Order Code RL33483

CRS Report for Congress

Wetlands: An Overview of Issues

Updated December 11, 2006

Jeffrey A. Zinn
Specialist in Natural Resources Policy
Resources, Science, and Industry Division

Claudia Copeland
Specialist in Resources and Environmental Policy
Resources, Science, and Industry Division

Congressional Research Service

Prepared for Members and Committees of Congress

Wetlands: An Overview of Issues

Summary

The 110th Congress, like earlier ones, may consider numerous policy topics that involve wetlands. The 109th Congress examined controversies such as applying federal regulations on private lands, wetland loss rates, implementation of farm bill provisions, and implications of court decisions affecting the jurisdictional boundaries of the federal wetland permit program. It considered almost 100 bills with wetlands provisions, but only enacted legislation reauthorizing the Partners for Fish and Wildlife Program (P.L. 109-294) and the North American Wetlands Conservation Act (P.L. 109-322). In the aftermath of Hurricanes Katrina and Rita, congressional interest focused on the role that restored wetlands could play in protecting New Orleans, and coastal Louisiana more generally, but no legislation was enacted, beyond FY2006 appropriations and the offshore oil and gas revenue sharing bill (S. 3711) passed at the end of 2006. The Bush Administration exhibited its interest in wetland protection when it stated shortly after the 2004 election that restoration of 3 million wetland acres would be a priority.

The 110th Congress, like past Congresses, is also likely to involve itself in wetland topics at the program level, responding to legal decisions and administrative actions. Examples include implementation of Corps of Engineers changes to the nationwide permit program; redefining key wetlands permit regulatory terms in revised rules issued in 2002; and Supreme Court rulings in 2001 (in the *SWANCC* case) that narrowed federal regulatory jurisdiction over certain isolated wetlands, and in June 2006 (in the *Rapanos-Carabell* decision) that left the jurisdictional reach of the permit program to be determined on a case-by-case basis.

Wetland protection efforts continue to engender intense controversy over issues of science and policy. Controversial topics include the rate and pattern of loss, whether all wetlands should be protected in a single fashion, the ways in which federal laws currently protect them, and the fact that 75% of remaining U.S. wetlands are located on private lands.

One reason for these controversies is that wetlands occur in a wide variety of physical forms, and the numerous values they provide, such as wildlife habitat, also vary widely. In addition, the total wetland acreage in the lower 48 states is estimated to have declined from more than 220 million acres three centuries ago to 107.7 million acres in 2004. The long-standing national policy goal of no net loss has been reached, according to the Fish and Wildlife Service, as the rate of loss has been more than offset by net gains through expanded restoration efforts authorized in multiple laws. Many protection advocates say that net gains do not necessarily account for the changes in quality of the remaining wetlands, and also view federal protection efforts as inadequate or uncoordinated. Others, who advocate the rights of property owners and development interests, characterize them as too intrusive. Numerous state and local wetland programs add to the complexity of the protection effort.

This report replaces CRS Issue Brief IB97014, *Wetland Issues*, by Jeffrey A. Zinn and Claudia Copeland. It will be updated as warranted by developments.

Contents

Wetlands: An Overview of Issues

Recent Developments

The U.S. Fish and Wildlife Service released its most recent periodic survey of changes in wetland acreage in March 2006. Covering 1998 to 2004, it concluded that during this time period there was a small net gain in overall wetland acres for the first time in this survey. Others caution, however, that much of this gain was in ponds, rather than natural wetlands.

Hurricanes Katrina and Rita caused widespread alteration and destruction of wetlands along the central Gulf Coast in 2005. The net effect will likely be major permanent losses, especially along the coast. These losses will be partially offset as some destruction proves temporary and other new wetlands are created. The extent of change and loss continues to be documented by federal agencies and others.[1] The 109th Congress considered numerous legislative proposals that would have funded wetland restoration projects and activities to help lessen the impact of future hurricanes; many of these proposals may be reintroduced in the 110th Congress. During the final days of the session, the 109th Congress did pass S. 3711, which provides for sharing of revenues from offshore oil and gas extraction with coastal states; one of the purposes that these funds can be spent on is wetland restoration.

The 109th Congress considered many wetland bills, but only enacted legislation reauthorizing the Partners for Fish and Wildlife Program (P.L. 109-294) and the North American Wetlands Conservation Act (P.L. 109-322). Other topics that attracted congressional attention included legislation to reverse a controversial 2001 Supreme Court ruling concerning isolated wetlands, the *SWANCC* case (S. 912, H.R. 1356, the Clean Water Authority Restoration Act); legislation to narrow the government's regulatory jurisdiction (H.R. 2658, the Federal Wetlands Jurisdiction Act); other large-scale restoration efforts involving wetlands (the Everglades, for example); and appropriations for wetland programs. Concerning the *SWANCC* case, critics say that guidance issued by the Environmental Protection Agency (EPA) in 2003 interpreting the case for field staff went beyond what the Supreme Court's decision required and left many streams and wetlands unprotected from development. On May 18, 2006, the House adopted an amendment to H.R. 5386 to prohibit EPA from spending funds to implement this controversial guidance. (The 109th Congress did not take final action on this appropriations bill before adjourning *sine die* on December 9, thus carrying over this legislative activity to the start of the 110th Congress.)

---

[1] For additional information, see CRS Report RS22276, *Coastal Louisiana Ecosystem Restoration After Hurricanes Katrina and Rita*, by Jeffrey Zinn.

Federal courts continue to play a key role in interpreting and clarifying the limits of federal jurisdiction to regulate activities that affect wetlands, especially since the *SWANCC* decision. On June 19, 2006, the Supreme Court issued a ruling in two cases brought by landowners (*Rapanos v. United States*; *Carabell v. U.S. Army Corps of Engineers*) seeking to narrow the scope of the Clean Water Act (CWA) permit program as it applies to development of wetlands. In a 5-4 decision, a plurality of the Court held that the lower court had applied an incorrect standard to determine whether the wetlands at issue are covered by the CWA. Justice Kennedy joined this plurality to vacate the lower court decisions and remand the cases for further consideration, but he took different positions on most of the substantive issues raised by the cases, as did four dissenting justices, leading to uncertainty about interpretation and implications of the ruling.

Background and Analysis

Wetlands, with a variety of physical characteristics, are found throughout the country. They are known in different regions as swamps, marshes, fens, potholes, playa lakes, or bogs. Although these places can differ greatly, they all have distinctive plant and animal assemblages because of the wetness of the soil. Some wetland areas may be continuously inundated by water, while other areas may not be flooded at all. In coastal areas, flooding may occur on a daily basis as tides rise and fall.

Functional values, both ecological and economic, at each wetland depend on its location, size, and relationship to adjacent land and water areas. Many of these values have been recognized only recently. Historically, many federal programs encouraged wetlands to be drained or altered because they were seen as having little value as wetlands. Wetland values can include:

- habitat for aquatic birds and other animals and plants, including numerous threatened and endangered species; production of fish and shellfish;
- water storage, including mitigating the effects of floods and droughts;
- water purification;
- recreation;
- timber production;
- food production;
- education and research; and
- open space and aesthetic values.

Usually wetlands provide some combination of these values; no single wetland in most instances provides all these values. The composite value typically declines when wetlands are altered. In addition, the effects of alteration often extend well beyond the immediate area because wetlands are usually part of a larger water system. For example, conversion of wetlands to urban uses has increased flood damages; this value is receiving considerable attention as natural disaster costs have mounted through the 1990s.

Federal laws that affect wetlands have changed since the mid-1980s, as the values of wetlands have been recognized in different ways in numerous national policies. Previously, some laws encouraged destruction of wetland areas, including selected provisions in the federal tax code, public works legislation, and farm programs. Federal laws now either encourage wetland protection, or prohibit or do not support their destruction. These laws, however, do not add up to a fully consistent or comprehensive national approach. The central federal regulatory program, Section 404 of the Clean Water Act, requires permits for the discharge of dredged or fill materials into many but not all wetland areas. However, other activities that may adversely affect wetlands do not require permits, and some places that scientists define as wetlands are exempt from this permit program because of physical characteristics. An agricultural program, Swampbuster, is a disincentive program that indirectly protects wetlands by making farmers who drain wetlands ineligible for federal farm program benefits; those who do not receive these benefits (60% of all farmers received no federal farm payments of any kind in 2003) have no reason to observe the requirements of this program. Several land acquisition and other incentive programs complete the current federal protection effort.

Although numerous wetland protection bills have been introduced in recent Congresses, the most significant new wetlands legislation to be enacted has been in the two most recent farm bills, in 1996 and 2002. During this period, Congress also reauthorized several wetlands programs, mostly setting higher appropriations ceilings, without making significant shifts in policy. President Bush endorsed wetland protection in signing the farm bill and the North American Wetlands Conservation Act reauthorization in 2002. The Bush Administration has issued guidance on mitigation policies and regulatory program jurisdiction; the latter has raised controversy with some groups (see discussion below).

In 2002, the Bush Administration endorsed the concept of "no-net-loss" of wetlands — a goal declared by President George H. W. Bush in 1988 and also embraced by President Clinton to balance wetlands losses and gains in the short term and achieve net gains in the long term. On Earth Day 2004, the President announced a new national goal, moving beyond no-net-loss, of achieving an overall increase of wetlands.[2] The goal is to create, improve, and protect at least three million wetland acres over the next five years in order to increase overall wetland acres and quality. (By comparison, the Clinton Administration in 1998 announced policies intended to achieve overall wetland increases of 200,000 acres per year by 2005.) To meet the new goal, President Bush urged Congress to pass his FY2005 budget request for conservation programs, and in which he focused on two wetlands programs, the Wetlands Reserve Program (WRP) and the North American Wetlands Conservation Act Grants Program (NAWCP). The FY2005 budget request for these two programs, $349 million, was 10% more than FY2004 levels. (However, Congress disagreed, providing level funding for the NAWCP and an 18% reduction for the WRP.) The President's strategy also calls for better tracking of wetland programs and enhanced local and private sector collaboration.

---

[2] See [http://www.whitehouse.gov/news/releases/2004/04/20040422-1.html].

In April 2006, the Administration issued a report saying that about 832,000 acres of wetlands had been created, protected, or improved as of that date as part of the President's program, and another 1.6 million acres were expected to be added by the end of FY2006.[3] Environmental groups criticized the report as presenting an incomplete picture, because it fails to mention wetlands lost to agriculture and development.

Congress has provided a forum in numerous hearings where conflicting interests in wetland issues have been debated. Broadly speaking, the conflicts are between:

- Environmental interests and wetland protection advocates who have been pressing for greater wetlands protection as multiple values have been more widely recognized, by improving coordination and consistency among agencies and levels of governments, and strengthened programs; and
- Others, including landowners, farmers, and small businessmen, who counter that protection efforts have gone too far, and that privately owned wet areas that provide few wetland values have been aggressively protected. They have been especially critical of the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA), asserting that they administer the Section 404 program in an overzealous and inflexible manner.

Wetland issues revolve around disparate scientific and programmatic questions, and conflicting views of the role of government where private property is involved. Scientific questions include how to define wetlands, the current rate and pattern of wetland declines and losses, and the importance of these physical changes. Federal program issues include the administration of programs to protect, restore, or mitigate wetland resources (especially the Clean Water Act Section 404 program); relationships between agriculture and wetlands; whether all wetlands should be treated the same in federal programs and which wetlands should be subject to regulation; federal funding of wetland programs; and is whether protecting wetlands by acres is a good proxy for protecting wetlands based on the functions they perform and the values they provide. In addition, private property questions are raised because almost three-quarters of the remaining wetlands are located on private lands, and some property owners believe they should be compensated when federal programs limit how they can use their land, and thereby diminish its value.

What Is a Wetland?

There is general agreement that scientists can determine the presence of a wetland by a combination of soils, plants, and hydrology. The only definition of wetlands in law, in the swampbuster provisions of farm legislation (P.L. 99-198) and reproduced in the Emergency Wetlands Resources Act of 1986 (P.L. 99-645), lists those three components but does not include more specific criteria, such as what conditions must be present and for how long. Controversies are exacerbated when

---

[3] Office of the President, Council on Environmental Quality, *Conserving America's Wetlands 2006: Two Years of Progress Implementing the President's Goal*, April 2006, 47p.

many sites that have those three components and are identified as wetlands by experts, either may have wetland characteristics only some portion of the time, or may not look like what many people visualize as wetlands.

Wetlands subject to federal regulation are a large subset of all places that the scientific community would call a wetland. These regulated wetlands, under the Section 404 program discussed below, are currently identified using technical criteria in a wetland delineation manual issued by the Corps in 1987. It was prepared jointly and is used by all federal agencies to carry out their responsibilities under this program (the Corps, EPA, Fish and Wildlife Service (FWS), and the National Marine Fisheries Service (NMFS)). The manual provides guidance and field-level consistency among the agencies that have roles in wetland regulatory protection. (A second and slightly different manual, agreed to by the Corps and the Natural Resources Conservation Service, is used for delineating wetlands on agricultural lands.) While the agencies try to improve the objectivity and consistency of wetland identification and delineation, judgement continues to play a role and can lead to site-specific controversies. Cases discussed below (see "Section 404 Judicial Proceedings: *SWANCC* and *Rapanos*") are efforts to exclude wetlands in certain physical settings or certain activities affecting them from the regulatory program.

How Fast Are Wetlands Disappearing, and How Many Acres Are Left?

The U.S. Fish and Wildlife Service periodically surveys national net trends in wetland acreage using the National Wetlands Inventory (NWI). It has estimated that when European settlers first arrived, wetland acreage in the area that would become the 48 states was more than 220 million acres, or about 5% of the total land area. By 2004, total wetland acreage was estimated to be 107.7 million acres, according to data it presented in its most recent survey.[4] Data compiled by the NRCS and the FWS in separate surveys and using different methodologies have identified similar trends. Both show that the annual net loss rate dropped from almost 500,000 acres annually nearly three decades ago to slight net annual gains in recent years. The FWS survey estimated the average annual gain between 1998 and 2004 was 32,000 acres, primarily associated with the expansion of shallow ponds, while NRCS (using its Natural Resources Inventory (NRI) of privately-owned lands) estimated that there was an average annual gain of 26,000 acres between 1997 and 2002. NRCS cautioned against making precise claims of net increases because of statistical uncertainties. Some environmentalists caution that the increases identified in the latest FWS data are tied to a proliferation of small ponds rather than natural wetlands.

Numerous shifts in federal policies since 1985 (and changes in economic conditions as well) strongly influence wetland loss patterns, but the composite effects remain unmeasured beyond these raw numbers. There usually is a large time lag from the announcement and implementation of changes in policy to collection and

---

[4] U.S. Fish and Wildlife Service, National Wetlands Inventory, *Status and Trends of Wetlands in the Coterminus United States, 1998 - 2004*, March 2006, 110 pp. This is the most recent of several status and trend reports by the Inventory over the past 25 years, which document wetlands trends at both a national and regional scale.

release of data that measure how these changes affect loss rates. Also, it is often very difficult to distinguish the role that policy changes play from other factors, such as agricultural markets, development pressures, and land markets.

Further, these data only measure acres. They do not provide any insights into changes in the quality of remaining wetlands as measured by the values they provide, which is often determined by where a wetland is located in a watershed, surrounding land uses, etc. Nevertheless, in his Earth Day 2004 wetlands announcement (discussed above), President Bush said that as the nation is nearing the goal of no-net-loss, it is appropriate to move towards policies that will result in a net increase of wetland acres and quality.

The Clean Water Act Section 404 Program

The principal federal program that provides regulatory protection for wetlands is found in Section 404 of the Clean Water Act (CWA). Its intent is to protect water and adjacent wetland areas from adverse environmental effects due to discharges of dredged or fill material. Established in 1972, Section 404 requires landowners or developers to obtain permits from the Corps of Engineers to carry out activities involving disposal of dredged or fill materials into waters of the United States, including wetlands.

The Corps has long had regulatory jurisdiction over dredging and filling, starting with the River and Harbor Act of 1899. The Corps and EPA share responsibility for administering the Section 404 program. Other federal agencies, including NRCS, FWS, and NMFS, also have roles in this process. In the 1970s, legal decisions in key cases led the Corps to revise this program to incorporate broad jurisdictional definitions in terms of both regulated waters and adjacent wetlands. Section 404 was last amended in 1977.

This judicial/regulatory/administrative evolution of the Section 404 program has generally pleased those who view it as a critical tool in wetland protection, but dismayed others who would prefer more limited Corps jurisdiction or who see the expanded regulatory program as intruding on private land-use decisions and treating wetlands of widely varying value similarly. Underlying this debate is the more general question of whether Section 404 is the best approach to federal wetland protection.

Some wetland protection advocates have proposed that it be replaced or greatly altered. First, they point out that it governs only the discharge of dredged or fill material, while not regulating other acts that drain, flood, or otherwise reduce functional values. Second, because of exemptions provided in 1977 amendments to Section 404, major categories of activities are not required to obtain permits. These include normal, ongoing farming, ranching, and silvicultural (forestry) activities. Further, permits generally are not required for activities which drain wetlands (only for those that fill wetlands), which excludes a large number of actions with potential to alter wetlands. Third, in the view of protection advocates, the multiple values that wetlands can provide (e.g., fish and wildlife habitat, flood control) are not effectively recognized through a statutory approach based principally on water quality, despite the broad objectives of the Clean Water Act.

The Permitting Process. The Corps' regulatory process involves both general permits for actions by private landowners that are similar in nature and will likely have a minor effect on wetlands and individual permits for more significant actions. According to the Corps, it evaluates more than 85,000 permit requests annually. Of those, more than 90% are authorized under a general permit, which can apply regionally or nationwide, and is essentially a permit by rule, meaning the proposed activity is presumed to have a minor impact. Most do not require pre-notification or prior approval. About 9% are required to go through the more detailed evaluation for a standard individual permit, which may involve complex proposals or sensitive environmental issues and can take 180 days or longer for a decision. Less than 0.3% of permits are denied; most other individual permits are modified or conditioned before issuance. About 5% of applications are withdrawn prior to a permit decision. In FY2003 (the most recent year for which data are available), Corps-issued permits authorized activities having a total of 21,330 acres of wetland impact, while those permits required that 43,379 acres of wetlands be restored, created, or enhanced as mitigation for the authorized losses.[5]

Regulatory procedures on individual permits allow for interagency review and comment, a coordination process that can generate delays and an uncertain outcome, especially for environmentally controversial projects. EPA is the only federal agency having veto power over a proposed Corps permit; EPA has used its veto authority fewer than a dozen times in the 30-plus years since the program began. Critics have charged that implied threats of delay by the FWS and others practically amount to the same thing. Reforms during the Reagan, earlier Bush, and Clinton Administrations streamlined certain of these procedures, with the intent of speeding up and clarifying the Corps' full regulatory program, but concerns continue over both process and program goals.

Controversy also surrounded revised regulations issued by EPA and the Corps in May 2002, which redefine two key terms in the 404 program: "fill material" and "discharge of fill material." The agencies said that the revisions were intended to clarify certain confusion in their joint administration of the program due to previous differences in how the two agencies defined those terms. However, environmental groups contended that the changes allow for less restrictive and inadequate regulation of certain disposal activities, including disposal of coal mining waste, which could be harmful to aquatic life in streams. The Senate Environment and Public Works Committee held a hearing in June 2002 to review these issues, and legislation to reverse the agencies' action was introduced, but no further action occurred.[6] That legislation was re-introduced in the 108th Congress, and again in the 109th Congress (H.R. 2719), but was not passed.

Nationwide Permits. Nationwide permits are a key means by which the Corps minimizes the burden of its regulatory program. A nationwide permit is a form of general permit which authorizes a category of activities throughout the nation

---

[5] U.S. Army, Corps of Engineers, "Regulatory Statistics, All Permit Decisions, FY2003." See [http://www.usace.army.mil/inet/functions/cw/cecwo/reg/2003webcharts.pdf].

[6] For additional information, see CRS Report RL31411, *Controversies over Redefining "Fill Material" Under the Clean Water Act*, by Claudia Copeland.

and is valid only if the conditions applicable to the permit are met. These general permits authorize activities that are similar in nature and are judged to cause only minimal adverse effect on the environment. General permits minimize the burden of the Corps' regulatory program by authorizing landowners to proceed without having to obtain individual permits in advance.

The current program has few strong supporters, for differing reasons. Developers say that it is too complex and burdened with arbitrary restrictions. Environmentalists say that it does not adequately protect aquatic resources. At issue is whether the program has become so complex and expansive that it cannot either protect aquatic resources or provide for a fair regulatory system, which are its dual objectives.

Nationwide permits are issued for periods of no longer than five years and thereafter must be reissued by the Corps. The most recent reissuance, in January 2002, contained some changes, including relaxation of certain permit conditions, intended by the Corps to add flexibility. Reactions to the permits were mixed: environmental advocates contend that the reissued permits are not adequately protective of water quality and will result in a net loss of wetland acres, while developer groups argue that the overall program continues to focus on arbitrary regulatory thresholds that result in undue burden on developers and the Corps.[7] Developers challenged the Corps' issuance of the 2000 and 2002 nationwide permits; this litigation has gone back and forth between a U.S. district court and court of appeals. Most recently (in September 2006), the U.S. District Court for the District of Columbia dismissed the lawsuit, finding that the Corps did not act arbitrarily, capriciously, or contrary to the law in issuing and reissuing the nationwide permits (*National Association of Home Builders v. U.S. Army Corps of Engineers*, D.D.C., Civ. No. 00-379, Sept. 29, 2006).

The 2002 nationwide permits are due to expire on March 18, 2007, and in September 2006, the Corps proposed to reissue and modify the existing suite of permits before that date. It also proposed to establish six new nationwide permits to authorize emergency repairs of damaged levees, fills, or uplands; time-sensitive repairs of pipelines; discharges into ditches and canals; commercial shellfish aquaculture activities; coal re-mining sites; and underground coal mining activities in waters of the United States.[8]

Citizen groups have filed lawsuits seeking to halt the Corps' use of one of its nationwide permits, NWP 21, to authorize a type of coal mining practice called mountaintop mining. In 2004, a federal district court in West Virginia ruled that NWP 21 violates the CWA by authorizing activities that have more than minimal adverse environmental effects. The district court's ruling was overturned on appeal.

---

[7] For more information, see CRS Report 97-223, *Nationwide Permits for Wetlands Projects: Issues and Regulatory Developments*, by Claudia Copeland.

[8] U.S. Department of Defense, Department of the Army, Corps of Engineers, "Proposal to Reissue and Modify Nationwide Permits; Notice," 71 *Federal Register* 56257-56299, Sept. 26, 2006.

Another lawsuit challenging the applicability of nationwide permits to mountaintop mining in Kentucky also has been filed.[9]

Section 404 authorizes states to assume many of the permitting responsibilities. Two states, Michigan (in 1984) and New Jersey (in 1992), have done this. Others have cited the complex process of assumption, the anticipated cost of running a program, and the continued involvement of federal agencies because of statutory limits on waters that states could regulate as reasons for not joining these two states. Efforts continue toward encouraging more states to assume program responsibility.

Section 404 Judicial Proceedings: *SWANCC* and *Rapanos*. The Section 404 program has been the focus of numerous lawsuits, most of which have sought to narrow the geographic scope of the regulatory program. In that context, an issue of long-standing controversy is whether isolated waters are properly within the jurisdiction of Section 404. Isolated waters (those that lack a permanent surface outlet to downstream waters) which are not physically adjacent to navigable surface waters often appear to provide few of the values for which wetlands are protected, even if they meet the technical definition of a wetland. In January 2001, the Supreme Court ruled on the question of whether the CWA provides the Corps and EPA with authority over isolated waters and wetlands. The Court's 5-4 ruling in *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers* (531 U.S. 159) held that the denial of a Section 404 permit for disposal on isolated wetlands solely on the basis that migratory birds use the site exceeds the authority provided in the act. The full extent of retraction of the regulatory program resulting from this decision remains unclear, even more than five years after the ruling. Environmentalists believe that the Court misinterpreted congressional intent on the matter, while industry and landowner groups welcomed the ruling.[10]

Policy implications of how much the decision restricts federal regulation depend on how broadly or narrowly the opinion is applied, and since the 2001 Court decision, other federal courts have issued a number of rulings that have reached varying conclusions. Some federal courts have interpreted *SWANCC* narrowly, thus limiting its effect on current permit rules, while a few read the decision more broadly. However, in April 2004, the Court declined to review three cases that support a narrow interpretation of *SWANCC*. Environmentalists were pleased that the Court rejected the petitions, but attorneys for industry and developers say that the courts will remain the primary battleground for CWA jurisdiction questions, so long as neither the Administration nor Congress takes steps to define jurisdiction.

The government's current view on the key question of the scope of CWA jurisdiction in light of *SWANCC* and other court rulings came in a legal

---

[9] For background, see CRS Report RS21421, *Mountaintop Mining: Background on Current Controversies*, by Claudia Copeland.

[10] For additional information, see CRS Report RL30849, *The Supreme Court Addresses Corps of Engineers Jurisdiction Over 'Isolated Waters': The SWANCC Decision*, by Robert Meltz and Claudia Copeland.

memorandum issued jointly by EPA and the Corps on January 15, 2003.[11] It provides a legal interpretation essentially based on a narrow reading of the Court's decision, thus allowing federal regulation of some isolated waters to continue (in cases where factors other than the presence of migratory birds may exist, thus allowing for assertion of federal jurisdiction), but it calls for more review by higher levels in the agencies in such cases. Administration press releases say that the guidance demonstrates the government's commitment to "no-net-loss" wetlands policy. However, it was apparent that the issues remained under discussion, because at the same time, the Administration issued an advance notice of proposed rulemaking (ANPRM) seeking comment on how to define waters that are under jurisdiction of the regulatory program. The ANPRM did not actually propose rule changes, but it indicated possible ways that Clean Water Act rules might be modified to further limit federal jurisdiction, building on *SWANCC* and some subsequent legal decisions. The government received more than 133,000 comments on the ANPRM, most of them negative, according to EPA and the Corps. Environmentalists and many states opposed changing any rules, saying that the law and previous court rulings call for the broadest possible interpretation of the Clean Water Act (and narrow interpretation of *SWANCC*), but developers sought changes to clarify interpretation of the *SWANCC* ruling.

In December 2003, EPA and the Corps announced that the Administration would not pursue rule changes concerning federal regulatory jurisdiction over isolated wetlands. The EPA Administrator said that the Administration wanted to avoid a contentious and lengthy rulemaking debate over the issue. Environmentalists and state representatives expressed relief at the announcement. Interest groups on all sides have been critical of confusion in implementing the 2003 guidance, which constitutes the main tool for interpreting the reach of the *SWANCC* decision. Environmentalists remain concerned about diminished protection resulting from the guidance, while developers said that without a new rule, confusing and contradictory interpretations of wetland rules likely will continue. In that vein, a Government Accountability Office (GAO) report concluded that Corps districts differ in how they interpret and apply federal rules when determining which waters and wetlands are subject to federal jurisdiction, documenting enough differences that the Corps has begun a comprehensive survey of its district office practices to help promote greater consistency.[12] Concerns over inconsistent or confusing regulation of wetlands have also drawn congressional interest.[13]

In response to continuing controversies about the 2003 guidance, on May 18, 2006, the House adopted an amendment to a bill providing FY2007 appropriations for EPA (H.R. 5386). The amendment (passed by a 222-198 vote) would bar EPA from spending funds to implement the 2003 policy guidance. Supporters of the amendment said that the guidance goes beyond what the Supreme Court required in

---

[11] See [http://www.epa.gov/owow/wetlands/guidance/SWANCC/index.html].

[12] U.S. Government Accountability Office, *Corps of Engineers Needs to Evaluate Its District Office Practices in Determining Jurisdiction*, GAO-04-297, February 2004, 45 pp.

[13] U.S. Congress, House of Representatives, Committee on Transportation and Infrastructure, Subcommittee on Water Resources and Environment, *Inconsistent Regulation of Wetlands and Other Waters*, Hearing 108-58, 108th Cong., 2d sess., Mar. 30, 2004.

SWANCC, has allowed many streams and wetlands to be unprotected from development, and has been more confusing than helpful. Opponents of the amendment predicted that it would make EPA's and the Corps' regulatory job more difficult than it already is. The 109th Congress adjourned in December 2006 before taking final action on this appropriations bill, thus carrying over this legislative activity to the start of the 110th Congress.

While the issue of how regulatory protection of wetlands is affected by the *SWANCC* decision and subsequent developments continues to evolve, the remaining responsibility to protect affected wetlands falls on states and localities. Whether states will act to fill in the gap left by removal of some federal jurisdiction is likely to be constrained by budgetary and political pressures, but a few states (Wisconsin and Ohio, for example) have passed new laws or amended regulations to do so. In comments on the ANPRM, many states said that they do not have authority or financial resources to protect their wetlands, in the absence of federal involvement.

Federal courts continue to have a key role in interpreting and clarifying the *SWANCC* decision. On February 21, 2006, the Supreme Court heard arguments in two cases brought by landowners (*Rapanos v. United States*; *Carabell v. U.S. Army Corps of Engineers*) seeking to narrow the scope of the CWA permit program as it applies to development of wetlands. The issue in both cases had to do with the reach of the CWA to cover "waters" that were not navigable waters, in the traditional sense, but were connected somehow to navigable waters or "adjacent" to those waters. (The act requires a federal permit to discharge dredged or fill materials into "navigable waters.") Many legal and other observers hoped that the Court's ruling in these cases would bring greater clarity about the scope of federal regulatory jurisdiction.

The Court's ruling was issued on June 19 (*Rapanos et ux., et al., v. United States*, 126 S.Ct. 2208 (2006), 547 U.S. ___). In a 5-4 decision, a plurality of the Court, led by Justice Scalia, held that the lower court had applied an incorrect standard to determine whether the wetlands at issue are covered by the CWA. Justice Kennedy joined this plurality to vacate the lower court decisions and remand the cases for further consideration, but he took different positions on most of the substantive issues raised by the cases, as did four other dissenting justices.[14] Early judgments by legal observers suggest that the implications of the ruling (both short-term and long-term) are far from clear. Because the several opinions written by the justices did not draw a clear line regarding what wetlands and other waters are subject to federal jurisdiction, one likely result is more case-by-case determinations and continuing litigation. There also could be renewed pressure on the Corps and EPA to clarify the issues through an administrative rulemaking. The Senate Environment and Public Works Committee held a hearing on issues raised by the Court's ruling on August 1, 2006. Members and a number of witnesses urged EPA and the Corps to issue new guidance to clarify the scope of the ruling. Federal

---

[14] For additional information, see CRS Report RL33263, *The Wetlands Coverage of the Clean Water Act Is Revisited by the Supreme Court: Rapanos and Carabell*, by Robert Meltz and Claudia Copeland.

officials testifying before the committee said that they hope to do so, but they did not indicate when new guidance would be released.

Legislation to reverse the *SWANCC* decision was introduced in the 109th Congress (S. 912, H.R. 1356, the Clean Water Authority Restoration Act of 2005); identical legislation was introduced in the 108th Congress (H.R. 962, S. 473). It would provide a broad statutory definition of "waters of the United States"; clarify that the CWA is intended to protect U.S. waters from pollution, not just maintain their navigability; and include a set of findings to assert constitutional authority over waters and wetlands. Other legislation to restrict regulatory jurisdiction was introduced in the 109th Congress (H.R. 2658, the Federal Wetlands Jurisdiction Act of 2005). It would narrow the statutory definition of "navigable waters" and define certain isolated wetlands and other areas as not being subject to federal regulatory jurisdiction. It also would give the Corps sole authority to determine §404 jurisdiction, for permitting purposes. Similar legislation also was introduced in the 108th Congress (H.R. 4843). For now, it is unclear whether the more recent decision in the *Rapanos* and *Carabell* cases will accelerate congressional interest in these or other proposals to address uncertainties about federal jurisdiction over wetlands and other waters, but neither bill received further attention during the 109th Congress.

Should All Wetlands Be Treated Equally? Under the Section 404 program, there is a perception that all jurisdictional wetlands are treated equally, regardless of size, functions, or values. This has led critics to focus on situations where a wetland has little apparent value, but the landowner's proposal is not approved or the landowner is penalized for altering a wetland without a federal permit. Critics believe that one possible solution may be to have a tiered approach for regulating wetlands. Several legislative proposals introduced in recent Congresses would establish multiple tiers (typically three) — from highly valuable wetlands that should receive the greatest protection to the least valuable wetlands where alterations might usually be allowed. Some states (New York, for example) use such an approach for state-regulated wetlands. The Corps and EPA issued guidance to field staff emphasizing the flexibility that currently exists in the Section 404 program to apply less vigorous permit review to small projects with minor environmental impacts.

Three questions arise: (1) What are the implications of implementing a classification program? (2) How clearly can a line separating each wetland category be defined? (3) Are there regions where wetlands should be treated differently? Regarding classification, even most wetland protection advocates acknowledge that there are some situations where a wetland designation with total protection is not appropriate. But they fear that classification for different degrees of protection could be a first step toward a major erosion in overall wetland protection. Also, these advocates would probably like to see almost all wetlands presumed to be in the highest protection category unless experts can prove an area should receive a lesser level of protection, while critics who view protection efforts as excessive, would seek the reverse.

Locating the boundary line of a wetland can be controversial when the line encompasses areas that do not meet the image held by many. Controversy would likely grow if a tiered approach required that lines segment wetland areas. On the

other hand, a consistent application of an agreed-on definition may lead to fewer disputes and result in more timely decisions.

Some states have far more wetlands than others. Different treatment has been proposed for Alaska because about one-third of the state is designated as wetlands, yet a very small portion has been converted. Legislative proposals have been made to exempt that state from the Section 404 program until 1% of its wetlands have been lost. Some types of wetlands are already treated differently. For example, playas and prairie potholes have somewhat different definitions under swampbuster (discussed below), and the effect is to increase the number of acres that are considered as wetlands. This differential treatment contributes to questions about federal regulatory consistency on private property.

Agriculture and Wetlands

National surveys almost two decades ago indicated that agricultural activities had been responsible for about 80% of wetland loss in the preceding decades, making this topic a focus for policymakers. Congress responded by creating programs in farm legislation starting in 1985 that use disincentives and incentives to encourage landowners to protect and restore wetlands. Swampbuster and the Wetlands Reserve Program are the two largest efforts, but others such as the Conservation Reserve Program's Farmed Wetlands Option and Conservation Reserve Enhancement Program are also being used to protect wetlands. The most recent wetland loss survey conducted by the Natural Resources Conservation Service (NRCS) (comparing data from 1997 and 2002) indicates that there is a small annual increase, for the first time since these data have been collected, of 26,000 acres.[15] However, the agency warns that statistical uncertainties preclude concluding with certainty that gain is actually occurring.

Swampbuster. Swampbuster, enacted in 1985, uses disincentives rather than regulations to protect wetlands on agricultural lands. It remains controversial with farmers concerned about redefining an appropriate federal role in wetland protection on agricultural lands, and with wetland protection advocates concerned about inadequate enforcement. Since 1995, the NRCS has made wetland determinations only in response to requests because of uncertainty over whether changes in regulation or law would modify boundaries that have already been delineated. NRCS has estimated that more than 2.6 million wetland determinations have been made and that more than 4 million may eventually be required.

Swampbuster was amended in the 1996 farm bill (P.L. 104-127) and the 2002 farm bill (P.L. 107-171). Amendments in 1996 granted producers greater flexibility by making changes such as: exempting swampbuster penalties when wetlands are voluntarily restored; providing that prior converted wetlands are not to be considered "abandoned" if they remain in agricultural use; and granting good-faith exemptions. They also encourage mitigation, establish a mitigation banking pilot program, and repeal required consultation with the U.S. Fish and Wildlife Service. The 2002 farm

---

[15] Natural Resources Conservation Service, *National Resources Inventory; 2002 Annual NRI (Wetlands)*. At [http://www.nrcs.usda.gov/technical/land/nri02/nri02wetlands.html].

bill made just a single amendment that has not affected either the acres that are protected or the characteristics of the protection effort.

Other Agricultural Wetlands Programs. Under the Wetland Reserve Program (WRP), enacted in 1990, landowners receive payments for placing easements on farmed wetlands. All easements were permanent until provisions in the 1996 farm bill, requiring temporary easements and multi-year agreements as well, were implemented. The 2002 farm bill reauthorized the program through FY2007 and raised the enrollment cap to 2,275,000 acres, with 250,000 acres to be enrolled annually. In addition, in June 2004, NRCS announced a new enhancement program on the lower Missouri River in Nebraska to enroll almost 19,000 acres at a cost of $26 million, working with several public and private partners.

Through FY2005, 9,226 projects had enrolled 1.744 million acres, and easements have been perfected on 1.37 million of those acres. A majority of the easements are in three states: Louisiana, Mississippi, and Arkansas. Most of the land is enrolled under permanent easements, while only about 10% is enrolled under 10-year restoration agreements, according to data supplied by NRCS in support of its FY2007 budget request. Prior to the 2002 farm bill, farmer interest had exceeded available funding, which may help to explain why Congress raised the enrollment ceiling in that legislation.

The 2002 farm bill also expanded the 500,000-acre Farmable Wetlands Pilot Program within the Conservation Reserve Program (CRP) to a 1-million-acre program available nationwide. Only wetland areas that are smaller than 10 acres and are not adjacent to larger streams and rivers are eligible. This program may become more important to overall protection efforts in the wake of the *SWANCC* decision, discussed above, which limited the reach of the Section404 permit program so that it does not apply to many small wetlands that are isolated from navigable waterways. Through September 2006, more than 166,000 acres had been enrolled in this program through more than 10,000 contracts, with about 70,000 of those acres in Iowa.

On August 4, 2004, the Administration announced a new Wetland Restoration Initiative to allow enrollment of up to 250,000 acres of large wetland complexes and playa lakes located outside the 100-year floodplain in the CRP after October 1, 2004. The Administration estimated that implementation of this initiative will cost $200 million. Participants receive incentive payments to help pay for restoring the hydrology of the site, as well as rental payments and cost sharing assistance to install eligible conservation practices.

Several other large agriculture conservation programs, including the Environmental Quality Incentives Program, the Farmland Protection Program, and the Wildlife Habitat Incentive Program, were also amended in the 2002 farm bill in ways that may have incidental protection benefits for wetlands, because of much higher funding levels and because of program changes. Finally, some new programs could less directly help protect wetlands, including the Conservation Security Program, which would provide payments to install and maintain practices on working agricultural lands; a Surface and Groundwater Conservation Program (funded through the Environmental Quality Incentive Program); a new program to retire

wetlands that are part of a cranberry operation, and several other programs to better manage water resources.[16]

Agricultural Wetlands and the Section 404 Program. The Section 404 program, described above, applies to qualified wetlands in all locations, including agricultural lands. But the Corps and EPA exempt "prior converted lands" (wetlands modified for agricultural purposes before 1985) from Section 404 permit requirements under a memorandum of agreement (MOA), and since 1977 the Clean Water Act has exempted "normal farming activities." The January 2001 Supreme Court *SWANCC* decision, also discussed above, apparently will exempt certain isolated wetlands from Corps jurisdiction; NRCS estimated that about 8 million acres in agricultural locations might be exempted by this decision. In December 2002, the Supreme Court affirmed a lower court decision, without comment, that deep ripping to prepare wetland soils for planting was more than a "normal farming activity" and therefore subject to Section 404 requirements.

While these exemptions and the MOA have displeased some protection advocates, they have probably dampened some of the criticism from farming interests over federal regulation of private lands. On the other hand, how NRCS responds to the *SWANCC* decision on isolated wetlands could cause that criticism to rise. The Corps and NRCS have been unsuccessful in revising the MOA since 1996 despite a decade of negotiation, although they signed a very general partnership agreement on July 7, 2005. Some of the wetlands that fall outside Section 404 requirements as a result of the *SWANCC* decision can now be protected if landowners decide to enroll them into the revised farmable wetlands program or under other new initiatives, described above.

Private Property Rights and Landowner Compensation

An estimated 74% of all remaining wetlands in the coterminous states are on private lands. Questions of federal regulation of private property stem from the argument that land owners should be compensated when a "taking" occurs and alternative uses are prohibited or restrictions on use are imposed to protect wetland values. The U.S. Constitution provides that property owners shall be compensated if private property is "taken" by government action. The courts generally have found that compensation is not required unless all reasonable uses are precluded. Many individuals or companies purchase land with the expectation that they can alter it. If that ability is denied, they contend, then the land is greatly reduced in value. Many argue that a taking should be recognized when a site is designated as a wetland. In 2002, the Supreme Court held that a Rhode Island man, who had acquired property after the state enacted wetlands regulation affecting the parcel, is not automatically prevented from bringing an action to recover compensation from the state. Instead, the court ruled that the property retained some economic use after the state's action. *(Palazzolo v. Rhode Island,* 533 U.S. 606, 2002).

---

[16] For more information on these provisions, see CRS Report RL31486, *Resource Conservation Title of the 2002 Farm Bill: A Comparison of New Law with Bills Passed by the House and Senate, and Prior Law*; and CRS Report RL33556, *Soil and Water Conservation: An Overview*, both by Jeffrey A. Zinn.

Congress has explored these wetlands property rights issues on several occasions. An example is an October 2001 hearing by the House Transportation and Infrastructure Committee, Subcommittee on Water Resources and the Environment.[17] Recent Congresses have considered, but did not enact, property rights protection proposals. The Bush Administration has not stated an official position on these types of proposals.[18]

Wetland Restoration and Mitigation

Federal wetland policies during the past decade have increasingly emphasized restoration of wetland areas. Much of this restoration occurs as part of efforts to mitigate the loss of wetlands at other sites. The mitigation concept has broad appeal, but implementation has left a conflicting record. Examination of this record, presented in a June 2001 report from the National Research Council, found it to be wanting. The NRC report said that mitigation projects called for in permits affecting wetlands were not meeting the federal government's "no net loss" policy goal for wetlands function.[19] Likewise, a 2001 GAO report criticized the ability of the Corps to track the impact of projects under its current mitigation program that allows in-lieu-fee mitigation projects in exchange for issuing permits allowing wetlands development.[20] Both scientists and policymakers debate whether it is possible to restore or create wetlands with ecological and other functions equivalent to or better than those of natural wetlands that have been lost over time. Results so far seem to vary, depending on the type of wetland and the level of commitment to monitoring and maintenance. Congress has repeatedly endorsed mitigation in recent years.

Much of the attention to wetland restoration has focused on Louisiana, where an estimated 80% of the total loss of U.S. coastal wetlands has occurred (coastal wetlands are about 5% of all U.S. wetlands). The current rate of loss is more than 15,000 acres per year, a decline from higher rates in earlier years.[21] In response to these losses, Congress authorized a task force, led by the Corps, to prepare a list of coastal wetland restoration projects in the state, and also provided funding to plan and carry out restoration projects in this and other coastal states under the Coastal Wetlands Planning, Protection and Restoration Act of 1990, also known as the

---

[17] U.S. Congress, House of Representatives, Committee on Transportation and Infrastructure, Subcommittee on Water Resources and Environment, *The Wetland Permitting Process: Is It Working Fairly?* Hearing 107-50, 107th Cong., 1st sess., Oct. 3, 2001.

[18] For more information, see CRS Report RL30423, *Wetlands Regulation and the Law of Property Rights "Takings"*, by Robert Meltz.

[19] National Academy of Sciences, National Research Council, *Compensating for Wetland Losses under the Clean Water Act* (Washington, DC: 2001), 267 pp.

[20] U.S. Government Accountability Office, *Wetlands Protection: Assessments Needed to Determine the Effectiveness of In-Lieu-Fee Mitigation*, GAO-01-325, 75 pp.

[21] Loss rates have been calculated by U.S. Geological Survey's Nation Wetlands Research Center, which has published a number of reports describing past and predicted loss rates.

Breaux Act.[22] By 2006, 138 projects have been approved. Of this total, the completed projects have reestablished more than 32,000 acres, protected more than 38,000 acres, and enhanced (specific wetland functions have been intensified or improved) more than 320,000 acres. The remaining projects, when constructed, will establish or protect an additional 33,000 acres and enhance almost 195,000 acres. The completed projects have cost about $625 million and the remaining projects have a total estimated cost of more than $913 million.[23]

In the wake of hurricanes Katrina and Rita, multiple legislative proposals have been introduced to fund additional restoration projects already planned by the U.S. Army Corps of Engineers and to explore other opportunities that would restore and stabilize additional wetlands. More specifically, before the hurricanes, Congress was considering legislation that would have provided about $2 billion to the restoration effort. Since the hurricanes, more expansive options costing up to $14 billion that were proposed in the 1998 report *Coast 2050* are also being considered.[24] S. 3711, the Gulf of Mexico Energy Security Act, was passed during the final days of the 109th Congress. This legislation provides additional revenues to states adjacent to offshore oil and gas production activities. One of the purposes for which these revenues can be spent is wetland restoration, and the availability of these funds may affect the amount and scale of wetland restoration activity in the central Gulf Coast.

Many federal agencies have been active in wetland improvement efforts in recent years. In particular, the Fish and Wildlife Service (FWS) has been promoting the success of its Partners for Fish and Wildlife program, which Congress recently reauthorized through FY2011 in P.L. 109-294. According to the program website, visited on July 14, 2005, the program had entered into almost 29,000 agreements with landowners to protect or restore about 640,000 acres of wetlands and more than 4,700 miles of riparian and in-stream habitat (and more than 1 million acres of upland habitat also) through FY2002. The website appears to include only data on FY2006 accomplishments.[25]

Other programs also restore and protect domestic and international wetlands. One of these derives from the North American Wetlands Conservation Act, reauthorized through FY2012 in P.L. 109-322 with an appropriations ceiling of $75 million annually. The act provides grants for wetland conservation projects in Canada, Mexico, and the United States. According to the FWS FY2007 budget notes, the United States. and its partners have protected more than 18.5 million acres

---

[22] For information on this program, see CRS Report RS22467, *Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA): Effects of Hurricanes Katrina and Rita on Implementation*, by Jeffrey Zinn.

[23] Louisiana Coastal Wetlands Conservation and Restoration Task Force, *Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA): A Response to Louisiana's Wetland Loss*, 2006, 16 pp.

[24] For a more detailed discussion of the effects of the hurricanes on planning for wetland restoration, see CRS Report RS22276, *Coastal Louisiana Ecosystem Restoration After Hurricanes Katrina and Rita*, by Jeffrey Zinn.

[25] See [http://www.ecos.fws.gov/partners], visited June 12, 2006.

and restored, created, or enhanced an additional 5.9 million acres through almost 1,500 projects. The FWS has combined funding for this program with several other laws into what it calls the North American Wetlands Conservation Fund.

Under the Convention on Wetlands of International Importance, more commonly known as the Ramsar Convention, the United States is one of 134 nations that have agreed to slow the rate of wetlands loss by designating important sites. These nations have designated 1,229 sites since the convention was adopted in 1971. The United States has designated 19 wetlands, encompassing 3 million acres.

Mitigation also has become an important cornerstone of the Section 404 program in recent years. A 1990 MOA signed by the agencies with regulatory responsibilities outlines a sequence of three steps leading to mitigation: first, activities in wetlands should be avoided when possible; second, when they can not be avoided, impacts should be minimized; and third, where minimum impacts are still unacceptable, mitigation is appropriate. It directs that mitigated wetland acreage be replaced on a one-for-one functional basis. Therefore, mitigation may be required as a condition of a Section 404 permit.

Some wetland protection advocates are critical of mitigation, which they view as justifying destruction of wetlands. They believe that the Section 404 permit program should be an inducement to avoid damaging wetland areas. These critics also contend that adverse impacts on wetland values are often not fully mitigated and that mitigation measures, even if well-designed, are not adequately monitored or maintained. Supporters of current efforts counter that they generally work as envisioned, but little data exist to support this view. Questions about implementation of the 1990 MOA and controversies over the feasibility of compensating for wetland losses further complicate the wetland protection debate.

In response to criticism in the NRC and GAO reports (discussed above), in November 2001, the Corps issued new guidance to strengthen the standards on compensating for wetlands lost to development. The guidance was criticized by environmental groups and some Members of Congress for weakening rather than strengthening mitigation requirements and for the Corps' failure to consult with other federal agencies. In December 2002, the Corps and EPA released an action plan including 17 items that both agencies believe will improve the effectiveness of wetlands restoration efforts.[26]

In March, 2006, the Corps and EPA released a draft mitigation rule to replace the 1990 MOA with clearer requirements on what will be considered a successful project to compensate for wetlands lost to development or agriculture. The agencies identify the three purposes of these revisions as: improving the effectiveness of mitigation in replacing lost wetland functions and areas; expanding public participation in decision-making; and increasing the efficiency and predictability of both the mitigation process and the approval of mitigation banks. The rule was

---

[26] U.S. Environmental Protection Agency and U.S. Army Corps of Engineers, "National Wetlands Mitigation Action Plan, Dec. 24, 2002." See [http://www.epa.gov/owow/wetlands/pdf/map1226withsign.pdf].

developed in response to a provision in the 2003 defense authorization bill (P.L. 107-314) that directed the Corps to establish mitigation project performance standards by 2005. Environmental activists fear that the rule will be even less protective than current policy. The comment period ended on June 30.[27]

The concept of "mitigation banks," in which wetlands are created, restored, or enhanced in advance to serve as "credits" that may be used or acquired by permit applicants when they are required to mitigate impacts of their activities, is widely endorsed. Numerous public and private banks have been established, but many believe that it is too early to assess their success. In its recent study of mitigation, the Environmental Law Institute determined that as of 2005, there were 330 active banks, 75 sold out banks, and 169 banks seeking approval to operate.[28] Provisions in several laws, such as the 1996 farm bill and the 1998 Transportation Equity Act (TEA-21), endorse the mitigation banking concept.[29] In November 2003, Congress enacted wetlands mitigation provisions as part of the FY2004 Department of Defense authorization act (P.L. 108-136).

For Additional Reading

Kusler, Jon and Teresa Opheim. *Our National Wetland Heritage: A Protection Guide*. Environmental Law Institute. [Washington] 1996. 149 pp.

National Academy of Sciences, National Research Council. *Compensating for Wetland Losses Under the Clean Water Act*. [Washington] 2001. 267 pp.

Strand, Margaret N. *Wetlands Deskbook*. Environmental Law Institute. [Washington] 1993. 883 pp.

U.S. Department of Agriculture, Economic Research Service. *Wetlands and Agriculture: Private Interests and Public Benefits*, by Ralph Heimlich et al. [Washington] 2001, 123 pp. Agricultural Economic Report No. 765.

U.S. Department of the Interior. U.S. Fish and Wildlife Service. *Status and Trends of Wetlands in the Coterminous United States 1998-2004*. [Washington] 2006. 54 pp.

U.S. General Accountability Office. *Wetlands Protection: Assessments Needed to Determine the Effectiveness of In-Lieu-Fee Mitigation*. (GAO-01-325) [Washington] May 2001. 75 pp.

---

[27] Information on compensatory mitigation can be found at [http://www.epa.gov/wetlandsmitigation].

[28] For more information on mitigation generally, and mitigation banks specifically, see Environmental Law Institute, *2005 Status Report on Compensatory Mitigation in the United States*, April 2006, 105 pp.

[29] For more information on the early history of banking, see CRS Report 97-849, *Wetland Mitigation Banking: Status and Prospects*, by Jeffrey A. Zinn.

—— *Waters and Wetlands: Corps of Engineers Needs to Evaluate District Office Practices in Determining Jurisdiction*. (GAO-04-297) [Washington] February 2004. 45 pp.