonably foreseeable future activities. Cumulative impacts can result from individually minor, but collectively significant, activities that occur over time. *Id.* However, cumulative impacts are considered in some cases. *See, e.g.,* Tennessee Valley Auth. v. Hill, 437 U.S. 153 (1978) (holding that federal agency must consider the effects of water flooding behind a dam, not just the direct physical impacts of the dam); National Wildlife Fed'n v. Coleman, 529 F.2d 359, 373 (5th Cir.), *reh'g denied*, 532 F.2d 1375, *cert. denied*, 429 U.S. 979 (1976) (holding that proposed highway would damage an endangered species' habitat because of indirect impacts such as increased residential and commercial development); Riverside Irrigation Dist. v. Andrews, 568 F. Supp. 583 (D. Colo. 1983), *aff'd*, 758 F.2d 508 (10th Cir. 1985) (affirming Corps refusal to issue § 404 permit for temporary release of sand and gravel during construction of a dam because it would affect water flows 300 miles downstream and harm endangered species habitat). *See infra* note 68 and accompanying text regarding cumulative impacts under general permits. *See also infra* note 113 and accompanying text regarding state court consideration of cumulative impacts.

⁵⁵ *See supra* note 48 and accompanying text.

⁵⁶ Of the exemption categories, *see supra* notes 35, 36, and 48 and accompanying text, the normal farming exemption has the largest impact. WETLANDS, *supra* note 4, at 170. The National Wetlands Trend Study identified agricultural activities as responsible for 80% of the conversions of inland wetlands from the mid-1950s to the mid-1970s. *Id.* The regulations limit farming to those activities that are a part of established farming, ranching, or foresting activities, and disallow wetland conversion to farmland by filling. 33 C.F.R. § 323.4(a) (1987). The Corps regulations of July 22, 1982, also state that:

[A]ny discharge of dredged or fill material that may result from any of the following activities is not prohibited or otherwise subject to regulation under Section 404 Normal farming, silviculture and ranching activities such as plowing, seeding, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices. . . . The activities must be part of an established (*i.e.*, on-going) farming, silviculture, or ranching operation.

Id.; *see also* Avoyelles Sportsmen's League, Inc. v. Alexander, 473 F. Supp. 525, 535

Further, the Corps' enforcement jurisdiction is narrow. Section 404 jurisdiction extends to the "waters of the United States,"⁵⁷ including wetlands adjacent to navigable waters⁵⁸ and their tributaries.⁵⁹ Section 404 jurisdiction extends to isolated waters and wetlands if their destruction demonstrably affects interstate commerce.⁶⁰ In addition, the Corps regulations require establishment of wetland jurisdiction by vegetation, soil, and hydrology requirements.⁶¹

(W.D. La. 1979) ("normal" connotes an established and continuing activity). However, 40 C.F.R. § 233.35(a) (1987) allows the discharge of dredged or fill material incidental to the drainage of upland croplands by means of ditching or tilling. Thus, § 404 allows the drainage of land subject to previous tillage attempts.

⁵⁷ 33 C.F.R. § 328.3 (1987) defines "waters of the United States" as: (1) the territorial seas, *id.* § 328.3(a)(6); (2) lakes, rivers, and streams meeting the traditional federal test for navigability and adjacent wetlands, *id.* § 328.3(a)(3); (3) tributaries to those waters meeting the traditional navigability test and adjacent wetlands, *id.* § 328.3(a)(5); and (4) interstate waters and their tributaries including adjacent wetlands, *id.* § 328.3(a)(7); *see also infra* note 58 and accompanying text for definition of traditional federal test for navigability.

⁵⁸ In *Daniel Ball v. United States*, 77 U.S. (10 Wall) 557 (1870), the Supreme Court first set forth the traditional test for navigability. *Daniel Ball* held that the federal government exercised federal regulatory power only over waters that are navigable in fact: "[T]hey are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water." *Id.* at 563. This test was later expanded to include those waters historically navigable in fact, *see Economy Light & Power Co. v. United States*, 256 U.S. 113 (1921), and those waters made navigable for interstate commerce by a reasonable improvement, *see United States v. Appalachian Elec. Power Co.*, 311 U.S. 377 (1940).

⁵⁹ 33 C.F.R. § 328.3(a)(5) (1987).

⁶⁰ *Id.* §§ 328(a)(1), 328.3(a)(3), 329.4.

⁶¹ The regulations define wetlands as:

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

Id. § 328.3(b).

The regulations create jurisdiction on the finding of appropriate water, soil, and vegetative characteristics. *Id.* However, the definition is still restrictive and has generated controversy over certain types of wetlands including seasonal wetlands and inland wetlands. Recently, the Supreme Court held that wetlands formed by high groundwater table conditions only infrequently subject to riverine flooding are subject to § 404 jurisdiction. *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985). Moreover, in *Avoyelles Sportsmen's League v. Marsh*, 715 F.2d 897 (5th Cir. 1983), the court upheld the EPA's determination that § 404 also extends to floodplain forested wetlands with less than annual flooding. In addition, as a result of *National Wildlife Fed'n v. Marsh*, 665 F.2d 391 (D.C. Cir. 1981), the Corps revised its rules to require

However, section 404's requirement that wetland destruction must affect interstate commerce⁶² restricts the Corps' assertions of jurisdiction over seasonal, marginal, and isolated wetlands, which are rarely subject to interstate commerce.⁶³ Section 404's soil, hydrology, and vegetation requirements are interpreted narrowly and marginal wetlands are not always protected.⁶⁴ As a result, the Corps gives priority to coastal wetlands and wetlands immediately adjacent to a navigable water and neglects inland and isolated wetlands.⁶⁵

The effectiveness of section 404 is reduced even further as a result of

federal permits for all activities affecting ten or more acres of headwaters (waters including wetlands associated with surface flows less than five cubic feet per second) or isolated waters (dependent primarily on groundwater flux).

Initially the Corps interpreted § 404 jurisdiction narrowly. For example, 42 Fed. Reg. 37,123 (1977) provided:

As part of the revisions to its April 3, 1974 permit regulation, the Department of the Army published regulations to implement the Section 404 permit program. These regulations limited the Section 404 permit program to the same waters that were being regulated under the Rivers and Harbors Act of 1899: waters that are subject to the ebb and flow of the tide shoreward to their mean higher water mark (mean higher water mark on the West Coast) and/or waters that are presently used, were used in the past, or are susceptible to use to transport interstate or foreign commerce.

The Corps later revised its regulations to include certain types of land above the mean high water mark including fresh water wetlands. 33 C.F.R. § 320.1(a) (1987) provides:

As a result of several new laws and judicial decisions, the program evolved from one that protected navigation only to one that considers the full public interest by balancing the favorable impacts against the detrimental impacts. This is known as the "public interest balancing process" or the "public interest review."

Corps' definitions are narrower than EPA and United States Fish and Wildlife Service standards; *cf.* *Buttrey v. United States*, 690 F.2d 1170, 1185 (5th Cir.), *cert. denied*, 461 U.S. 927 (1982) (holding that Corps may rely on reports of Fish and Wildlife Service, EPA, and National Marine Fisheries Service to determine wetland jurisdiction even though Corps made no finding on its own).

⁶² 33 C.F.R. §§ 328.3(a)(3), 329.4 (1987).

⁶³ The Corps strictly defines interstate commerce as the actual transportation of goods: "It is only necessary that goods may be brought from, or eventually be destined to go to, another state." *Id.* §§ 329.4, 329.6(b). The Corps acknowledges that the navigable water may be within a state, but "it must physically connect with a generally acknowledged avenue of interstate commerce." *Id.* § 329.7. However, the regulations provide: "Where a waterbody extends through one or more states, but substantial portions, which are capable of bearing interstate commerce, are located in only one of the states, the entirety of the waterway up to the head (upper limit) of navigation is subject to federal jurisdiction." *Id.*

⁶⁴ See *supra* note 61 and accompanying text.

⁶⁵ WETLANDS, *supra* note 4, at 172.

the general permit program which was implemented as a result of budget constraints.⁶⁶ The general permit program replaces the case-by-case individual permitting system by granting regional approval of specified activities.⁶⁷ The lack of permit monitoring results in more wetland destruction than allowed under the individual permit pro-

⁶⁶ *Id.* at 176. Moreover, the Corps must rely on the EPA's greater enforcement authority to regulate pollutant discharges. 33 U.S.C. §§ 1251(d), 1314(c) (1982) provides:

The Administrator [of the EPA] is authorized to prohibit the specification . . . of any defined area as a disposal site, and he is authorized to deny or restrict the use of any defined area for specification . . . whenever he determines . . . that the discharge of such materials . . . will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas . . . wildlife or recreational areas. Before making such determination, the Administrator shall consult with the Secretary [of the Army].

See 43 Op. Att'y Gen. 15 (1979) (the Administrator rather than the Secretary of the Army has ultimate administrative authority to construe the jurisdictional term "navigable waters" under § 404); see also *supra* note 58 and accompanying text.

⁶⁷ Section 404(e), 33 U.S.C. § 1344(e) (1982) provides:

In carrying out his functions relating to the discharge of dredged or fill material under this section, the Secretary [of the Army] may, after notice and opportunity for public hearing, issue general permits on a state, regional or nationwide basis for any category of activities involving discharge of dredged or fill material if the Secretary determines that the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately and will have only minimal cumulative effects on the environment.

Section 404(e) allows general permit issuance when activities are "similar in nature" (*e.g.*, mooring buoys). *Id.*

The Corps created two types of general permits: the "nationwide permit" and the "regional permit." 33 C.F.R. § 330.1 (1987). The Corps must follow certain conditions for the nationwide permits to be valid. For the waters under nationwide permits, these conditions are: (1) discharge must not be located near a public water supply intake; (2) discharge must not destroy or threaten an endangered species or the habitat of such species; (3) discharge cannot contain toxic pollutants in toxic amounts; (4) fill must be properly maintained to prevent erosion and other nonpoint sources of pollution; (5) discharge cannot occur in a component of the National Wild and Scenic River System; and (6) best management practices must be followed to the maximum extent practicable. *Id.* § 330.5(b). For specific activities covered by nationwide permits, the Corps must follow additional conditions: (1) the discharge cannot take place in areas of concentrated shellfish production unless directly related to authorized shellfish harvesting activities; (2) the fill activity cannot significantly disrupt the movement of aquatic life indigenous to the waterbody; and (3) the activity cannot cause an unacceptable interference with navigation. *Id.* The Corps uses the regional permit when it adds "conditions applicable to certain activities" to the nationwide permit. *Id.* § 330.1.

gram.⁶⁸ Corps' budget constraints also hinder efforts to enforce violations and to make field checks for permit compliance.⁶⁹

B. Economic Incentive Programs to Protect Wetlands

Although section 404 is of central importance in wetland preservation, the federal government has implemented several other programs to discourage wetland conversion. These programs rely primarily on economic incentives to encourage landowners to refrain voluntarily from converting wetlands. The Department of Agriculture's Water Bank Program⁷⁰ focuses on conservation for "important migratory waterfowl nesting and breeding areas."⁷¹ Under this program, the Secretary of

⁶⁸ The nationwide permit has two major effects: (1) a property owner may engage in exempt activities without applying for specific individual permits; and (2) her actions are not subject to Corps review. WETLANDS, *supra* note 4, at 172. The Corps' nationwide permit program expands the scope of permitted filling. The permits allow discharges in all "non-tidal rivers, streams and their lakes and impoundments, including adjacent wetlands that are located above the headwaters," and "[o]ther non-tidal waters of the United States." 33 C.F.R. §§ 330.5(a)(26)(i)-(ii) (1987) provides:

Isolated wetland types that experience controversial regulation under the nationwide permit include vernal pools, isolated mountain wetlands, pocket marshes, and closed basins in California, pocosins and bays of North and South Carolina; swamps of southern New Jersey; and wetlands of the prairie-pothole region; and Nebraska.

WETLANDS, *supra* note 4, at 172. 33 C.F.R. § 330.5(a)(26)(i) (1987) provides that wetlands adjacent to nontidal rivers and streams located above the headwaters are under the nationwide permit program. Headwaters are defined as less than five cubic feet per second average annual flow. *Id.* § 330.2(b). As a result of these provisions, the nationwide permit covers small inland wetlands that are not a part of tidal waters. These inland wetlands are thus subject to specific categories of discharges. *Id.* § 330.5(a)(26). The inland wetland regulations do not apply to wetlands of less than 10 acres. *Id.*

Regional permits, like nationwide permits, limit protection available to wetlands. Regional permits are available within each district and may apply to all or part of the district. *Id.* § 330.8. Like the nationwide permits, the regional permits do not require individual permits or review. *Id.* Many activities have greater impacts than officially sanctioned as a result of permit condition monitoring.

Criticisms of the general permit program include: (1) the process eliminates public interest review; (2) the process eliminates comment from other agencies; (3) the process does not require public notice, a usual means of informing state and local agencies of activities; (4) permits may lead to cumulative impacts; and (5) the Corps does not monitor general permits sufficiently to ensure that activities follow best management practices. WETLANDS, *supra* note 4, at 173.

⁶⁹ WETLANDS, *supra* note 4, at 173.

⁷⁰ Water Bank Act of 1970, 16 U.S.C. §§ 1301-1311 (1982).

⁷¹ *Id.* § 1302.

Agriculture has authority to enter into ten-year agreements with landowners to pay land and crop values in exchange for the landowner's promise to continue wetland preservation.⁷²

Further incentives include the 1986 Tax Reform Act,⁷³ which prohibits farmers from deducting wetland drainage or filling costs from their income taxes.⁷⁴ The 1985 swampbuster program⁷⁵ grants the Secretary of Agriculture authority to withdraw crop insurance, price support, farm storage facility loans, or disaster payments to "any person who in any crop year produces an agricultural commodity" on a wetland.⁷⁶

Because several of these programs were enacted only recently, their effectiveness is unknown. However, the programs rely primarily on a landowner's cooperation. Landowners will continue to convert wetlands if the programs' economic incentives are insufficient to compensate for the inability to develop their land.

C. Wetland Acquisition Programs

Acquisition programs have been established on both the federal and private level. These programs permit the purchase of wetlands for protection from development. The largest acquisition program is the federal government's Emergency Wetlands Resources Act,⁷⁷ which is intended to "promote the conservation of migratory waterfowl and to offset or prevent the serious loss of wetlands by the acquisition of wetlands and other essential habitat."⁷⁸ The Act seeks to protect wetlands

⁷² *Id.*

⁷³ 26 U.S.C. § 1257 (Supp. IV 1986).

⁷⁴ *Id.* The Act provides that:

(a) Gain treated as ordinary income. — Any gain on the disposition of converted wetland or highly erodible cropland shall be treated as ordinary income. Such gain shall be recognized notwithstanding any other provision of this subtitle, except that this section shall not apply to the extent such gain is recognized as ordinary income under any other provision of this part.

(b) Loss treated as long-term capital loss. — Any loss recognized on the disposition of converted wetland or highly erodible cropland shall be treated as a long-term capital loss.

Id. § 1257(a)-(b).

⁷⁵ Erodible Land and Wetland Conservation and Reserve Program, 16 U.S.C. §§ 3801-3845 (Supp. IV 1986).

⁷⁶ *Id.* § 3811.

⁷⁷ 16 U.S.C. §§ 3901-3932 (Supp. IV 1986), *reprinted in* 1986 U.S. CODE CONG. & ADMIN. NEWS (100 Stat.) 6113.

⁷⁸ *Id.*

at a cost of \$500 million⁷⁹ although it allocates only \$40 million per year for wetland purchase.⁸⁰ Under the acquisition program, from 1959 to 1977 the U.S. Fish and Wildlife Service (FWS) purchased 1.9 million acres of wetlands in fee simple or easement, mostly in western, north-central, and Mississippi valley states, to protect habitats along major migratory fly-ways. But from 1977 to 1986 the FWS obtained only twenty-five percent of its goal of acquiring an additional 1.9 million acres of wetlands. Even if the Act's acquisition objectives are met, only a small percentage of the ninety-five million acres that need protection will be preserved.

Private environmental groups have made a substantial effort to preserve wetlands through acquisitions and land trusts. For example, Ducks, Unlimited protects private wetlands for migratory waterfowl through contracts and agreements with private landowners. The Nature Conservancy, the largest private acquisition organization, acquires wetlands to preserve endangered species and preserve biological diversity primarily through private donations.⁸¹

The private and federal acquisition programs protect only a small portion of wetlands because they are contingent on the private landowners' willingness to sell their property and are limited by budget constraints. Moreover, federal acquisition programs have been criticized as the socialization of private property.⁸² At the local level, acquisition results in a loss of tax revenues.⁸³ The fragmented protection that these programs provide must be supplemented by state wetland protection statutes and regulatory guidelines.

⁷⁹ *Id.*

⁸⁰ *Id.* at 2. Funding is primarily through the sale of Duck Stamps from the Migratory Bird Hunting and Conservation Stamp Act. *Id.*

⁸¹ See THE NATURE CONSERVANCY MAGAZINE 34, Nov./Dec. 1987. At the end of fiscal year 1987, the Nature Conservancy raised \$26,191 for land acquisition for that year; received \$8043 in contributions of natural land areas and trade lands; and purchased \$29,610 of natural land areas and trade lands. The exact acreage or the percent of wetland acreage acquired was not given. *Id.*

⁸² Owens, *Land Acquisition and Coastal Resource Management: A Pragmatic Perspective*, 24 WM. & MARY L. REV. 625, 635 (1983).

⁸³ *Id.* The problem of high costs of land acquisition is exacerbated by the lengthy time period required for acquisition. Rapid escalation of land values between the time acquisition is authorized and the time acquisition actually takes place is not uncommon. *Id.* n.45.

D. States' Ability to Protect Wetlands Under the Federal Programs

Because of the deficiencies of federal and private programs, states must enact wetland statutes. Without a wetland statute, a state's primary authority to protect wetlands derives from its veto power over Corps-issued 404 permits. A state can veto permits only when discharges onto wetlands violate water quality standards⁸⁴ or when a coastal zone management program provides veto authority over a Corps permit.⁸⁵ For example, when a proposed section 404 permit affects a state's coastal zone, the 404 permit will not be issued until the state certifies that the activity is consistent with its coastal zone management program.⁸⁶ States further control Corps permit issuance by denying authorizations required for proposed activities⁸⁷ such as state fill and building permits.⁸⁸ However, the states' veto power places them in a reactive posture. States can veto only in response to federal government action.⁸⁹ States still lack authority to implement or enforce section 404 directly.⁹⁰

The Clean Water Act's 1977 amendment authorizes the EPA to approve state-operated 404 permit programs⁹¹ which provide increased

⁸⁴ Water quality standards must comply with § 401. 33 U.S.C. § 1341(b) (1982); 33 C.F.R. §§ 320.3(a), 325.2(b)(1) (1987). The 1977 amendments extended this obligation to include federal projects that require § 404 permits.

⁸⁵ 33 C.F.R. §§ 320.3(b), 325.2(b)(2) (1987).

⁸⁶ *Id.* § 320.3(b). The Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464 (1982), allows the Secretary of Commerce to override a state's denial of certification of consistency under limited circumstances. 33 C.F.R. § 320.4(h) (1987).

⁸⁷ See 33 C.F.R. § 320.4(j) (1987); see also *Sierra Club v. Alexander*, 484 F. Supp. 455, 465 (N.D.N.Y. 1980) (holding that shopping mall project which State Department of Energy Conservation previously denied would not apply to similar new project; state must deny project anew).

⁸⁸ *Candlestick Property, Inc. v. San Francisco Bay Conservation & Dev. Comm'n*, 11 Cal. App. 3d 557, 89 Cal. Rptr. 897 (1970) (holding that state administrative agency has authority to deny permit to fill land); cf. *Hough v. Marsh*, 557 F. Supp. 74, 85 (D. Mass. 1982) (holding that town's denial of fill project was invalid because it had withdrawn from regional planning commission).

⁸⁹ 33 C.F.R. § 320.4(j)(1) (1987).

⁹⁰ *Id.*

⁹¹ 33 U.S.C. §§ 1344(g)-(k) (1982); 33 C.F.R. § 323.5 (1987); 40 C.F.R. §§ 123.1-123.64, 233.1-233.42 (1987). Currently, Michigan is the only state with a state-approved program. 40 C.F.R. § 233.42 (1987). Congress intended the amendment to serve as a demonstration project and provide an alternative to cumbersome Corps procedures for obtaining and operating state 404 programs. 123 CONG. REC. 12,959 (1977) (statements of Reps. McCormack and Roberts). To obtain EPA approval of a state program, the state must prepare a "Request for Approval." This proposal includes statements from the Attorney General concerning the legality of program as-

control of wetlands at the regional and local level.⁹² However, states are still limited since they inherit the enforcement and implementation problems of the federal 404 program.⁹³ Further, state authority under this program is even more restricted in scope, since it does not extend to traditionally navigable waters, which remain under federal jurisdiction.⁹⁴

Although federal and state wetland regulations have slowed wetland conversion,⁹⁵ the limits of existing wetland programs result in continued

sumption, 40 C.F.R. § 123.23 (1987), and from the Governor requesting program approval. *Id.* § 123.21(a)(1). The proposal must also include an extensive description of the proposed program and its procedures. The program proposal includes a description of the scope, structure, and coverage of the state program; a description of the agencies that will administer the program; the sources and amounts of funding; description of procedures (including copies of permits, application, and reporting forms); description of type and quantity of discharges within the state; an estimate of how many discharges will require a permit; and a description of the state's monitoring and enforcement program. *Id.* § 123.22. The state must also submit a Memorandum of Agreement (MOA) with the Regional Administrator of the EPA and the Secretary of the Army Corps of Engineers. *Id.* § 123.21(a)(4). The MOA must describe the state's program coordination with federal review, including monitoring and reporting requirements as well as coordinating activities and sharing jurisdiction. *Id.* § 123.24(b)(4)(i). The proposal requires "[c]opies of all applicable State statutes and regulations." *Id.* § 123.21(a)(5). The state then submits the proposal to the EPA for approval. *Id.* § 123.21(b). The EPA receives comments from the Corps, the Fish and Wildlife Service, and the National Marine Fisheries Service. 33 C.F.R. § 320.4(c) (1987). The EPA must also provide notice and allow public comment on the program. 40 C.F.R. § 123.1(e) (1987). If the EPA disapproves the program, it must notify the state of any revisions or modifications necessary for approval. *Id.* § 123.44(b)(2).

⁹² The nationwide permits should have no effect after a state takeover of the 404 program since the nationwide permits apply only to Department of the Army regulatory program. 33 C.F.R. § 330.1 (1987).

⁹³ See *supra* text accompanying notes 49-69.

⁹⁴ See *supra* notes 58-59 and accompanying text. Section 404(g)(1) reserves the Corps authority over

those waters which are presently used, or are susceptible to use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce shoreward to their ordinary high water mark, including all waters which are subject to the ebb and flow of the tide shoreward to their mean high water mark, or mean higher high water mark on the west coast, including wetlands adjacent thereto.

33 U.S.C. § 1344(g)(1) (1982). Although the Corps would retain jurisdiction, states may be able to share jurisdiction over the navigable waters. See *id.* § 1344(t). Both federal and state permits would be required, but could be processed jointly. 33 C.F.R. § 320.4(j)(5) (1987).

⁹⁵ See *supra* notes 35-37 and accompanying text.

conversion of valuable wetlands.⁹⁶ Further, the voluntary and piecemeal nature of the economic incentive programs and acquisition programs preclude effective management by the states. A comprehensive state wetland statute can fill the gaps left by these programs.

III. STATE REACTION TO THE NEED FOR WETLAND PROTECTION

Several states have enacted protective wetland legislation⁹⁷ to supplement federal wetland protection programs. However, most state statutes are poorly drafted and their effectiveness is limited.⁹⁸ Some states have even enacted conflicting legislation that encourages wetland conver-

⁹⁶ See *supra* note 13 and accompanying text.

⁹⁷ All coastal states regulate wetlands to varying degrees or establish standards for local guidelines. AMERICAN BAR ASSOCIATION SPECIAL COMMITTEE ON HOUSING AND URBAN DEVELOPMENT LAW, THE LAW OF FLOODPLAINS AND WETLANDS: CASES AND MATERIALS 6-5 (1982). These states protect coastal wetlands through explicit coastal statutes or broader shoreland acts. For example, California includes all state coastal wetlands in its coastal zone definition. CAL. PUB. RES. CODE § 30103(A) (West 1986). The coastal zone extends seaward to the outer limit of state jurisdiction, including all islands, and inland to the highest elevation of the nearest coastal mountain range or five miles from the mean high tide line, whichever is closer. *Id.* Also, Wisconsin regulates Lake Michigan and Lake Superior wetlands through a conservancy provision in its shoreland zoning program and dredge and fill act for navigable water. WIS. STAT. ANN. § 144.26 (West 1974). Michigan also regulates environmental areas along Lake Michigan through a shoreland zoning act. MICH. COMP. LAWS ANN. § 13.1831 (West 1981).

California's coastal zone regulatory program establishes a regional board specifically to protect wetlands. CAL. PUB. RES. CODE §§ 30000-30900 (West 1986). Oregon enacted protection through a land use program. OR. REV. STAT. §§ 390.605-390.770 (1986). Washington requires that local coastal government inventory and adopt regulations for natural and environmental areas that include wetlands. WASH. REV. CODE ANN. §§ 90.58.050-90.58.080 (1987). Other states have adopted land use control measures that indirectly protect wetlands. See, e.g., *infra* text accompanying notes 120-25.

Moreover, several states have enacted statutes to protect inland wetlands or specific wetland areas. See, e.g., CONN. GEN. STAT. ANN. §§ 22A-36 to 22A-45 (West 1985); MASS. GEN. LAWS ANN. ch. 131, § 40A (West 1974 & Supp. 1987); N.Y. ENVTL. CONSERV. LAW §§ 24-0101 to 24-1105 (McKinney 1984). States that have enacted comprehensive statutes are: CONN. GEN. STAT. ANN. §§ 22A-36 to 22A-45 (West 1985); FLA. STAT. ANN. §§ 403.91-403.929 (West 1986 & Supp. 1987); MASS. GEN. LAWS ANN. ch. 131, § 40 (West 1974 & Supp. 1987); MICH. COMP. LAWS ANN. §§ 281.701-281.722 (West Supp. 1984); MINN. STAT. ANN. §§ 105.37-105.71 (West 1987); N.H. REV. STAT. ANN. §§ 483-A:1 to 483-A:7 (1983 & Supp. 1986); N.Y. ENVTL. CONSERV. LAW §§ 24-0101 to 24-0601 (West 1984 & Supp. 1987); R.I. GEN. LAWS §§ 2-1-13 to 2-1-27 (1976 & Supp. 1986).

⁹⁸ See *infra* text accompanying notes 99-129.

sion.⁹⁹ Poor drafting and conflicting policies may result partially from the pressure of private interests that oppose wetland legislation. Developers and farmers have attacked the programs as unwarranted intrusions on private property rights¹⁰⁰ and as bureaucratic, imposing undue delays and paperwork on applicants.¹⁰¹ As a result, private interests have affected the scope of some state legislation.¹⁰²

Poorly drafted state statutes create problems similar to those of section 404.¹⁰³ All state wetland statutes exempt¹⁰⁴ specific activities from regulation such as agriculture,¹⁰⁵ public utility projects,¹⁰⁶ construction

⁹⁹ For example, Nebraska enables separate agencies to protect wildlife habitat, NEB. REV. STAT. §§ 37-430 to 37-438 (1984), water quality, *id.* § 81-1505, and plan for wetland drainage, *id.* § 31-101. The state requires county boards to drain areas upon petition by owners. *Id.* § 31-201 to 31-230. Florida municipalities possess eminent domain power to reclaim and fill when "lands are low and wet, or overflowed altogether or at times, or entirely or partly." FLA. STAT. ANN. § 166.411(6) (West 1987). Florida also provides that any city, town, or municipal corporation may provide for the drainage and reclamation of wet, low, or overflowed lands. *Id.* § 170.01.

¹⁰⁰ See Note, *Wetlands Protection and the Neglected Child of the Clean Water Act: A Proposal for Shared Custody of Section 404*, 5 VA. J. NAT'L RESOURCES L. 227, 228 (1985). A landowner's most common claim is that the regulation is a violation of the fifth amendment's due process clause and constitutes a taking of private property for public use without compensation. See *supra* note 42 and accompanying text for cases defining "taking."

¹⁰¹ *Id.* at 229.

¹⁰² Note, *The Warren S. Henderson Wetlands Protection Act of 1984: Enough Protection?* 9 NOVA L.J. 141, 154 (1984) [hereafter Note, *Enough Protection?*] (discussing agricultural interests' lobbying actions that resulted in an agricultural exemption in Florida's wetland statute).

¹⁰³ See *supra* text accompanying notes 49-65.

¹⁰⁴ Other exemptions also can have an impact on wetlands. For example, state statutes provide exemptions for construction and maintenance of public roads, see GA. CODE ANN. § 43-2412(4) (1986); construction and maintenance of subdivision pipelines for transport of water and sewage, see *id.* § 43-2412(5); and building of private docks on pilings, see *id.* § 43-2412(6).

¹⁰⁵ See, e.g., FLA. STAT. ANN. § 403.927(1) (West 1986), which provides: "The Legislature recognizes the great value of farming and forestry to this state and that continued agricultural activity is compatible with wetlands protection." Florida's statute is even more expansive than the agricultural exemption under the Clean Water Act. *Id.* While the Clean Water Act recognizes potential harm resulting from agriculture, Florida finds wetland protection and agriculture "compatible." *Id.* No restrictions exist in Florida's statute for conversion, and the Clean Water Act requires that filling and farming activity must be "established." 33 C.F.R. § 323.4 (a)(1)(ii) (1987); see also *supra* notes 35-36, 48 and accompanying text.

¹⁰⁶ See, e.g., GA. CODE ANN. § 43-2412(3) (1986) (enabling public utility companies to construct and maintain lines without permit).

and maintenance of public road systems,¹⁰⁷ mining,¹⁰⁸ and drainage.¹⁰⁹ These land use exemptions allow conversion and destruction of large wetland areas.¹¹⁰ For example, agriculture exemptions account for eighty percent of wetland conversions.¹¹¹ Moreover, an exemption can result in secondary impacts. Road construction often leads to increased access and urbanization in wetland areas.¹¹² State statutes do not consider cumulative impacts or gradual transition areas that result from these exemptions.¹¹³

Further, the narrow scope of many state statutes limits wetland jurisdiction and leads to problems similar to those of section 404.¹¹⁴ For example, some state statutes do not acknowledge differences in wetland types or boundaries¹¹⁵ which limit protection of valuable wetlands and

¹⁰⁷ *Id.* § 43-2412(1).

¹⁰⁸ *See, e.g.*, FLA. STAT. ANN. § 403.913(8) (West 1986) (providing that "dredge and fill jurisdiction . . . does not apply to any sand, limerock or limestone mining activity which is currently operating").

¹⁰⁹ *See, e.g., id.* § 403.913(4) (providing that "no dredge or fill permit is required for the construction of, and dredging and filling in, irrigation or drainage ditches constructed in the uplands, including those connecting otherwise isolated areas owned entirely by one person").

¹¹⁰ *See supra* notes 13, 35-36 and accompanying text; *see also* Note, *Enough Protection?*, *supra* note 102, at 154-56 (finding that Florida's agricultural exemption is the most potentially harmful of all exemptions).

¹¹¹ *See supra* notes 35-36 and accompanying text.

¹¹² In the past, road construction was responsible for major wetland conversions in some parts of the country. WETLANDS, *supra* note 4, at 171. Road construction can have serious secondary impacts on wetlands such as increasing pressures for urbanization and commercial development, providing access to otherwise isolated areas, encouraging wetland drainage by roadside ditches, and blocking natural flow of wetland waters. *Id.*; *see* National Wildlife Fed'n v. Coleman, 529 F.2d 359 (5th Cir. 1976) (holding that a proposed highway would damage an endangered species' habitat because of indirect impacts such as increased residential and commercial development).

¹¹³ However, several courts have considered cumulative impacts. *See, e.g.*, Town of Henrietta v. Department of Envtl. Conservation, 76 A.D.2d 215, 430 N.Y.S.2d 440 (1980) (holding that developers must consider cumulative impacts under the New York Environmental Conservation Law when relocating creek; consideration must include land, water, fish, wildlife, and air resources); Skagit County v. Department of Ecology, 93 Wash. 2d 742, 613 P.2d 115 (1980) (holding that filling of buffer zone with dredge spoils would result in an adverse cumulative impact); *cf.* Caloosa Property Owners' Ass'n, Inc. v. Department of Envtl. Regulation, 462 So. 2d 523 (Fla. Dist. Ct. App. 1985) (holding that cumulative impact analysis as applied to developers' dredge and fill permit application was required only under the Florida Air and Pollution Control Act if a reasonable likelihood existed of similar project application in the same geographic location in the future).

¹¹⁴ *See supra* notes 48-69 and accompanying text.

¹¹⁵ Wetland definitions of state statutes vary. *See, e.g.*, FLA. STAT. ANN. §

can lead to boundary disputes.¹¹⁶ In comparison, broadly constructed provisions¹¹⁷ result in inefficient application¹¹⁸ and greater opportunities for private landowners and developers to slip through "loopholes."¹¹⁹

An additional problem occurs when states do not enact specific wetland statutes but rely on protection through water pollution criteria,¹²⁰ conservation easements,¹²¹ natural area acquisition,¹²² or coastal management.¹²³ Reliance on these or "critical area" statutes¹²⁴ results only

403.913(5) (West 1986), which defines wetlands as areas whose surface waters do not include intermittent streams or intermittent tributaries. Florida defines an intermittent stream as a "stream that flows only at certain times of the year, flows in direct response to rainfall, and is normally an influent stream except when the groundwater table rises above the normal wet season level." *Id.* This definition excludes seasonal wetlands. *See* GA. CODE ANN. § 43-2402(2) (Harrison 1986) (defining marshes by only three different types of vegetation); *cf.* N.H. REV. STAT. ANN. § 483-A:1-a(I) (1983 & Supp. 1986) (defining 19 types of vegetation to identify wetland areas).

¹¹⁶ *See, e.g.,* Southern New England Conference Ass'n of Seventh Day Adventists v. Town of Burlington, 21 Mass. App. Ct. 701, 490 N.E.2d 451, 455 (1986), which held that since the state wetland act did not designate land use types, all activities not compatible with wetlands were barred. This ambiguous statute was decided in favor of wetlands. *Sibson v. State*, 110 N.H. 8, 259 A.2d 397, 400 (1969) (holding that state statutory wetland definition was too narrow to apply to plaintiff's land even though land was a marsh area; impact of decision resulted in legislature broadening the wetland definition).

¹¹⁷ *See, e.g.,* *infra* text accompanying note 163.

¹¹⁸ *See* Maryland Dep't of Natural Resources v. Hirsch, 401 A.2d 491, 499 (1979) (holding that lot was a wetland even though act did not define "wetland," but recognizing that term was defined by "state wetlands" and "private wetlands," which were defined in the statute). Although variance in statute coverage can account for disparate wetland treatment, variance is also caused by differing levels of expenditures and staffing for wetland-related state activities. WETLANDS, *supra* note 4, at 188.

¹¹⁹ *See, e.g.,* People v. Bondi, 104 Misc. 2d 627, 629, 429 N.Y.S.2d 146, 148 (Town Ct. 1980) (holding that landowner was not liable for filling of wetland because "activity in removing stumps and leveling the ground could be an activity exempted [under state law] as either timbering or . . . growing agricultural products"); *Hirsch*, 401 A.2d at 499; *cf. Sibson*, 110 N.H. at 8, 259 A.2d at 400.

¹²⁰ *See, e.g.,* NEV. REV. STAT. § 81-1505 (1984).

¹²¹ *See* IOWA CODE ANN. §§ 111 D.1 to 111 D.5 (West Supp. 1984).

¹²² *See, e.g.,* LA. REV. STAT. ANN. §§ 56:1841-56:1849 (West 1985) (natural and scenic river system); MASS. GEN. LAWS ANN. ch. 132A, §§ 13-16 (West Supp. 1987) (establishing coastal sanctuaries).

¹²³ *See supra* notes 12, 97 and accompanying text.

¹²⁴ For example, California does not have a comprehensive wetland protection act, but depends on four primary acts for protection. The Coastal Zone Management Act protects coastal area wetlands up to 1000 yards landward from mean high tide. CAL. PUB. RES. CODE § 30103 (West 1986). The Bay Conservation and Development Commission protects the San Francisco Bay within 100 feet of the bay. CAL. GOV'T CODE § 66610 (West 1983). The Tahoe Regional Planning Agency partially protects the Lake

in fragmented protection.¹²⁵ Finally, a decentralized state agency system can result in gaps in protection.¹²⁶

Similar problems of decentralization occur when states leave regulation to local governments.¹²⁷ Local government regulation results in jurisdiction disputes over watershed and area management.¹²⁸ Local regulation also can lead to conflicts when a jurisdiction's inadequate regulation and enforcement impact on wetlands in another jurisdiction.¹²⁹

IV. COMPREHENSIVE PROTECTION: THE MODEL STATE WETLAND STATUTE

It is evident that states must respond to the deficiencies in federal, state, and private efforts and enact more comprehensive statutes. This part provides an overview of the major elements of existing state wetland statutes and offers a comprehensive model wetland statute as a guide to improve and implement state statutes. Each state's provisions will vary depending on its wetland type and individual enforcement needs.¹³⁰ The challenge is to enact a statute that is sufficiently restrictive to assure protection, while it maintains sufficient flexibility to ac-

Tahoe region. *Id.* § 67021. A critical area statute specifically protects Suisun Marsh in the San Francisco Bay's Delta Area. CAL. PUB. RES. CODE §§ 29000-29612 (West 1986).

¹²⁵ Louisiana provides indirectly for wetland protection through several different protective statutes. For example, Louisiana protects coastal waters, LA. REV. STAT. ANN. § 34:3101B(5) (West 1985), leases bays and coves for recreational purposes, *id.* §§ 41:1501-41:1505, establishes the coastal management program to protect shorelines, *id.* §§ 49:213.1-49:213.22, and protects wetlands through the Natural and Scenic Rivers System, *id.* §§ 56:1841-56:1849.

¹²⁶ For example, Dawson, *supra* note 38, at 155, comments on the problems of decentralization:

A weakness with this approach is the lack of any administrative relationship between the state and local programs. Although local decisions are supposed to be forwarded to the state agency, generally, they are not. Therefore, there is no overall information available as to what activity takes place at inland wetlands in the state.

¹²⁷ See, e.g., OR. REV. STAT. § 197.610(1) (1986) (requiring local governments to adopt comprehensive zoning plans that encompass conservation areas).

¹²⁸ See *supra* note 18 and accompanying text.

¹²⁹ See generally WETLANDS, *supra* note 4, at 83-84.

¹³⁰ State recognition of the variation in wetland areas can improve protection. Florida regulates wetlands and provides specifically for mangrove areas. FLA. STAT. ANN. §§ 403.931-403.936 (West 1986). New York enacted separate acts for freshwater and saltwater wetlands. N.Y. ENVTL. CONSERV. LAW §§ 24-0101 to 24-1305 (freshwater wetlands) and §§ 25-0101 to 25-0602 (tidal wetlands) (McKinney 1984).

commodate unforeseen changes in circumstances. A comprehensive wetlands statute should contain the following provisions:¹³¹ policy statements and findings of fact;¹³² scope of statute;¹³³ enabling authority;¹³⁴ evaluating wetlands;¹³⁵ planning criteria;¹³⁶ permit criteria;¹³⁷ enforcement;¹³⁸ appeals;¹³⁹ and penalties.¹⁴⁰ These provisions will ensure adequate implementation and enforcement of a wetlands statute.

A. Policy Statements and Findings of Fact

A state wetland statute should articulate its purpose in a detailed statement of regulatory goals and findings of fact. Many state wetland statutes lack or inadequately describe their policy statements. For example, Maine's statute provides a limited policy clause that could be read to favor land interests over wetland preservation.¹⁴¹ Georgia's Coastal Marshlands Protection Act of 1970¹⁴² does not even include a policy statement.¹⁴³

Ideally, the policy statement should delineate the problems and issues that led to legislation.¹⁴⁴ Although most statutes link issue resolution to general health, safety, and welfare,¹⁴⁵ they should also consider wetland issues in an ecological context.¹⁴⁶ Specifically, the policy statement

¹³¹ See also notes 235-41 and accompanying text for examples of additional provisions that states can use to individualize the statute to their needs.

¹³² See *infra* text accompanying notes 141-51.

¹³³ See *infra* text accompanying notes 152-69.

¹³⁴ See *infra* text accompanying notes 170-75.

¹³⁵ See *infra* text accompanying notes 176-84.

¹³⁶ See *infra* text accompanying notes 185-98.

¹³⁷ See *infra* text accompanying notes 199-208.

¹³⁸ See *infra* text accompanying notes 209-22.

¹³⁹ See *infra* text accompanying notes 223-26.

¹⁴⁰ See *infra* text accompanying notes 227-34.

¹⁴¹ ME. REV. STAT. ANN. tit. 12, § 4751 (1981) provides: "The purpose of this subchapter is the promotion of the public safety, health and welfare, the protection of public and private property and the conservation of public or private water supplies, wildlife and freshwater, estuarine and marine fisheries." See *infra* note 146 for a comparison of statutes with adequate policy statements.

¹⁴² GA. CODE ANN. §§ 43-2401 to 43-2413 (Harrison 1986).

¹⁴³ *Id.*

¹⁴⁴ See, e.g., N.Y. ENVTL. CONSERV. LAW § 25-0101 (McKinney 1984).

¹⁴⁵ Flood damage and flood control is an objective of wetland protection in many states. For example, Maryland cites "the natural ability of tidal wetlands to reduce flood damage" as a primary concern. MD. NAT. RES. CODE ANN. § 9-102 (1983); see also ME. REV. STAT. ANN. tit. 12, § 4751 (1981); FLA. STAT. ANN. § 403.918(1)(a)(1) (1986); N.J. STAT. ANN. § 13:19-2 (West 1979).

¹⁴⁶ For example, the Connecticut Inland Wetland Protection Statute provides:

should identify wetland values, consequences of destruction, and the need for protection.¹⁴⁷ This section should provide as many uses as necessary to adequately define the scope of wetland protection.¹⁴⁸ The proposed model statute policy provision includes these considerations:

The inland wetlands and water courses of the State of Connecticut are indispensable and irreplaceable but fragile natural resources with which the citizens of the state have been endowed. The wetlands and water courses are an interrelated web of nature essential to an adequate supply of surface and underground water, to hydrological stability and control of flooding and erosion; to the recharging and purification of ground water; and to the existence of many forms of animal, aquatic and plant life.

CONN. GEN. STAT. ANN. § 22a-36 (West 1985); *see* the Virginia Tidal Wetlands Act, VA. CODE ANN. § 62.1-13.1 (1982):

The Commonwealth of Virginia hereby recognizes the unique character of the wetlands, an irreplaceable natural resource which, in its natural state, is essential to the ecological systems of the tidal rivers, bays and estuaries of the Commonwealth. This resource is essential for the production of marine and inland wildlife, waterfowl, finfish, shellfish and flora.

Several coastal states' policy of protecting the public right of fisheries indirectly encourages preserving coastal wetland ecology. For example, Rhode Island provides:

Whereas the free right of fishery cannot be enjoyed unless both finfish and shellfish are in abundance to be caught, and whereas, the metabolism and katabolism of plants and animals which constitutes the estuarine complex found in salt marshes furnishes the nitrates, phosphates, sugars, plankton and organic chemicals necessary for the nurture of finfish and shellfish throughout the Narragansett bay area and its environs, and whereas, the capacity of the salt marsh peat and marsh substrate to absorb tidal flooding helps to obviate the hydraulics of severe flood conditions, and whereas, all the salt marshes of this state are in jeopardy of despoliation by persons unmindful of the economic and aesthetic consequences of such spoliation.

R.I. GEN. LAWS § 2-1-13 (1976); *see also* N.J. STAT. ANN. § 13:9A-1 (West 1979):

The legislature hereby finds and declares that one of the most vital and productive areas of our natural world is the so-called 'estuarine zone' that area between the sea and the land; that this area protects the land from the force of the sea, moderates our weather, provides a home for water fowl and for 2/3 of all our fish and shellfish, and assists in absorbing sewage discharge by the rivers of the land.

Other statutes focus specifically on continuing wetland loss. *See* MD. NAT. RES. CODE ANN. § 9-102 (1983); N.Y. ENVTL. CONSERV. LAW § 24-0105.2 (McKinney 1984). New York provides detailed ecological and land use policies for wetland protection including flood and storm control, wildlife habitat protection, protection of subsurface water resources, recreation, open space and aesthetic appreciation, erosion control, pollution treatment, and protection of nutrients for freshwater food cycles. *Id.*

¹⁴⁷ *See supra* notes 23-34 and accompanying text.

¹⁴⁸ J. KUSLER, STRENGTHENING STATE WETLAND REGULATIONS 120 (1977).

DECLARATION OF POLICY

It is declared the public policy of the state to prevent wetland destruction; to regulate wetland use and development for the general health, safety, and welfare of the people of the state. This statute is enacted to preserve, protect, and conserve wetlands and those benefits that wetlands provide; and to encourage the benefit of wetlands as: (1) protection of subsurface water resources such as groundwater supply; (2) a source of nutrients for crustacea, fish, and shellfish; (3) an area for significant plant, animal, and bird habitat and breeding and nesting grounds; (4) a source for commerce, recreation, and aesthetic enjoyment; (5) a source of flood control; (6) a source of erosion control; and (7) open space.¹⁴⁹

This statute recognizes that wetlands may overlap both political and geographical jurisdictions. This statute recognizes and encourages local and regional governments to enact ordinances to protect and conserve wetlands, as enactment of local regulations helps enforcement and implementation of the goals and purpose of this statute. However, wetland management requires comprehensive management and uniformity of laws to eliminate conflicting laws that may result from overlapping jurisdictions. Comprehensive management further centralizes implementation and enforcement of wetland policies and compensates for the misuse or neglect of local governments.

These specific policy provisions enable states to regulate solely for environmental reasons. A definite wetland purpose deters taking claims by landowners; the clearer a statute states its purpose, the less chance a dispute will arise when land use changes occur.¹⁵⁰ The model statute's

¹⁴⁹ New York's Tidal Wetlands Act provides a detailed provision for recreation: [R]ecreation — tidal wetlands provide hundreds of square miles and millions of days of recreation, hunting, fishing, boating, hiking, bird watching, photography and camping for many thousands of citizens of the state and visitors to the state; the location of many tidal wetlands fronting on the eastward expansion of human population in Long Island makes them 'the last frontier' for certain of the state's valuable natural resources, underscoring the necessity for their preservation in parks and preserves.

N.Y. ENVTL. CONSERV. LAW § 25-0101 (McKinney 1984).

¹⁵⁰ The policy statement helps clarify policy to regulating landowners who sometimes consider regulation a taking of private property without just compensation. The fifth amendment provides: "No person shall . . . be deprived of life, liberty, or property without due process of law; nor shall private property be taken for public use, without

policy provision provides comprehensive management authority for future local jurisdictional claims and addresses state statute supremacy over local and regional statutes.¹⁵¹ State centralization of wetland protection laws also insulates enforcement from possible local political influences.

B. Establishing Wetland Jurisdiction

Precise wetland definitions and a broad scope provide the legal authority to establish wetland jurisdiction.¹⁵² The wetland definition should be tailored to each state or subregion within the state to better protect individual needs of varying wetland types.¹⁵³ Similar to a definite policy provision, a precise wetland definition prevents boundary disputes and deters takings claims by landowners.¹⁵⁴ Currently, most state statutes define geographical jurisdiction by two or more criteria such as tidal action and tidal elevations,¹⁵⁵ vegetation,¹⁵⁶ geography,¹⁵⁷ and soil.¹⁵⁸

just compensation." U.S. CONST. amend. V. Wetland regulation has the effect of excluding substantial development of property that courts sometimes consider a taking. The New York Freshwater Land Act, N.Y. ENVTL. CONSERV. LAW §§ 24-0101 to 24-1105 (McKinney 1984), provides for judicial review of any permit denial to review a taking claim. The statute does not limit the courts in finding a taking, but does limit the available remedy. The court can grant either the permit or other formal condemnation proceedings. *Id.* § 24-0705. This approach reviews each case as a question of fact. *See, e.g.,* Zabel v. Tabb, 430 F.2d 199 (5th Cir. 1970), *cert. denied*, 401 U.S. 910 (1971); Spears v. Berle, 48 N.Y.2d 245, 397 N.E.2d 1304, 422 N.Y.S.2d 636 (1979).

¹⁵¹ *See supra* note 126 and accompanying text and *infra* note 163.

¹⁵² J. KUSLER, *supra* note 148, at 14 (stating that specificity is necessary to provide precise legal criteria for mapping wetlands and determining whether particular lands and development sites lie within regulatory boundaries).

¹⁵³ *Id.* *See supra* note 4 for an explanation of varying wetland types.

¹⁵⁴ *See supra* note 150 and accompanying text.

¹⁵⁵ *See* CONN. GEN. STAT. ANN. § 22A-29 (West 1985); DEL. CODE ANN. tit. 7, § 6603(8) (1983); MISS. CODE ANN. § 49-27-5 (1972 & Supp. 1986); N.J. STAT. ANN. § 13:9A-2 (West 1979); N.C. GEN. STAT. § 113-229(n)(3) (1983).

¹⁵⁶ *See* CONN. GEN. STAT. ANN. § 22A-29 (West 1985); DEL. CODE ANN. tit. 7, § 6603(8) (1983); GA. CODE ANN. § 43-2402(2) (Harrison 1986); N.Y. ENVTL. CONSERV. LAW § 25-0103 (McKinney 1984); N.C. GEN. STAT. § 113-220(n)(3) (1983); R.I. GEN. LAWS § 2-1-14 (1976); VA. CODE ANN. § 62.1-13.2(f) (1987).

¹⁵⁷ Several acts mention specific political jurisdictions or areas. For example, Virginia lists "tidewater counties." VA. CODE ANN. § 62.1-13.2(d) (1987). The New Jersey and Delaware Acts refer to particular bays and rivers. DEL. CODE ANN. tit. 7, § 6603(8) (1983); N.J. STAT. ANN. § 13:9-4 (West 1979).

¹⁵⁸ GA. CODE ANN. § 43-2402 (Harrison 1987); N.H. REV. STAT. ANN. § 483-A:1-a (1983 & Supp. 1986); R.I. GEN. LAWS § 2-1-14 (1976).

Most state statutes do not adequately define wetlands or define them narrowly. For example, because Louisiana still utilizes a traditional navigable waters definition,¹⁵⁹ its wetland jurisdiction is geographically more restrictive than the Corps' jurisdiction.¹⁶⁰ Some statutes disparately treat public and private wetlands,¹⁶¹ or salt and freshwater wetlands.¹⁶² Other states define wetlands too broadly resulting in inadequate enforcement for two reasons. First, if the definition encompasses an area so large that the enforcing agency is "spread thin,"¹⁶³ the agency can prevent only major violations. Second, if the definition is too broad to permit the agency to establish jurisdiction adequately over the area, boundary disputes may result.

A statute's jurisdiction can be drafted to compensate for the inadequacies of section 404. The jurisdiction definition should be as comprehensive and specific as possible, include uses permitted on wetlands,¹⁶⁴

¹⁵⁹ See *supra* note 58 and accompanying text for a definition of traditional navigable waters.

¹⁶⁰ Comment, *Conflicting Interests in Southern Louisiana's Wetlands: Private Developers Versus Conservationists and the State and Federal Regulatory Roles*, 56 TUL. L. REV. 1006, 1025 (1982).

¹⁶¹ For example, Maryland distinguishes between the regulation of state and private land, providing stricter controls over state lands. See MD. NAT. RES. CODE ANN. § 9-202 (Supp. 1986).

¹⁶² Coastal wetlands have received more protection. Inland states primarily regulate freshwater wetlands as part of a larger preservation scheme. J. STEPIEN, WETLANDS-RELATED LEGISLATION IN THE UNITED STATES 5 (1977). However, the state may not enforce protective freshwater policies. For example, Alabama maintains a policy of wetland drainage to promote the general welfare but still has enacted a comprehensive regulatory scheme for wetlands. *Id.* Several states have enacted separate acts for inland and coastal wetlands. See, e.g., CONN. GEN. STAT. ANN. §§ 22a-28 to 22a-45 (West 1986) (providing for inland wetlands and watercourses and tidal wetlands); N.Y. ENVTL. CONSERV. LAW §§ 25-0101 to 25-0602 (tidal wetlands) and §§ 24-0103 to 24-1305 (freshwater wetlands) (McKinney 1984).

¹⁶³ Dawson, *supra* note 38, at 155 recognizes problems due to broad wetland definitions in the wetland statutes of Massachusetts and Connecticut:

With minor exceptions, both statutes apply to all wetlands regardless of size or extent of proposed activity. Where a state agency wishes to regulate practically all activity in almost every wetland, it will probably have to employ local controls at the municipal/county level, rather than rely on a single state agency which will never be able to handle small, isolated fills. Since the local boards are typically unpaid, the *quid pro quo* for such intensive regulation is a patchwork system of inexpert regulation.

¹⁶⁴ For example, MD. NAT. RES. CODE ANN. § 9-303 (1983) allows few uses of private wetlands without a permit:

- (1) Conservation of soil, vegetation, water, fish, shellfish and wildlife;
- (2) Trapping, hunting, fishing, and catching shellfish if otherwise legally

and conform to regional wetland characteristics.¹⁶⁵

The proposed model statute offers a provision describing scope and a wetland definition with hydrologic and vegetative criteria, but each

permitted; and

(3) Exercise of riparian rights to improve land bounding on navigable water, to preserve access to the navigable water or protect the shore against erosion;

(4) Reclamation of fast land.

Regulated activities are those activities requiring a permit and are usually specifically detailed. For example,

No person shall dredge or cause to be dredged, drain or cause to be drained, fill or cause to be filled or erect or cause to be erected a causeway, bridge, marina, wharf, dock or other permanent structure in, on or over any coastal wetland; or bulldoze, remove, add or displace sand, or build any permanent structure in, on or over any coastal sand dune without first obtaining a permit therefor from the Board of Environmental Protection or a municipality acting under the provisions of sections 473 and 474; nor shall any action be taken in violation of the conditions of such permit, once obtained.

ME. REV. STAT. ANN. tit. 38 § 471 (1986).

States exclude exempted activities from the permit requirements. Common exemptions include activities of state and federal agencies, public utilities, local political subdivisions, agriculture, and mosquito control projects. For example, the Georgia Coastal Marshland Act provides:

This part [chapter 43-24] shall not apply to the following:

- (1) Activities of the Department of Transportation incident to constructing, repairing and maintaining a public road system in Georgia;
- (2) Agencies of the United States . . . with the responsibility of keeping the rivers and harbors of this state open for navigation, and agencies of this State . . . with the responsibility of keeping the rivers and harbors open;
- (3) Activities of public utility companies . . . incident to constructing, erecting, repairing, and maintaining utility lines for the transmission of gas, electricity, or telephone messages;
- (4) Activities of companies in constructing, erecting, repairing, and maintaining railroad lines and bridges;
- (5) Activities of political subdivisions . . . for the transport of water and sewage; or
- (6) The building of private docks on pilings.

GA. CODE ANN. § 43-2412 (Harrison 1987).

¹⁶⁵ Although the "wetland" definition is critical to the statute, it also should define other commonly used words. *See, e.g.*, CONN. GEN. STAT. ANN. § 22a-29 (West 1985) (defining "Commissioner," "person," and "regulated activity"); N.Y. ENVTL. CONSERV. LAW § 24-0107 (McKinney 1984) (defining "freshwater wetlands map," "boundaries for a freshwater wetland," "local government," "state agency," "person," "board," and "pollution").

state's actual definition will vary according to wetland type.¹⁶⁶

SCOPE OF STATUTE

This statute shall apply to all lands and waters within the state's jurisdiction and shown on the wetlands map¹⁶⁷ as being within its jurisdiction.

DEFINITIONS

"Wetlands" means lands and waters that meet any of the following criteria:

(a) lands and submerged lands that border on or lie beneath waters or tidal waters. These lands and submerged lands can be referred to as, but are not limited to, marshes, swamps, bogs, sloughs, salt marshes, or other low lands subject to seasonal, marginal, or permanent flooding, supporting aquatic, or semi-aquatic vegetation;

(b) lands and submerged lands that contain any vegetation not aquatic or semi-aquatic that has died because of a long-term wet condition;

(c) lands and water substantially enclosed by aquatic or semi-aquatic vegetation.¹⁶⁸

The model statute's scope enables states to adequately define wetlands and deter jurisdictional and boundary disputes. A proper wetland definition provides notice to the private landowner that her property is subject to wetland regulation.¹⁶⁹

C. *Enabling Authority*

A state statute should provide an agency with broad power to enforce and implement procedures.¹⁷⁰ Some states provide for an agency to regulate wetlands, but the statutes do not provide specific regulatory authority.¹⁷¹ An agency's abuse of discretion and negligence can be avoided if the statute defines the extent of its authority.

¹⁶⁶ See *supra* notes 4, 130 and accompanying text for an explanation of varying wetland types.

¹⁶⁷ See *infra* text accompanying notes 180-82.

¹⁶⁸ See *supra* note 4 and accompanying text.

¹⁶⁹ See *supra* note 152 and accompanying text.

¹⁷⁰ J. KUSLER, *supra* note 148, at 130.

¹⁷¹ See, e.g., MD. CODE ANN. § 9-101(b) (1983) (establishing the Board of Public Works as agency over wetlands without provisions for authority).

Each state must decide whether the agency would operate most efficiently independently or as a subdivision of a water resources or natural resources agency.¹⁷² Several states have created a separate agency specifically to conserve and protect wetlands.¹⁷³

The model statute's enabling authority provision provides:

AGENCY AUTHORITY

This statute creates the Wetland Protection Committee ("Committee") to be composed of five members.¹⁷⁴ The Committee shall issue all orders and shall grant, deny, revoke, and amend all permits provided by this statute.

The Committee has the power and duty:

- (1) To administer and enforce this statute;
- (2) To promulgate all rules, regulations, and laws necessary to ensure protection of wetlands under this statute;
- (3) To administer and enforce all rules, regulations, and laws issued pursuant to this statute;
- (4) To conduct hearings and institute and prosecute court actions as necessary to enforce compliance.¹⁷⁵

The model statute enables the agency with adequate authority to implement and enforce a protective regulatory scheme. Specific duties may help prevent abuses of agency discretion or agency negligence.

D. Evaluating Wetlands

The enabled agency must have authority to identify and evaluate wetland areas.¹⁷⁶ Some state statutes do not give the wetland agency authority to identify wetlands¹⁷⁷ which also can result in jurisdiction

¹⁷² See, e.g., GA. CODE ANN. §§ 43-2403 to 43-2404 (Harrison 1987) (creating Coastal Marshlands Protection Committee as part of Department of Natural Resources); ME. REV. STAT. ANN. tit. 12, § 4753 (1981) (giving Board of Environmental Protection enabling authority); N.Y. ENVTL. CONSERV. LAW § 24-0501 (McKinney 1984) (giving local governments enabling authority to protect wetlands).

¹⁷³ See, e.g., CONN. GEN. STAT. ANN. § 22A-30 (West 1985) (enabling commissioner of environmental protection to inventory, designate jurisdiction, inspect, adopt regulations, and enforce provisions of act).

¹⁷⁴ The number of committee members will vary depending on the size of the program, work load, and budget constraints.

¹⁷⁵ As under the Clean Water Act, administrative and enforcement powers may be provided by separate agencies. See *supra* note 48 and accompanying text.

¹⁷⁶ See, e.g., MD. NAT. RES. CODE ANN. § 9-301 (1983); N.Y. ENVTL. CONSERV. LAW § 24-0301 (McKinney 1984).

¹⁷⁷ See, e.g., GA. CODE ANN. §§ 43-2401 to 43-2413 (Harrison 1986) (giving no

and boundary disputes.¹⁷⁸

Although wetland identification involves substantial time, effort, and money, it is invaluable.¹⁷⁹ Lack of data has led to simplistic definitions and standard setting criteria, poor political acceptance, and administrative problems.¹⁸⁰ Maps, sketches, aerial photographs, and reports describing location and features establish a historic record for future jurisdictional disputes.¹⁸¹ Also, bird and animal counts and water samples substantiate predevelopment conditions.¹⁸²

The model statute's provision for wetland evaluation includes:

EVALUATING WETLANDS

The Wetland Protection Committee shall identify and map all freshwater and saltwater wetlands in the state. Mapping shall be shown on suitable maps or aerial photographs.¹⁸³ Mapping shall include a complete inventory of wetlands. Mapping shall include all other data and information that the Committee deems necessary. The Committee has the authority to collect data necessary to determine wetland boundaries including, but not limited to: maps, sketches, aerial photographs, bird and animal counts, and water, soil, and vegetation samples.¹⁸⁴ The map may be prepared from

authority to agency); VA. CODE ANN. § 62.1-13.5 (1982) (giving local jurisdictions authority to identify and regulate wetlands).

¹⁷⁸ J. KUSLER, *supra* note 148, at 135.

¹⁷⁹ J. KUSLER, REGULATING SENSITIVE WETLANDS 115 (1980).

¹⁸⁰ *Id.*

¹⁸¹ See, e.g., CONN. GEN. STAT. ANN. § 22a-30 (West 1985); see also *United States v. Tull*, 615 F. Supp. 610 (E.D. Va. 1983), *aff'd*, 739 F.2d 182 (4th Cir. 1985) (using a combination of aerial photographs and soil analysis to determine filling history of wetland area by developer); J. KUSLER, *supra* note 179, at 115-22 (gathering time-series information such as time sequence air photographs to facilitate monitoring and enforcement). Kusler also identifies techniques to maximize cost-effectiveness and improve resource decision making, including: (1) emphasizing data essential for program implementation, such as detailed maps; (2) defining zone boundary lines and using field procedures to resolve boundary disputes; (3) delineating gradations and subzones through mapping of soils, vegetation, and other features; (4) using air photographs and air photo interpretation techniques. *Id.* at 5.

¹⁸² J. KUSLER, *supra* note 179, at 115-42.

¹⁸³ Maps can be obtained from several sources: United States Geological Survey, Soil Conservation Service, Corps, United States Department of Agriculture, and local zoning maps. *Id.* at 117-18.

¹⁸⁴ Strong local participation can help identify wildlife, or recognize an area's resources and hazards. *Id.* at 132. Interest groups, universities, and consultants can provide detailed, historical information. *Id.* at 133. This type of information is often relia-

data gathered on a regional or sectional basis and may be produced in maps on a regional or sectional basis. Priority in producing the maps shall be given to areas that are subject to development, including, but not limited to, urbanization, construction, road building, and agricultural uses. The wetlands map shall describe wetland boundaries as accurately as practicable.

After an initial wetlands map or portion of a regional wetlands map is completed, the Committee shall give notice and hold a public hearing in the county of the affected wetlands. Written protests may thereafter be submitted to the Committee within a period of time that the Committee shall determine, but in no case to exceed sixty days. The Committee shall consider and comment on every written protest before it produces the final wetlands map.

The model statute's evaluation provision better enables the agency to perform its duties by clearly defining its authority. This authority encourages clear boundary delineation and will limit jurisdictional disputes. The statute's requirement that the agency consider written comments and protests balances competing interests of the private landowners and developers with community and environmental groups.

E. Planning Criteria

Each state must determine the most effective way to protect its wetland areas. In some states, wetlands are under more intense pressure. In those areas — southern California, the San Francisco Bay area, northern New Jersey, southern Maine, the South Carolina Coast, and Florida — large wetland areas are threatened.

Several planning approaches are available to help protect threatened wetlands. The planning strategy enacted under the section 404 permit program¹⁸⁵ protects every wetland regardless of wetland type and value. However, the limits inherent in the 404 program¹⁸⁶ prevent this strategy from effectively preserving wetlands, as thousands of wetland acres continue to be lost each year.¹⁸⁷ Although this approach is ecologically desirable, it can waste agency resources because it may focus on wetlands that do not need protection.

ble and unavailable by any other means. *Id.*

¹⁸⁵ See *supra* text accompanying notes 48-49.

¹⁸⁶ See *supra* text accompanying notes 50-69.

¹⁸⁷ See *supra* text accompanying notes 35-37.

Alternatively, a regional management approach focuses on protection of valuable wetlands and wetlands subject to development pressure. Identification of these critical areas allows federal, state, and local interests to anticipate and prevent wetland destruction. Further, this planning approach can direct development to areas that will not affect wetlands.

Because general federal authority does not exist to implement a regional management approach, states must provide a planning program that includes permit standards and procedures.¹⁸⁸ State statutes should establish general performance standards rather than minimum regulations for wetland activities since this permits the regulatory agency to evaluate individual uses on a case-by-case basis.¹⁸⁹ When developing planning and permit criteria, the state should consider: the initial environmental impact; the long-term impact; any cumulative impacts on the wetland and the impact on surrounding areas; suitability of the area for the proposed use; balance of proposed use against resulting wetland destruction; aesthetic effect; and economic effect.¹⁹⁰ The model statute includes these provisions:

PLANNING CRITERIA

In carrying out the purposes and policies of this statute, including permit issuance, enforcement, and regulation, the agency shall consider all relevant facts and circumstances, including but not limited to:

(1) Environmental impact, including likely destruction of flora and fauna; impact of site preparation on tidal ebb and flow and the otherwise normal drainage of area subject to permit issuance; impact of the site preparation and proposed activity on the quality and quantity of tidal waters, surface, ground and subsurface water resources, and other resources.¹⁹¹

¹⁸⁸ However, the 1987 Federal Water Pollution Control Act, 33 U.S.C. §§ 1251-1376 (1982 & Supp. III 1985), requires states to prepare assessments of and management plans for nonpoint sources of pollution, in cooperation with existing areawide wastewater treatment entities. *Id.* § 1251. States must identify federal navigable waters, including wetlands, adversely affected by nonpoint source pollution and describe processes and legal steps for controlling the pollution. *Id.*

¹⁸⁹ J. KUSLER, *supra* note 148, at 28.

¹⁹⁰ See, e.g., CONN. GEN. STAT. ANN. 22a-36 to 22a-45 (West 1985); DEL. CODE tit. 7, § 6605 (1974); see also J. KUSLER, *supra* note 148, at 28.

¹⁹¹ See DEL. CODE ANN. tit. 7, § 6604(b) (1983).

(2) Alternatives to the proposed action,¹⁹² and mitigation plans for any problems that may be foreseen by the agency.

(3) Relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity.¹⁹³

(4) Effect on neighboring land uses, including, but not limited to, public access to tidal waters, recreational areas, and adjacent residential and agricultural areas.¹⁹⁴

(5) Cumulative effects that the proposed project would have on the area and surrounding area.

(6) State, county, and municipal comprehensive plans for the development and/or conservation of wetland areas.¹⁹⁵

(7) The appropriateness of the activity to the area for which it is proposed.¹⁹⁶

(8) Aesthetic effect, such as the impact on scenic beauty of the area and the surrounding area.¹⁹⁷

(9) Economic effect, including the number of jobs created and the income that would be generated, balanced with the amount of land required and the amount of potential tax revenues to the state and local governments.¹⁹⁸

Under the model statute's criteria for management of wetlands, the regulatory agency must balance these factors. This allows full evaluation of all relevant considerations to determine the appropriateness of a proposed use.

F. Permit Criteria

State wetland statutes should include criteria for application, evaluation, and issuance of permits.¹⁹⁹ Several states do not provide adequate permit procedures for wetland activity. For example, Connecticut authorizes its agency to issue permits, but provides little criteria to establish the conditions under which a permit may be granted.²⁰⁰ Maine does

¹⁹² See CONN. GEN. STAT. ANN. § 22a-41(b) (West 1985).

¹⁹³ See *id.* § 22a-41(c).

¹⁹⁴ See DEL. CODE ANN. tit. 7, § 6604(b)(4) (1983).

¹⁹⁵ See *id.* § 6604(b)(5).

¹⁹⁶ See CONN. GEN. STAT. ANN. § 22a-41(f) (West 1985).

¹⁹⁷ See DEL. CODE ANN. tit. 7, § 6604(b)(2) (1983).

¹⁹⁸ See *id.* § 6604(b)(6).

¹⁹⁹ See, e.g., GA. CODE ANN. § 43-2405 (Harrison 1986); N.Y. ENVTL. CONSERV. LAW §§ 24-0701 to 24-0705 (McKinney 1984).

²⁰⁰ CONN. GEN. STAT. ANN. §§ 22a-28 to 22a-35 (West 1985).

not even provide permit criteria; its agency is authorized only to amend orders.²⁰¹

Ideally, permit criteria should include accurate descriptions of the activities that require permits.²⁰² This ensures that landowners have adequate knowledge of which activities require a permit. Similarly, the provision should include clear application procedures and evaluation criteria to ensure that all parties have accurate information to make equitable land use decisions.

The provision should include notice of a proposed application to adjacent landowners and the community where the affected wetland is located.²⁰³ The notice provision permits interest groups to submit information to the agency regarding impact on adjoining properties, cumulative impacts, and conflicting interests.

The model statute provision for permit criteria includes:

PERMITS

(1) **PERMIT CRITERIA.** No person shall remove, fill, dredge, drain, or otherwise alter any wetland subject to the state's jurisdiction and so designated on the wetlands map without first obtaining a permit from the Committee.

(2) **PERMIT APPLICATION.** Any person proposing any work or activity on a wetland shall file with the Committee an application for a permit that includes:

(a) A detailed description of the proposed work or activity and a map showing the area of wetland directly affected;²⁰⁴

(b) A list of the names and addresses of all adjoining landowners including the names and addresses of any claimant of water rights;²⁰⁵

(c) A certificate from the local governing authority or authorities of the municipality and county in which the prop-

²⁰¹ ME. REV. STAT. ANN. tit. 12, §§ 4701-4758 (1981).

²⁰² See, e.g., N.C. GEN. STAT. §§ 113A-100 to 113A-128 (1983); R.I. GEN. LAWS §§ 46-23-1 to 46-23-16 (1980 & Supp. 1986).

²⁰³ See, e.g., ME. REV. STAT. ANN. tit. 12, § 4755 (1981) (notice to municipalities, wetland owners, department of transportation, and public through newspaper publication); N.Y. ENVTL. CONSERV. LAW § 25-0403(4) (McKinney 1984) (notice to municipalities and to public through newspaper publication).

²⁰⁴ Regulations requiring an exact description of the wetland area help delineate boundaries, establish jurisdiction, and clearly show the impact of any proposed activity. J. KUSLER, *supra* note 148, at 14.

²⁰⁵ Identifying adjacent landowners enables the agency to provide notice if the application requires a public hearing. See *supra* note 150 and accompanying text.

erty is located stating that the proposed work or activity does not violate any zoning law, ordinance, or other local or regional restriction.²⁰⁶

(3) **PERMIT ISSUANCE OR DENIAL.** In granting, denying, or limiting any permit, the Committee shall consider the effect of the proposed work or activity with the public welfare, marine fisheries, shellfisheries, wildlife and birdlife, the protection of life and property from flood, and any cumulative impacts or secondary impacts that may result to other wetland areas.²⁰⁷

Notice shall be given to all adjacent and downstream landowners, and in the case of a complaint or challenge to the proposed activity, the Committee shall hold a public hearing. Upon permit issuance, the Committee shall send a copy of the order to each municipality within the boundaries of the affected wetland. The Committee shall also publish the order in at least two newspapers having a general circulation in the area where the wetlands are affected.

The model statute's provision provides adequate and detailed criteria for the permit application and evaluation process. Detailed criteria allows landowners sufficient notice of activities requiring permits. It also provides an opportunity for the public to submit all necessary information to the agency for permit evaluation. If states follow the suggestions of the model statute, the resulting statute will avoid the notice and process criticisms leveled at the federal 404 program.²⁰⁸

G. Enforcement

A statute's effectiveness depends on the enabled agency's ability to enforce its provisions.²⁰⁹ Some state statutes do not provide an enforcement provision,²¹⁰ or the provision is inadequate.²¹¹ For example, Virginia's statute gives its agency authority to "investigate all projects . . .

²⁰⁶ This provision allows local governments to give input on the proposed activity. The exact provision should consider any agreement with the local government including local laws and ordinances. *See supra* note 195 and accompanying text.

²⁰⁷ *See supra* note 54 and accompanying text.

²⁰⁸ *See supra* note 48 and accompanying text.

²⁰⁹ Federal enforcement of § 404 is weak partly because of the Department of Justice's reluctance to prosecute wetlands cases.

²¹⁰ *See, e.g.,* ME. REV. STAT. ANN. tit. 12, §§ 4751-4758 (1981).

²¹¹ *See* GA. CODE ANN. § 43-2406 (1986) (providing only for "reasonable inspection of marshlands").

which alter wetlands,"²¹² but does not provide specific authority to enter property or collect data.²¹³ Inability to access private and public property precludes enforcement of the statute's provisions.²¹⁴

To enforce its regulations adequately, the enabled agency should have the authority to enter property to determine jurisdiction;²¹⁵ to issue cease and desist orders;²¹⁶ and to obtain injunctions if necessary.²¹⁷ In addition, surveys of coastal wetlands through overflights can locate recent land use changes.²¹⁸ The agency must also rely on interest groups and local officials to report violations.²¹⁹ These provisions will reduce violations of wetland jurisdiction. The proposed model statute's enforcement provision includes:

ENFORCEMENT

The Department, the Committee, and such duly authorized agents and employees as the Department or Committee deems necessary and proper shall have the right to enter onto any public or private property at reasonable times to carry out the provisions and duties of this statute.²²⁰

If the Department or Committee find that any activity that would normally require a permit immediately endangers or threatens a wetland area, the Department or Committee may issue a cease and desist order.²²¹

If the Department or Committee find that any illegal activity is continuing, it can request the issuance of an injunction from a superior court.²²²

²¹² VA. CODE ANN. § 62.1-13.16 (1987).

²¹³ See *supra* notes 176-84 and accompanying text. For a comprehensive discussion of wetland regulatory data gathering, see J. KUSLER, *supra* note 179, at 115-42.

²¹⁴ J. KUSLER, *supra* note 148, at 135.

²¹⁵ See, e.g., CONN. GEN. STAT. ANN. § 22a-30 (West 1985).

²¹⁶ See, e.g., GA. CODE ANN. § 43-2408(1) (1986).

²¹⁷ *Id.* § 43-2408(4).

²¹⁸ *Id.*

²¹⁹ *Id.*

²²⁰ The Clean Water Act's access provision is similar:

[T]he Administrator or his authorized representative, upon presentation of his credentials —

(i) shall have a right of entry to, upon, or through any premises in which an effluent source is located or in which any records required to be maintained . . . are located.

33 U.S.C. § 1318(a)(4)(B) (1982).

²²¹ *Id.* § 1344(s)(1) provides for enforcement of the Clean Water Act.

²²² *Id.*

The model statute's provision allows the agency to enforce the wetland statute and its regulations. The more limited the enforcement provision, the less effective is the agency's ability to monitor and prosecute violations. In addition, the ability of the agency to enforce the statute saves time that may be critical to prevent continuing destruction of a wetland.

H. Appeals

Most state statutes include a provision for appellate procedures and review that can establish standards for permit and property-right decisions.²²³ Appellate review is important as a check on the authority of the wetland agency and a protection of property rights. More active commissions create a separate appeals board;²²⁴ other states allow for direct judicial review.²²⁵ If the state creates a separate appeals board, it should define the extent of its authority and jurisdiction, so it can have effective power to review cases. In addition, appeals board members should be impartial by prohibiting members who may have conflicts of interest.

The model statute's provisions for an appeals board and judicial review include:

APPEALS BOARD

This statute creates an Appeals Board. The Appeals Board shall consider any decision of the Committee denying, suspending, or revoking a permit or issuance of a permit or a conditional permit appealed by the applicant, or any person, corporation, municipality, or community group.

The Appeals Board shall have the power:

- (1) To hear appeals by any party to any proceeding before the Committee or local jurisdiction;
- (2) To review any decision or order of the Committee or local jurisdiction;
- (3) To review the entire record on which any decision was

²²³ See, e.g., CONN. GEN. STAT. ANN. § 22a-43 (West 1985); ME. REV. STAT. ANN. tit. 12, § 4757 (1981); N.Y. ENVTL. CONSERV. LAW 24-1101 to 24-1103 (McKinney 1984).

²²⁴ See, e.g., N.Y. ENVTL. CONSERV. LAW §§ 24-1101 to 24-1103 (McKinney 1984) (enabling freshwater wetlands appeals board with power to review permit decisions).

²²⁵ See, e.g., CONN. GEN. STAT. ANN. § 22a-43 (West 1985) (providing for direct judicial review to superior court); ME. REV. STAT. ANN. tit. 12, § 4757 (1981) (providing for appeal to superior court).

made;

(4) To affirm, remand, or reverse any order or decision of the Committee or local jurisdiction.

Appeal to the Appeals Board does not preclude judicial review.

JUDICIAL REVIEW

Any decision of the Appeals Board affirming the Committee's denial, suspension, or revocation of a permit or issuance of a permit or a conditional permit may be appealed by the applicant or any person, corporation, municipality, or community group who has standing, to the superior court. If the court finds that the action is an unreasonable exercise of police power,²²⁶ the Committee may:

- (1) Negotiate purchase or condemnation proceedings; or
- (2) Approve or deny the permit with appropriate restrictions or conditions.

The model statute's provision enables an appeals board with the authority to substantively review complaints. These provisions ensure objectivity of the appeals board, equitable review, and limit abuses of power.

I. Penalties

To encourage compliance with state statutes, the statute should provide standards for penalizing violations. Most state statutes provide a combination of fines or imprisonment for willful violations.²²⁷ However, some provisions recognize violations but do not provide penalties within the statute.²²⁸ Some statutes provide only remedies such as restoration²²⁹

²²⁶ Some states provide a statutory test to determine if regulation is a taking without compensation. For example, Massachusetts provides:

[T]he superior court [shall] determine whether such order so restricts the use of [the landowner's] property as to deprive him of the practical uses thereof and is therefore an unreasonable exercise of the police power because the order constitutes the equivalent of taking without compensation.

MASS. GEN. LAWS ANN. ch. 131, § 105 (West Supp. 1987).

²²⁷ See, e.g., CONN. GEN. STAT. ANN. § 22a-44(b) (West 1985) (imposing fines for each offense and, for continuing offenses, both fines and injunctive relief).

²²⁸ See, e.g., GA. CODE ANN. § 43-2411 (1986) (providing that "[a]ny person violating any of the provisions of this part shall be guilty of a misdemeanor"); VA. CODE ANN. § 62.1-13.18 (1987) (providing that "any person who . . . violates any . . . rule . . . of the Commission . . . shall be guilty of a misdemeanor").

or injunction.²³⁰ Without penalties, these remedies are inadequate because often the state will not require restoration of the wetland if a landowner has nearly completed construction before the state discovers the violation. A state statute that provides adequate penalties will actively discourage violations.²³¹ The model statute's provision for penalties includes:

PENALTY

Any person who violates any provision of this statute shall be liable to the state for the cost of restoring the affected area to its condition prior to the violation if possible, and shall be fined a sum of \$1,000 for each day of the offense.²³² In the case of a continuing violation, each day's continuance shall be a separate and distinct offense. The attorney general shall institute a civil action to enforce any violation. The superior court has jurisdiction to grant an injunction to restrain any violation.

The model statute's provision provides an adequate penalty to deter violations, but success depends on consistently applying enforcement procedures.²³³ The ultimate adequacy of the provision is dependent upon the agency's ability to monitor, enforce, and prosecute violations.²³⁴

In addition to these evaluation and procedural criteria that the model statute provides, states should also enact provisions that provide flexi-

²²⁹ See, e.g., ME. REV. STAT. ANN. tit. 12, § 4758 (1981).

²³⁰ See, e.g., VA. CODE ANN. § 62.1-13.18:1 (1987); CONN. GEN. STAT. ANN. § 22a-44(b) (West 1985).

²³¹ CONN. GEN. STAT. ANN. § 22a-44(b) (West 1985).

²³² For examples of fines given for violations, see 33 U.S.C. § 1319(c)(1) (1982) ("Any person who willfully or negligently violates . . . [§ 404] shall be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or by both."); *United States v. Tull*, 615 F. Supp. 610, 626-27 (E.D. Va. 1983) *aff'd*, 769 F.2d 182 (4th Cir. 1985) (assessing developer \$5,000 penalty for § 404 violation for each lot filled; fining \$250,000 for filling navigable waterway; ordering to restore two lots to wetlands as part of mitigation for lots unlawfully filled, and ordered to bear costs of litigation); see also ME. REV. STAT. ANN. tit. 12, § 4758 (1981) (requiring restoration of affected area "to as near its original condition as possible" with restoration costs to be borne by owner); MD. NAT. RES. CODE ANN. § 9-501 (1983 & Supp. 1986) (authorizing fines up to \$1000 and/or imprisonment of up to one year for second and subsequent violations plus restoration costs for violations knowingly committed).

²³³ J. KUSLER, *supra* note 148, at 120.

²³⁴ *Id.* at 134.

bility for their specific needs. These provisions can include: recording of land use changes within the county or region where the change occurs;²³⁵ determining riparian owners rights;²³⁶ providing for wetland authority by local governments;²³⁷ revaluing property after license denial;²³⁸ suspending the act during emergencies;²³⁹ and creating special protection areas²⁴⁰ and conservation easements.²⁴¹

CONCLUSION

A comprehensive state wetland protection act is the most efficient and flexible mechanism available to compensate for the limits of federal and private wetland protection programs. The state's power to regulate coupled with its authority to veto federal permits under section 404, and augmented with economic incentive programs and acquisition programs provide a powerful tool for wetland preservation. Continued wetland destruction necessitates state regulation. If a comprehensive model statute is thoughtfully drafted to meet state and federal criteria and provide clarity of scope, it will establish a framework necessary to accomplish these goals.

*Sherry Lynn Jacobs**

²³⁵ ME REV. STAT. ANN. tit. 12, § 4756 (1981).

²³⁶ N.J. STAT. ANN. § 13:9A-8 (West 1979).

²³⁷ VA. CODE ANN. § 62.1-13.5 (1987) (allowing any county, city, or town to adopt wetlands zoning ordinance).

²³⁸ CONN. GEN. STAT. ANN. § 22a-45 (West 1985).

²³⁹ GA. CODE ANN. § 43-2413 (Harrison 1986).

²⁴⁰ See, e.g., FLA. STAT. ANN. §§ 403.931-403.936 (West 1986 & Supp 1987).

²⁴¹ See, e.g., IOWA CODE ANN. §§ 111 D.1-111 D.5 (West 1984).

* This Comment is dedicated to the memory of the author's mother, Juanita L. Jacobs (1929-1987).