

Chapter 13

Policy and Regulatory Programs Affecting Wetlands and Waters of the Mid-Atlantic Region

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Abstract Federal and state laws and policies determine which wetlands and waters are protected and which are not. More than a century of policy evolution has reflected growing understanding of the importance of wetland systems, while responding to economic and social pressures of a rising population with development expectations. Federal laws, chiefly the Clean Water Act, provide the most substantial regulatory framework governing what activities may take place in wetlands and under what conditions. The U.S. Army Corps of Engineers operates the federal permitting program, which allows filling of waters and wetlands under individual, nationwide, or general permits, subject to requirements for avoidance, minimization, and compensation for impacts. Supreme Court cases in the first decade of the twenty-first century have made the application of the Clean Water Act to wetlands more complex, requiring science to try to answer legal questions. In the Mid-Atlantic Region, state laws also regulate activities in many wetlands and waters, with most states operating permitting regimes in addition to the federal system. Finally, other federal programs and international agreements provide additional opportunities for wetland conservation.

13.1 Why Laws and Policies Matter

Laws and policies led first to activities promoting wetland loss and then later to wetland conservation, preservation, and restoration. Changes in American society, and related changes in our laws and policies, reflect a growing recognition of the

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important contributions of wetlands to water quality, wildlife habitat, hydrological integrity, recreation, open space, and ecosystem services.

Our increasing understanding of wetland functions and values since the middle of the twentieth century has led to changes in law to accommodate advances in scientific understanding. These wetlands laws and policies, in turn, create a demand for wetlands science. Regulation writers, government officials, consultants, developers, agricultural agency personnel, land use planners, wildlife managers, and many others operate at the intersection of wetlands science and law. Wetlands scientists can identify whether a given area is regulated or not, what functions it performs, and how a wetland can best be conserved, restored, mitigated, or managed.

Changes in law, new decisions by the federal and state courts, and growing experience in wetlands conservation, demand that wetlands scientists pursue an ongoing engagement with the world of law. Trying to conserve and restore wetlands with unchanging laws would be like a medical doctor trying to heal patients using only medical textbooks and instruments from the past: it would be better than having no text or technology at all, but it would not reflect the best practices that science can bring to bear. As new challenges arise (such as climate change's effect on freshwater systems), and new knowledge arrives (such as the contribution of small and isolated wetlands to nutrient cycling or animal life history), so too laws and policies will need to be able to respond. In the Mid-Atlantic Region (MAR), wetlands laws and policies must be able to adapt as our understanding changes.

13.2 Historical Review of Wetland Exploitation, Conservation, and Protection

When considering the status of wetlands protection in the twenty-first century, it is instructive to examine the evolving path that brought us to the current conservation and regulatory regime. The following summary generalizes over the past century with respect to wetlands drainage, conservation, protection, and awareness. The names for the early phases of conservation history were, in part, devised by James Trefethen in his book, *An American Crusade for Wildlife* (Trefethen 1975), but are pertinent to the wetlands story. As can be seen, concerns for wetlands have often paralleled other phases of environmental awareness and protection. Relevant laws, regulations, and actions are listed in Table 13.1.

Before 1890—Period of Exploitation

- Massive drainage of wetlands due to Swamp Land Acts (1849, 1850, 1860)

1890–1910—Period of Conservation

- Large parcels federally protected for natural and cultural resource values
- Pelican Island, Florida established as first National Wildlife Refuge (wading birds) under Executive Order by President Theodore Roosevelt
- Dam building and public works seen as part of conservation

Table 13.1 Relevant federal laws, orders, regulations, guidance, and programs influencing protection of wetlands in the Mid-Atlantic Region, listed chronologically (see Mitsch and Gosselink (2007), Table 14.1 and text for a more extensive list)

| Item or action | Year | Responsible organization |
|---|------------------|--|
| Rivers and Harbors Act | 1899 | U.S. Army Corps of Engineers |
| Migratory Bird Treaty Act(s) | 1913, 1916, 1918 | U.S. Fish and Wildlife Service |
| Fish and Wildlife Coordination Act | 1934 | Federal water resource agencies |
| National Environmental Policy Act | 1969 | All Federal agencies and Council on Environmental Quality |
| Convention on Wetlands of International Importance (Ramsar Convention) | 1971 | International Contracting Parties |
| Federal Water Pollution Control Act amended as Clean Water Act | 1972, 1977, 1987 | U.S. Army Corps and USEPA |
| Coastal Zone Management Act | 1972, 1990 | U.S. Dept. Commerce—NOAA |
| Endangered Species Act | 1973 | U.S. Fish and Wildlife Service/NOAA |
| Executive Order 11990—Protection of Wetlands | 1977 | All federal agencies |
| Executive Order 11988—Protection of Floodplains | 1977 | All federal agencies |
| Food Security Act Swampbuster provisions | 1985 | U.S. Dept. Agric., Natural Resource Conservation Service |
| North American Waterfowl Management Plan | 1986 | U.S. Fish and Wildlife Service and Canadian Wildlife Service |
| Wetlands Delineation Manuals | 1987, 1989, 1991 | All federal agencies |
| No net loss policy | 1988 | All federal agencies |
| North American Wetlands Conservation Act | 1989 | All federal agencies |
| Wetlands Reserve Program | 1991 | U.S. Dept. Agric., Natural Resources Conservation Service |
| Compensatory Mitigation for Losses of Aquatic Resources (Mitigation Rule) | 2008 | U.S. Army Corps and USEPA |

1910–1940—Period of Maturing Conservation (Science begins to inform conservation)

- Enactment of migratory bird protection laws with an emphasis on waterfowl
- Enactment of “Duck Stamp Act” (1934) providing a source of funds for wetland acquisition for National Wildlife Refuges
- Establishment of soil conservation service, techniques professionalizing conservation, and education on private lands

1940–1960—Period of Industrialization

- Economic development
- Public subsidy of wetland loss
- Public drainage projects

1960–1990—Period of Environmental Awareness (& Wetlands Inventory)

- Documented substantial historic losses in wetland area and function
- Passage of Clean Water Act (CWA) in 1972 with provisions for wetland protection
- Legal definition of wetlands formulated; delineation manual developed
- Recognized functions and values incorporated into federal and state regulations
- Recognition of wetlands in federal Farm Bill legislation
- Developed Water Quality Standards, primarily for streams and rivers
- Wetland classification system (NWI) implemented and mapping initiated
- Early standardization of wetlands assessment with the Federal Highway Method (Adamus 1983) and subsequent state efforts
- Founding of Society of Wetland Scientists (1980) and Association of State Wetland Managers (1983)
- Regulatory and education efforts advanced to increase protection of wetlands

1990–2005—Period of Environmental Maturation (& Stewardship)

- Delineation methodology standardized by returning to a modified 1987 manual
- Development of CWA 404 procedures and standards, coordination between EPA and Corps of Engineers
- Watershed reporting (CWA Sections 305(b) and 303(d) lists) of stream condition
- Wetlands recognized and considered as a heterogeneous resource
- Attention to achieving “no net loss” of regulated wetlands under federal policy
- Development and spread of wetland mitigation banks to provide compensatory mitigation for permitted wetland losses
- Developed hydrogeomorphic (HGM) approach (classification, reference, and functional assessment), and other assessment approaches.
- Retrenchment in CWA coverage of wetlands under Supreme Court decisions (2001, 2006)

2005–2010—Period of Wetlands Monitoring and Assessment

- Wetland definitions and delineation methodology remained essentially unchanged, but federal jurisdictional determinations far more complex
- Issuance of Compensatory Mitigation for Losses of Aquatic Resources (Mitigation Rule) to address wetlands and other aquatic ecosystems by watershed
- Implementation of assessment approaches and indication to assess condition over large geographic areas (regions, states, watersheds)
- Concept of ecosystem services begins to replace terms of functions and values
- Planning for the first National Wetlands Condition Assessment (2011 launch)
- Development and implementation of Water Quality Standards for wetlands by states progresses
- Watershed reporting of wetland condition by states to USEPA progresses (due by 2014)
- Potential effects of wetlands on climate change, and impacts on wetlands by climate, becomes an issue of global concern

13.3 Regulatory Programs

13.3.1 Introduction

The goals of most regulatory programs affecting freshwater wetlands include public health, hydrological and ecological integrity, habitat conservation, water supply, and others. The federal CWA declares a goal to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters,” for example (33 U.S.C. §1251(a)). (U.S.C. stands for “United States Code,” the official compilation of federal laws enacted by Congress. The CWA is found in volume 33). Various state laws are aimed at protecting the “waters of the state,” or specifically at preventing pollution or degradation. Typical forms of regulation include permit requirements for certain activities (such as dredging or filling of wetlands), but just as typically contain exceptions and exclusions (frequently for practices associated with agriculture, e.g.). The types of wetlands subject to regulation vary as well, and so it is important to examine legal definitions closely.

13.3.2 Federal Regulation

Federal regulation has dominated the wetlands regulatory landscape since the early 1970s. The key provisions are discussed below, but the field is complex, involving numerous federal agencies, several major laws, and hundreds of pages of detailed regulations, and many hundreds more of interpretive “guidance” documents and standard operating procedures. Federal court cases also affect the interpretation and application of the laws that regulate activities in wetlands (Strand and Rothschild 2009). Both the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers maintain useful websites addressing the relevant regulatory programs.

13.3.2.1 Clean Water Act §404

Federal laws provide a substantial part of the regulatory protections for wetlands, which may also receive some protection from state and local governments. The Federal Water Pollution Control Act, more generally known as the Clean Water Act (or CWA), establishes the primary federal framework for regulation of water quality. The CWA is important in the freshwater wetlands context because it requires those seeking to fill wetlands to first obtain a permit from the Army Corps of Engineers under regulations jointly established by the Corps and the Environmental Protection Agency (33 U.S.C. §1344).

The CWA applies to “navigable waters,” defined as “waters of the United States, including the territorial seas.” 33 U.S.C. §1362(7). Such waters have for decades been interpreted to include many, if not most, wetlands. Indeed, the

Supreme Court has ruled that waters need not be “navigable in fact” in order to come within the Act’s jurisdiction, and that waters and wetlands adjacent to navigable waters are covered by the Act. *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985).

However, following two Supreme Court decisions in the early part of the twenty-first century, the CWA’s ability to regulate activities affecting isolated wetlands, ephemeral and intermittent streams, and some headwaters streams, and their associated wetlands is now in considerable doubt. In 2001, the Supreme Court decided *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), commonly known as the SWANCC case. In a five-to-four ruling, the Court concluded that Congress had not intended the federal CWA to reach “isolated ponds, some only seasonal” that were located wholly within one state, where the sole basis for federal jurisdiction was their use as a habitat by migratory birds. After SWANCC, waters and wetlands deemed to be isolated are, for the most part no longer protected by the CWA.

Five years later, the Supreme Court again addressed the jurisdictional scope of the CWA, in *Rapanos v. United States*, 547 U.S. 715 (2006). This awkwardly divided decision lacked a majority opinion. *Rapanos* established two different rules for determining whether wetlands (and, perhaps, other waters) are jurisdictional for purposes of the federal Act. Justice Scalia’s opinion (on behalf of four justices) would find CWA coverage for a wetland only where the wetland has a *continuous surface connection* with a *relatively permanent* body of water that is connected to traditional navigable waters. Justice Kennedy’s concurring opinion in *Rapanos* would find CWA coverage for wetlands where there is a *significant nexus* between the wetlands and downstream waters—i.e., where the wetlands, “either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as ‘navigable.’” Thus, the Corps of Engineers and EPA are required to engage in complex jurisdictional determinations, in addition to determining whether a specific water meets the “wetland” definition in the regulations. Numerous lower court decisions in the years after *Rapanos* have indicated that wetlands and waters are subject to CWA jurisdiction if they meet *either* the adjacent surface connection or the significant nexus test (Environmental Law Institute 2012). Based on their interpretation of the Court’s multiple opinions (there were actually five separate opinions in *Rapanos*, none commanding a majority), the Corps and EPA issued a joint guidance document in 2007, finalized in 2008, to guide their field offices in applying the CWA (USEPA and US Army Corps 2008b). In 2011, the Corps and EPA proposed an updated guidance, further interpreting the jurisdictional tests (USEPA and US Army Corps 2011). The 2008 guidance will be used until an updated version is adopted.

In general the agencies will assert jurisdiction over wetlands and waters as follows:

The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to traditional navigable waters

- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months)
- Wetlands that directly abut such tributaries

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with traditional navigable water:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters.
- Significant nexus includes consideration of hydrologic and ecologic factors (USEPA and US Army Corps 2008b)

Section 404 of the CWA establishes a permit program, administered by the U.S. Army Corps of Engineers under guidelines developed by the EPA, to regulate discharges of dredged and fill material into the waters of the United States (including wetlands that meet the definitions) 33 U.S.C. §1344. However, the CWA exempts from 404 permitting “the discharge of dredged or fill material from normal farming, silviculture, and ranching activities,” as well as maintenance of certain structures, maintenance of drainage ditches, construction or maintenance of farm roads or forest roads or temporary roads for moving mining equipment constructed in accordance with specified best management practices.

Federal regulations provide detailed requirements for avoiding unnecessary fills where alternatives exist, minimization of remaining impacts, and compensatory mitigation of any unavoidable impacts. Avoidance, minimization, and compensatory mitigation are known as the mitigation “sequence.”

Corps of Engineers Section 404 permits are issued by the relevant Corps district (there are 38 across the country), and are subject to a technical review process and opportunity for public review. Section 404 permits can be applied for and issued as *individual* permits; these undergo individual review by the district, including a jurisdictional determination if needed, and application of the federal standards for review and mitigation. There is also a process under the CWA that allows certain low-impact

routine activities to be addressed by a general permit that does not require individual review. The Corps has adopted (and every 5 years must review and readopt) “nationwide permits” that establish standard conditions for activities that occur frequently and for which the Corps has determined that activities are “similar in nature, will cause only minimal adverse environmental effects when performed separately and will have only minimal cumulative adverse effect on the environment.” 33 U.S.C. §1344(e). Corps districts may also adopt *general* permits to address certain kinds of common activities, including statewide programmatic general permits to improve coordination with state permitting programs, for example. The Corps estimates that it processes 4,500–5,000 individual permits each year, while about 40,000 regulated actions are covered by nationwide permits and another 45,000 by general permits including statewide programmatic general permits.

Section 404(c) authorizes EPA to prohibit, restrict, or deny the discharge of dredged or fill material at a specific site whenever it determines, after notice and opportunity for public hearing, that such use of the site would have an “unacceptable adverse effect” on municipal water supplies, shellfish beds, and fishery areas (including spawning and breeding areas), wildlife, or recreational areas. This “veto” authority, used only on rare occasions, provides a regulatory backstop to Corps actions that EPA believes will not be consistent with environmental conservation of the waters of the United States.

States are authorized to “assume” the 404 permit program and operate in lieu of the Corps upon meeting appropriate conditions, but only New Jersey and Michigan have done so. States that have not assumed the 404 program nevertheless often coordinate their 401 review (see below) and often coordinate their independent administration of their own state-enacted wetlands protection laws with the Corps of Engineers permit program.

Because the Section 404 permit is a federal action, permit actions by the Corps are subject to environmental impact review under the National Environmental Policy Act (NEPA), discussed below. Being federal, this permit may also trigger consultation under the Endangered Species Act (ESA), also discussed below.

13.3.2.2 Clean Water Act §401

Section 401 of the CWA requires states or interstate agencies with jurisdiction to review applications for federal permits and licenses and to certify that the federally authorized actions will not violate adopted state water quality standards. 33 U.S.C. §1341. No federal license or permit may be granted until the state certification has been obtained, or waived by state inaction.

This “401 certification” process gives states an opportunity to review proposed permitting actions subject to Corps of Engineers 404 permits. Where relevant water quality standards apply, states can use their certification authority to deny or impose conditions upon approval of the federal permit.

In addition to review of individual permits, states also apply Section 401 review and certification to the adoption of both nationwide permits and general permits,

and may deny certification to any that violate state water quality standards. As a result, certain “nationwide permits” adopted by the Corps do not apply in specific states where certification has been denied, or may apply only with conditions imposed by the state.

About half the states use their 401 certification programs as their sole or primary means of regulating activities in freshwater wetlands. However, because Section 401 applies only to activities where there is a federal permit or license, this authority cannot be used if the water or wetland in question is not subject to federal CWA jurisdiction. In the MAR, only Delaware, West Virginia, and the District of Columbia depend primarily on their 401 programs to address freshwater wetlands; the other states apply 401 but also have their own freshwater permitting programs under state laws (discussed below).

13.3.2.3 Rivers and Harbors Act §10

In addition to the Clean Water Act 404 program, the Army Corps of Engineers also has significant authority over maintaining water transportation and navigation of the nation’s waterways. In “any of the waters of the United States,” an obstruction to navigation, such as a pier, jetty, or other structure, or the modification of the course, condition or capacity of a waterway or navigation terminus is prohibited unless it is authorized by permit from the Corps. 33 U.S.C. §403 (originally Section 10 of the Rivers and Harbors Act of 1899). This Section 10 permit is also subject to Section 401 certification by states. But, unlike the Section 404 program, the Section 10 program cannot be “assumed” by states, and is administered solely by the Corps.

13.3.2.4 Executive Orders

Several Executive Orders, issued by the President to direct the discretionary actions of federal agencies, have been significant in addressing wetlands. Executive Orders are not enforceable by outside parties, but serve to shape the actions of executive agencies. Executive Order 11990, “Protection of Wetlands,” issued in 1978 and amended in 1988, makes wetland protection a responsibility of all federal agencies. It directs that agencies “minimize the destruction, loss or degradation of wetlands, and ... preserve and enhance the natural and beneficial values of wetlands.” It also directs federal agencies, to the extent allowed by law, to avoid undertaking or providing assistance for new construction in wetlands unless there is no practicable alternative, and all practicable measures are taken to minimize harm.

Executive Order 11988, “Floodplain Management” requires federal agencies to evaluate the effects of their actions on and in floodplains, and to consider alternatives and minimize impacts. “Each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities” for acquiring, managing, and disposing of federal lands and facilities; providing federally undertaken,

financed, or assisted construction and improvements; and conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

Both of these orders can be used to encourage federal agencies to take actions (or avoid actions) that may not necessarily be compelled by regulations or permit provisions, but that result in better outcomes for wetland and floodplain areas.

13.3.2.5 Endangered Species Act

The ESA protects and requires the recovery of species listed as endangered or threatened. 16 U.S.C. §1533. Many species listed as threatened or endangered area wetland-dependent. Pursuant to Section 9 of the Act, it is illegal for any person to “take” any endangered species. 16 U.S.C. §1538. “Take” is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” 16 U.S.C. §1532 (Endangered plants are separately listed; however, listed plants enjoy lesser protections under Section 9).

Section 7 of the Act prohibits any federal agency from authorizing, funding, or carrying out any action that may jeopardize the existence of a listed species or result in the “destruction or adverse modification” of their critical habitat. It requires agencies to “consult” with the U.S. Fish and Wildlife Service (or National Oceanic and Atmospheric Administration for some species) to determine that the action will not jeopardize such species or habitat. The Section 7 consultation requirement frequently comes into play in connection with evaluation of a CWA Section 404 permit in an area with known occurrences of listed species. Because of the federal permit, the consultation requirement is triggered.

Since 1982, FWS and NOAA have had the authority under Section 10 to allow the taking of a listed species by nonfederal entities for activities that may cause incidental harm to a listed species, if the permittee agrees to develop a habitat conservation plan (HCP). 16 U.S.C. §1539(a). One of the conditions of the permit, known as a §10 “incidental take” permit, is that the applicant will, “to the maximum extent practicable, minimize and mitigate the impacts of such taking.” HCPs must identify the impact on the listed species, the steps the applicant will take to monitor, minimize, and mitigate those impacts, and the funding available to implement the plan. HCPs were first adopted primarily to allow individual projects to proceed with appropriate mitigation and safeguards. More recent HCPs have attempted to address broader-based regional planning issues and, in some cases, multiple species in one plan. An example of a HCP for the federally threatened bog turtle is presented in Chap. 9.

Many listed species have specific water needs (including for temperature and seasonal water quantity). When water usage or wetland modification is incompatible with those needs, the ESA can limit water use as well as limit modification of the wetland or aquatic habitat.

The ESA declares a policy to avoid water conflicts through federal-state cooperation. 16 U.S.C. §1531(c)(2). It also requires the Fish and Wildlife Service to consult with states “before acquiring any land or water, or interest therein, for the purpose of conserving” listed species. 16 U.S.C.1535.

13.3.2.6 National Environmental Policy Act

The NEPA of 1969 requires federal agencies to undertake a comprehensive assessment of any “major federal action significantly affecting the quality of the human environment” (42 U.S.C. §4332). Major federal actions include federal leases, permits, funding and other approvals as well as actions taken directly by the federal government. Issuance of a Section 404 or Section 10 permit is subject to NEPA. NEPA does not require a federal agency to select the environmentally preferable outcome, but does require that the decision maker develop the information that makes clear the environmental consequences of its action. NEPA is designed to produce “informed” decisions. The Corps of Engineers is responsible for carrying out NEPA responsibilities for its permit programs.

Under the Council on Environmental Quality’s NEPA regulations (40 CFR 1500–1508) Federal agencies must prepare an environmental impact statement (EIS) detailing the impacts of the proposed action, any adverse environmental effects, alternatives to the proposed action, the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible and irremediable commitments of resources involved in the proposed action should it be implemented. If an EIS is required, the lead agency will hold a public scoping meeting to identify issues and then will prepare a draft EIS, accept public comments, and prepare a final EIS.

The regulations provide for preparation of a briefer Environmental Assessment (EA) by an agency if it is uncertain whether an EIS will be needed. EAs that result in Findings of No Significant Impact are frequently used by federal agencies to determine not to prepare an EIS, often by identifying mitigation that will keep the environmental effects below the threshold of significance. Federal agencies may adopt “categorical exclusions” (CEs) for certain categories of actions they have determined “do not individually or cumulatively have a significant effect on the human environment.” CEs can only be adopted after development of a record, public comment, and approval by CEQ.

NEPA review is generally used to integrate compliance with other environmental provisions, including the ESA, federal Executive Orders, and state and local environmental laws.

13.3.2.7 Coastal Zone Management Act Federal Consistency

The Coastal Zone Management Act (CZMA) establishes a voluntary program within the U.S. Department of Commerce (and implemented by the National Oceanic and Atmospheric Administration) that offers cost-sharing grants to coastal states, including the Great Lakes states and US territories, to develop and implement coastal zone management programs (16 U.S.C. §§1453, 1455). In addition to these financial incentives, the CZMA directs the federal government to delegate “federal consistency review” authority to each coastal state that has a NOAA-approved coastal zone management program (16 U.S.C. §§1454, 1356). Federal

consistency review empowers states to review proposed federal agency activities (including permits and licenses) and to ensure that they are consistent with the enforceable policies of the state's coastal program. This power of review, the financial incentives, and the voluntary nature of the CZM Program have led 34 of the 35 eligible states and territories to participate in the Program, including all of the Mid-Atlantic states.

The statutory authority of the CZMA is confined to the "coastal zone" as defined by the state. States have the authority to designate the inland boundary of their coastal zone, which varies by state. Regardless of the size of the state's coastal zone, federal consistency review applies to any federal activity that may affect the coastal zone, whether or not the activity occurs in it. Activities performed by, on behalf of, requiring a permit from or receiving financial assistance from a federal agency, that are reasonably likely to affect the coastal zone, must comply with the enforceable state policies identified in the state's NOAA-approved coastal zone program.

Thus, consistency review will apply to Section 404/10 permits issued by the Corps within the coastal zone, as well as to activities supported by federal agencies that affect resources within the coastal zone, including freshwater wetlands.

13.3.2.8 Swampbuster Regulation

In 1985 Congress added provisions to the Farm Bill providing that persons who "converted" wetlands to produce agricultural commodity crops would become ineligible for federal agricultural payments and related benefits. This "swampbuster" provision has been carried forward, adjusted, and strengthened in subsequent Farm Bill legislation (16 U.S.C. §3821). Some of the definitions used in the swampbuster program (such as "prior converted cropland" and "farmed wetlands") have influenced the CWA Section 404 program and definitions. In general, however, it is important to recognize that one of the regulatory influences affecting wetlands on agricultural lands is the eligibility for agricultural support programs. However, if a farmer does not receive federal agricultural benefits, swampbuster will have no regulatory effect on wetland activities.

Because the swampbuster program first appeared in the 1985 Farm Bill, "prior converted croplands" are lands that were formerly wetlands and were cropped before December 23, 1985, and no longer meet wetland criteria. These lands are not subject to swampbuster restrictions. "Farmed wetlands" are wetlands that were cropped or altered prior to December 23, 1985, but that continue to meet wetland criteria. These lands may continue to be farmed in the same way they were before, with exceptions allowing further changes that produce only "minimal effects" on wetland functions. If a farmer becomes ineligible under swampbuster, but the wetland conversion was in good faith and without intent to violate the law, the law allows the farmer to engage in restoration within 1 year to avoid liability.

13.3.3 State Wetlands Regulation

States play a significant role in the regulation of activities in wetlands. Many of them operate their own permit programs, and may apply these programs to cover waters and wetlands that are not subject to federal regulation, as well as those that are. States also play a role in the review of federal permits for consistency with water quality standards as discussed below.

13.3.3.1 State Regulation Dependent on CWA Section 401

Nationally, about half the states rely solely or primarily on their Section 401 certification powers to protect freshwater wetlands—meaning that their ability to regulate, condition, or deny activities in these wetlands depends upon whether the Corps of Engineers has jurisdiction. In the MAR, however, most of the states have state laws that directly regulate activities in some or all freshwater wetlands, and hence, are not limited to Section 401 reviews (Environmental Law Institute 2008b, 2011).

Delaware and West Virginia rely on 401 in the absence of state freshwater wetlands laws. However, West Virginia has occasionally asserted jurisdiction over wetlands under its general water quality laws even where the Corps has found no jurisdiction under *SWANCC*. North Carolina also relies on Section 401 for freshwater wetlands, but in the aftermath of the *SWANCC* decision by the U.S. Supreme Court, its legislature modified North Carolina's existing 401 program to apply similar standards (under state law) to geographically isolated wetlands that fall outside federal jurisdiction. Essentially, North Carolina has enacted a limited freshwater wetlands program to pick up waters that are not covered by Corps permitting (Environmental Law Institute 2008b).

13.3.3.2 State Regulation Implementing State Wetland Laws

More common in the MAR are state laws that establish permit programs that directly regulate activities in freshwater wetlands. These permit requirements apply whether or not a Corps permit is needed, and in fact, many activities require that permits be issued both by the Corps (under CWA 404 and subject to state 401 certification) and by the state environmental agency (under state law). In most states the review processes are coordinated in order to avoid duplication of effort, and indeed, often there is a common application that serves both purposes even though the decisions are independent.

There are gaps in state regulation, however. Delaware has no freshwater wetlands permitting law. New York regulates activities in freshwater wetlands that are 5 ha (12.5 acres) in size or larger, and certain other wetlands. West Virginia lacks a wetlands regulatory program but occasionally invokes its water quality law to address activities in wetlands that escape Corps regulation. Table 13.2 reviews state regulatory programs for wetlands in the MAR.

Table 13.2 Freshwater Wetlands Programs in Mid-Atlantic states (Environmental Law Institute 2011, used by permission)

| State | Authority | Waters covered |
|---|---|--|
| Permitting Program Covering Most Freshwater Wetlands in the State | | |
| New Jersey | Freshwater Wetlands Protection Act N.J. Stat. Ann. tit. 13:9, ch. 9B | Freshwater wetlands and their buffers Freshwater wetland definition similar to federal definition (N.J. STAT. ANN. §13:9B); The Pinelands Protection Act (N.J. Stat. Ann. §§13:18A-1), Hackensack Meadowlands Reclamation and Development Act (N.J. Stat. Ann §13:17-9), and Highlands Water Protection and Planning Act (N.J. Stat. Ann. §§13:20-1) provide additional protection for freshwater wetlands |
| Pennsylvania | Dam Safety and Encroachments Act 32 Pa. Cons. Stat. §693.3 | Watercourses, streams, or bodies of water and their floodways wholly or partly within or forming part of the boundary of the state. Bodies of water include any natural lake, pond, reservoir, swamp, marsh, or wetland |
| Virginia | State Water Control Law and Nontidal Wetlands Act Va. Code Ann. §62.1-44.5 | State waters and nontidal wetlands Covers both waters that are regulated under the CWA and activities in nontidal wetlands that are not subject to regulation under the CWA. Federal wetland definition (VA. Code Ann. §62.1-44.3) |
| Permitting Program for Freshwater Wetlands, but with defined exceptions based on wetland type, size, or class | | |
| Maryland | Nontidal Wetlands Protection Act Md. Code Ann. [Envir.] §5-902(b) | All non-tidal wetlands. MD. Code Ann., Envir. §5-901(h)(1). However, isolated wetlands of less than 1 acre and cumulative impacts of less than 5,000 square feet are exempt from permit and mitigation requirements, but require a letter of exemption (Md. Code Ann., [Envir.] §5-906) |
| New York | Freshwater Wetlands Act N.Y. Envntl. Conserv. Law §§24-0101 | Wetlands outside the Adirondack Park greater than 12.4 acres in size and those less than 12.4 acres if they are deemed of “unusual local importance,” including a 100 ft buffer. Within the Adirondack Park boundaries, wetlands greater than 1 acre in size or located adjacent to a body of water, including a permanent stream, with which there is free interchange of water at the surface. Jurisdiction over wetlands that are less than 12.4 acres in size and not of “unusual local importance” is up to the discretion of local governments. Definitions vary for wetlands outside and within the Adirondack Park. Wetlands are defined as lands and submerged lands commonly called marshes, swamps, sloughs, bogs, and flats supporting aquatic or semiaquatic vegetation (with further provisions for what constitutes wetland vegetation) |
| Water Resources Law | N.Y. Envntl. Conserv. Law §15-0505 | Navigable waters of the state, includes marshes, estuaries, tidal marshes, and wetlands that are adjacent to and contiguous at any point to any of the navigable waters of the state and that are inundated at a mean high water level or tide. Wetland definition included in the Freshwater Wetlands Act (N.Y. Envntl. Conserv. Law §§24-0101) |

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| Permitting Program for Isolated Wetlands | | | The state regulatory definition of wetlands states that “wetlands classified as waters of the state are restricted to waters of the United States, as defined by the Federal Code of Regulations.” (NC Admin Code 02T.0103(46)). However, North Carolina regulates isolated wetlands pursuant to the “discharges to isolated wetlands and isolated waters” regulations (15A NC Admin Code 02H.1301) adopted in October, 2001 |
| North Carolina | Control of Sources of Water Pollution, Discharges to Isolated Wetlands and Isolated Waters | N.C. Gen. Stat. 143–215.1, 15A NC Admin. Code 02H.1301 | The Isolated Wetland Law establishes three tiers of regulations based on wetland categories, defined according to their ecological significance and size. The three categories are associated with different levels of review, different criteria for approval or disapproval of a permit, and different mitigation requirements. There are no minimum size thresholds for wetlands protected under the Isolated Wetland Law. Statute uses federal wetland definition |
| Ohio | Isolated Wetland Law | Ohio Rev. Code Ann. §86111.02 | Under West Virginia State Code (§§22-11-3(23)—definition of waters of the state) isolated wetlands are considered wetlands of the state. Applicants must obtain any necessary approvals from the state prior to conducting activities in isolated wetlands (see http://www.dep.wv.gov/dmr/handbooks/Documents/401%20-%20Cert%20-%20Revised401%20-%2009-08-08.pdf , Personal communication with W. Va. Department of Environmental Protection, Division of Water and Waste Management, to EJJ staff, Oct. 15, 2010) |
| West Virginia | No state wetlands law, but isolated wetlands regulated case-by-case | Water Pollution Control Act | W. Va. Code §22-11 |

State wetland laws and programs sometimes specify avoidance and minimization requirements for their state freshwater wetland laws like the federal 404 program. But these vary from state to state. Maryland, for example, requires the applicant to demonstrate that the activity is water dependent and that there are no practicable alternatives, as well as that the activity has minimized the alteration or impairment of the wetland. Pennsylvania requires the showing of water-dependence and no practicable alternative for an activity affecting an “exceptional value” wetland, but applies a lesser standard for other wetlands (where avoidance or reduction of adverse impacts to the maximum extent practicable substitutes for the requirement of water dependency).

States with regulatory programs require compensatory mitigation, and many of them have embraced mitigation banks and other compensatory mitigation programs. Many have also articulated their own goals of “no net loss” or net gain of wetlands. Some states, such as Maryland, have had little demand for compensatory mitigation because of regulatory programs that strongly emphasize avoidance and minimization. Others have supported thriving wetland banks or in-lieu fee programs.

Nationwide about one third of the states have environmental impact assessment laws (so-called “little NEPAs”). These state laws often address decisions that are not subject to review under the federal NEPA. However, most state little NEPAs are limited in focus to a very small subset of state-funded or state-sponsored activities. Only six states (only New York in the MAR) have little NEPAs that apply to a significant set of private activities conducted under state or local permits and/or to local government decisions: California, Washington, New York, Massachusetts, Hawaii, and Montana. Unlike the federal NEPA, most of these state laws have substantive requirements directing the selection of environmentally preferable outcomes unless otherwise justified, and directing implementation of feasible mitigation.

13.3.4 Local Regulation

Local governments can regulate wetlands in some states, and local governments can regulate the upland areas surrounding wetlands (“wetland buffers”) in virtually all states. As many as 5,000 local governments have adopted some regulatory measures to protect at least some wetlands within their borders (Kusler 2003). While federal and state regulations require developers and others to obtain permits, state and federal coverage varies substantially by wetland type, acreage, activity, and potential impact.

Where federal and state regulatory programs do not apply or where jurisdiction is doubtful, local governments can be a supplemental source of protective authority if they have enacted suitable protective provisions. In some states, particularly in New England, state-level wetland regulation is delegated to local wetland boards to administer. And, even where federal or state programs provide for permitting of activities in wetlands, local governments still have an interest in ensuring the compatibility of the land use that occurs on and around these lands in order to maintain control of their patterns of development, community character, tax base, demand for services, and response to hazards. Many local governments have used their zoning authorities and

their land use development provisions to ensure that development activities do not occur within wetland buffer areas (Environmental Law Institute 2008a).

Local government regulations tend to follow four approaches: (1) they may apply to wetlands and waters either as defined in the ordinance or in the “waters of the state” definition for the applicable state; (2) they may define specific wetland types or classes of wetlands for local protection; (3) they may apply to riparian corridors and floodways (focusing on flood and stormwater control); or (4) they may cover specifically mapped wetlands identified on a reference map (including a local zoning map or overlay district, for example) (Environmental Law Institute 2008a).

A number of local governments throughout the MAR have adopted wetland ordinances, or wetland buffer requirements to protect these resources. These include Baltimore County, Maryland, Bensalem Township, Pennsylvania, and many others. Numerous model ordinances are available (Center for Watershed Protection 2008). Frequently ordinances will cover what activities are prohibited, permitted, or conditionally permitted; what is the size of a required buffer or setback from a protected wetland or stream; what performance standards, if any, apply; and what documentation must be submitted to demonstrate compliance (Environmental Law Institute 2008a).

Approaches to wetland and wetland buffer protection may include adoption of zoning districts where wetlands and waterways are present. Activities in these districts are more closely regulated, with requirements for setbacks of buildings and parking lots from the margins of waters and wetlands, requirements for mapping and management, and limitations on impervious surface. Other approaches include environmental protections built into subdivision ordinances and construction permits. These aim to accommodate desired development or redevelopment while applying methods that protect the key resources of the municipality (McElfish 2004).

13.3.5 Compensatory Mitigation: A Closer Look

Under the CWA’s §404 program, Congress assigned the day-to-day authority for issuing permits to the Corps, but assigned responsibility for developing the environmental criteria for permitting (the §404(b)(1) Guidelines) to the EPA. In 1980, the §404(b)(1) Guidelines were adopted as regulations. In 1986, the Corps adopted a comprehensive mitigation policy that applied to permit actions under §404 and under §10 of the Rivers and Harbors Act. Compensatory mitigation guidelines issued by the Department of the Army and EPA in 1990 further set out the process for mitigation. These prescribed that mitigation for impacts to wetlands and aquatic resources must be pursued in sequence. The sequence is: (1) avoidance, (2) minimization, and (3) compensation for impacts that cannot be avoided or minimized. In 1995, the Corps issued guidance on wetland mitigation banks, addressing how they should be established, approved, and monitored in providing compensatory mitigation. Finally, in 2008, the Corps and EPA adopted compensatory mitigation regulations.

The Compensatory Mitigation Rule explicitly preserves the mitigation sequence. In keeping with past practice, the Rule states that compensatory mitigation may be achieved through the restoration, enhancement, establishment, and “in

certain circumstances” preservation of similar aquatic resources. It specifies, however, that restoration should generally be the first option considered, and that preservation may only be used when certain specific criteria are met. The Rule creates standards for measuring compensatory mitigation performance against ecological performance standards and requires mitigation site selection to be carried out using a “watershed approach.” The Rule also includes requirements for financial assurances, permanent protection, and other measures intended to ensure the long-term conservation and management of compensatory mitigation sites. In general, compensation must be at a ratio of greater than 1:1.

A principal objective of the Rule is to create equivalent standards for all compensatory mitigation mechanisms, extending many of the requirements created for mitigation banks under the 1995 Wetland Banking Guidance to in-lieu fee programs and permittee-responsible mitigation.

Wetland mitigation banks are entities that are established to sell wetland credits to permittees needing to meet compensatory mitigation obligations. Banks are approved by an interagency review team and must meet certain performance standards and procedural requirements. In-lieu fee programs are similar, but may not necessarily have the mitigation in place or even all the mitigation sites designated in advance; however in-lieu fee programs must also guarantee performance of mitigation and long-term management, like the banks. Permittee-responsible mitigation is the traditional approach, where the permit applicant found a mitigation site (or performed the mitigation on-site) and conducted the mitigation for the specific project.

While under the 2008 Rule, the mitigation plan requirements are not identical for all three mitigation types, they are, broadly stated: “objectives; site selection criteria; site protection instruments (e.g., conservation easements); baseline information (for impact and compensation sites); credit determination methodology; mitigation work plan; maintenance plan; ecological performance standards; monitoring requirements; long-term management plan; adaptive management plan; and financial assurances.”

Due to perceived advantages of mitigation banking over in-lieu fee programs and permittee-responsible mitigation, the Rule institutes an overall preference for use of mitigation banks to fulfill Section 404 compensatory mitigation obligations. Mitigation banking is given the highest preference under the Rule because “development of a mitigation bank requires site identification in advance, project-specific planning, and significant investment of financial resources that is often not practicable for many in-lieu fee programs.” Mitigation banks are additionally preferred over permittee-responsible mitigation because banks “typically involve larger, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-responsible mitigation.” In-lieu fee mitigation gets the second preference, with permittee-responsible mitigation being last. Corps district engineers are given authority to alter the Rule’s preference when other forms of compensation are deemed ecologically advantageous (USEPA/Corps of Engineers 2008a).

In the most recent national survey, prior to the Rule, Corps districts reported there were 405 approved mitigation banks. This represented an 85% increase in the number of approved banks in 4 years and a 780% increase in the number of banks

in 14 years (Environmental Law Institute 2006). The number of banks has continued to rise since the 2008 Compensatory Mitigation Rule.

Compensatory mitigation under Section 404 commands a large outlay of funds, in many respects dwarfing the conservation outlays of state and federal agencies. It is important, therefore, to ensure that mitigation projects (banks, in-lieu fee program) are well targeted. In a 2007 report, the Environmental Law Institute determined that private and public expenditures for such compensation under Section 404 amounted to \$2.9 billion annually in the United States (Environmental Law Institute 2007).

Regulatory Definitions (33 CFR 328.3)

(a) The term *waters of the United States* means

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide
2. All interstate waters including interstate wetlands
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purpose by industries in interstate commerce
4. All impoundments of waters otherwise defined as waters of the United States under the definition
5. Tributaries of waters identified in paragraphs (a) (1–4) of this section
6. The territorial seas
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1–6) of this section
8. Waters of the United States do not include prior converted cropland ... Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States

(b) The term *wetlands* means those 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

13.4 Landowner Incentives and Public Protection Programs

Activities in wetlands are not only subject to regulation. They are also affected by numerous governmental programs incentives and mechanisms designed to encourage conservation, restoration, and maintenance of wetland functions.

Among these are programs in the “conservation titles” of the federal “Farm bill” legislation. These have changed names and forms over time, but often consist of lease payments and/or technical assistance or cost-share funds. The Wetlands Reserve Program allows farmers to offer to conserve and maintain wetlands in exchange for rentals from the U.S. Department of Agriculture, which may support permanent easements (agreements to not change the use from wetlands), 30-year easements, or 10-year restoration and cost-share agreements (16 U.S.C. 3837–3837f). The Wetlands Reserve Program is highly dependent on the availability of sufficient federal funds to support easement and activities on lands volunteered for participations in the program. In 2008, the Farm Bill added the Wetlands Reserve Enhancement Program, to achieve additional benefits from the conserved wetlands in collaboration with participating states.

In addition to the WRP, wetlands conservation is supported by publicly funded programs like the North American Waterfowl Management Plan and North American Wetlands Conservation Act, Partners for Fish and Wildlife, the Wildlife Habitat Incentives Program, the Environmental Quality Incentives Program, and others. Wetlands are also protected through direct land acquisitions by the U.S. Fish and Wildlife Service and state agencies. The Land and Water Conservation Fund Act of 1965, and the Duck Stamp Act, along with Pittman-Robertson funding provide public dollars used for conservation of wetlands, including lands important to waterfowl.

Many private organizations, such as Ducks Unlimited, and The Nature Conservancy, are engaged in wetlands conservation through acquiring easements on lands from private landowners and managing them for ecological purposes. Federal and state tax laws provide incentives for donations of easements (often allowing deduction of the value of the easement as a charitable contribution, and in some states allowing the value of the remaining land subject to the easement to be taxed at a lower rate for property tax purposes). Some states have set up state-managed land trusts to hold conservation easements (such as the Maryland Environmental Trust, and the Virginia Outdoors Foundation).

13.5 International Wetlands Protections

13.5.1 Migratory Bird Treaty

Although this book focuses on the MAR, there are connections to international aspects of wetlands protection and conservation. Historically, the Migratory Bird Treaty Act of 1918 (Migratory Bird Convention Act of 1917 in Canada), and the subsequent Migratory Bird Conservation Act of 1929 (authorized the acquisition

and preservation of wetlands as waterfowl habitat) and the Migratory Bird Hunting Stamp Act of 1934 (“Duck Stamp Act,” provided an additional source of funds to purchase habitat through the sale of stamps), provided international protection of waterfowl and their breeding, migratory, and wintering habitats between the United States and Canada. Other nations signed similar treaties at later dates. The result has been the incorporation of millions of hectares of wetlands, primarily into National Wildlife Refuges in the United States (>60 million ha in 551 units, <http://www.fws.gov/refuges/history/>) and Migratory Bird Sanctuaries in Canada (11.5 million ha in 92 units, <http://www.ec.gc.ca/ap-pa/default.asp?lang=En&n=EB3D54D1-1>). There are 50 National Wildlife Refuges in the MAR many of which include coastal wetlands, and a few conserving inland wetlands (<http://www.fws.gov/refuges/>).

13.5.2 Ramsar Convention on Wetlands of International Importance

An international treaty first adopted in 1971 in the Iranian city of Ramsar, now lists 1,953 Wetlands of International Importance in 160 nations (Contracting Parties) totaling over 190 million ha (<http://www.ramsar.org/>). Ramsar promotes “the wise use of wetlands,” but is not a regulatory body. Contracting parties are expected to establish wetland reserves, monitor and manage them, and submit reports every 3 years. Ramsar has been a boon to developing nations throughout the world by raising awareness about wetlands, especially where environmental laws and regulations are not well established.

In 1986 the United States became a party to the Ramsar Convention, with the first site approved in 1986. As of August 2011, there are 30 designated sites in the United States, of which 3 are in the MAR. These consist of about 110,000 ha in the coastal regions of Virginia, Delaware, and New Jersey, and overlap with some of the National Wildlife Refuges previously mentioned. More wetlands in the region and throughout the United States would certainly qualify, but submitting an application is a voluntary activity and perhaps, the significance of such a designation could be more widely encouraged.

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