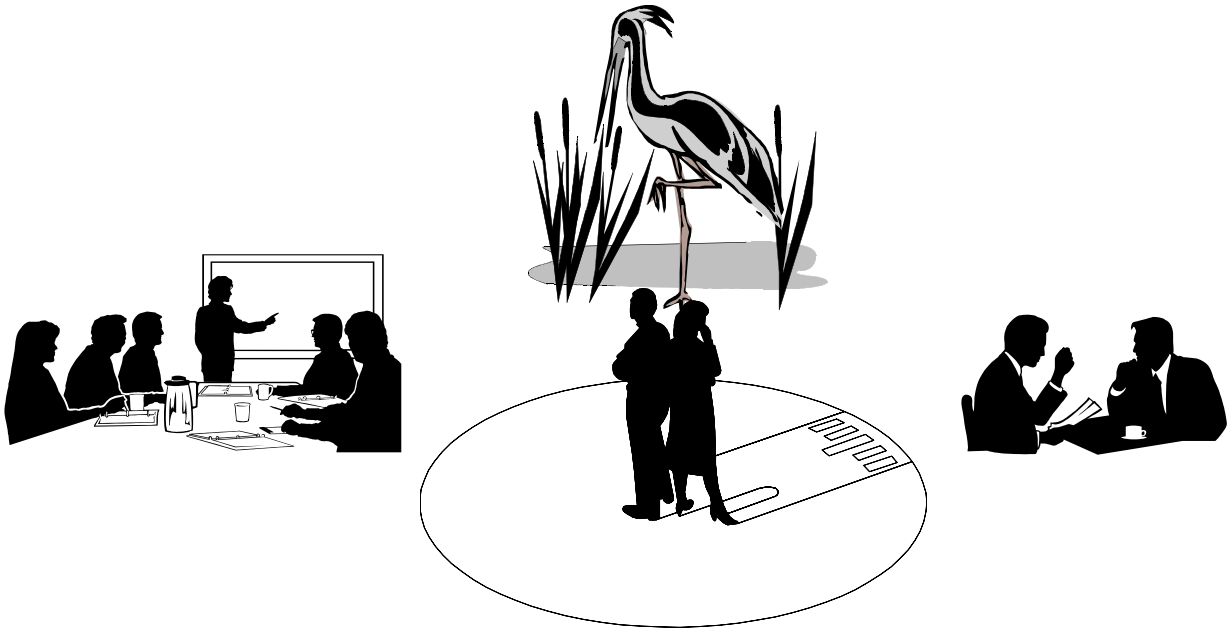
Addressing the Gaps:

A FEDERAL, STATE, TRIBAL AND LOCAL PARTNERSHIP FOR

WETLAND REGULATION



Association of State Wetland Mangers, Inc.

By

Jon A. Kusler, Ph.D.

Prepared for:

U.S. Environmental Protection Agency
Wetlands Division

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BASIS FOR REPORT

The report draws upon an earlier report of the same title prepared by Jon Kusler for the Association of State Wetland Managers. It draws upon the many wetland workshops and symposia that the Association of State Wetland Managers has conducted over the last decade (See Appendix A); it draws upon a review of the general wetland literature (See bibliography); and, it draws upon supplemental research carried out specifically for the report. The report reflects a series of issue papers prepared by the Association of Wetland Managers over the last decade. Finally, the report draws upon the author's experience working with wetlands, floodplains, coastal areas, lakes, and other water-related resource systems at all levels of government over several decades. See e.g., J. Kusler, Regulating Sensitive Lands, Ballinger, Cambridge, Massachusetts, 1985; J. Kusler et al., Vol. 1, 2, 3, Regulation of Flood Hazard Areas to Reduce Flood Losses, U.S. Government Printing Office, 1986; J. Kusler, Our National Wetland Heritage: A Protection Guidebook, Environmental Law Institute; J. Kusler and M. Kentula (eds.), Wetland Restoration and Creation: The Status of the Science, Island Press, 1991.

ACKNOWLEDGEMENTS

This report has been prepared as part of a broader grant to the Association from the U.S. Environmental Protection Agency, Wetlands Division to examine the status and trends in state programs and to build the capacity of state and tribal wetland programs. Special appreciation is extended the Wetlands Division staff for their support and assistance.

Thanks also go to the many individuals who shared their perceptions on particular topics and provided review of the draft, especially Jeanne Christie of the Association of State Wetland Managers for her helpful comments, and Sharon Weaver for her editorial assistance.

DISCLAIMER

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PREFACE

The following report takes a technical look at a controversial and difficult subject – the appropriate roles of federal, state, tribal and local governments in the regulation of wetlands and related water resources. It addresses the questions: Given the scientific, staffing, and budgetary needs of wetland regulations, what role should each level of government play in order to better protect and restore wetlands while, simultaneously, meeting landowners' needs? How can the gaps in regulation be filled? How can units of government better work together in improving case-by-case permitting and more watershed/landscape based wetland management approaches? What strengthened partnership arrangements are needed? The answers to these questions are particularly important because of the U.S. Supreme Court decision, SWANCC, in which the Court held that isolated wetlands are not subject to Section 404 permitting requirements based upon their use by migratory birds alone.

The topic of federal, state, tribal and local roles was addressed in the National Wetland Policy Forum's final report (Forum, 1990), which strongly recommended advanced planning of wetlands; strengthened state wetland protection programs including state preparation of State Wetland Conservation Plans; and state assumption of Section 404 powers. It was addressed in President George H.W. Bush's August 9, 1991 wetland policy statement and President Clinton's August 24, 1993 wetland policy statement. Each of these statements indicated an intent to strengthen state programs and encourage state assumption of a portion of Section 404 regulatory permitting powers. Appropriate roles have been addressed in several wetland bills presented to Congress in the early 1990s (e.g., HR 1330, S 1304). They are a wetland issue for the second Bush administration and will be for Congress during Clean Water Act reauthorization.

Unfortunately, much of the discussion regarding appropriate roles and many of the proposals regarding future federal, state, tribal and local roles in wetland regulation have proceeded from idealized positions (e.g., state rights, private property rights, etc.) rather than from an examination of what is needed to protect wetlands and better meet landowner needs. Little effort has been made to examine the scientific and administrative needs and staff capabilities of various levels of government and to consider the implications of a $6.7 trillion federal budget deficit and budget shortfalls at state and local levels.

The issue is not simply what has been done in the past and how well these measures have worked. Wetland regulation is evolving with many new approaches now being considered or applied, such as wetland regulation as part of watershed planning and management, wetland protection and restoration as part of stormwater management, wetland protection and restoration as part of multi-objective river management, the utilization of revised wetland evaluation procedures (e.g., IBI, HGM models) in permitting and restoration, the use of mitigation banks, state and local programmatic permits, and increased use of various advanced identification and GIS analysis techniques. These all require additional expertise, data, staffing and finances, and a rethinking of federal, state, tribal and local roles.

The relationship of the federal Section 404 program to state, tribal and local wetland regulations and the relationship of wetland regulations to broader watershed planning are controversial. Some environmental groups and other advocates of a strong federal wetland regulatory role have, so far, opposed increased state, tribal and local watershed planning and wetland regulations if such regulations are to replace direct federal regulation. On the other hand, paradoxically, many advocates of a strong federal role concede that a federal case-by-case

permitting approach focused on fills alone is not adequate to provide protection for wetlands, particularly the most smaller and isolated wetlands, and that efforts to increase the direct federal regulatory role in water and land use would not only be politically difficult but also would require large amounts of new funding for federal staff.

Unfortunately there has never been a or a blueprint for federal, state, tribal and local roles similar to that provided by House Document 465 for floodplain management which was prepared by the Federal Task Force on Flood Control in 1965. This document has served as an overall guide for the roles since then.

The goal of this report is to suggest an outline for federal, state, tribal, and local collaboration in wetland regulation. The report attempts to shed some light on improved partnerships to achieve three principal objectives:

(1) Improve protection and restoration of wetland and other aquatic resources on a watershed basis to fill the gaps and strengthen efforts to achieve a no net loss/net gain goal,
(2) Improve certainty, flexibility, and technical assistance for landowners, and
(3) Better coordinate use of federal, state and local funds and staff to carry out the tasks necessary to achieve (1) and (2).

This report endorses much of what is already occurring at federal, state, tribal and local levels. However suggestions are made for strengthening and better coordinating efforts.

The report contains six chapters. Chapter 1 begins with a brief historical perspective on wetland regulation and describes the three main approaches or models for federal, state, tribal and local roles that could serve as the basis for future efforts. It suggests a variety of factors relevant to appropriate roles, generically and in particular contexts.

Chapter 2 examines federal, state, tribal, and local wetland and land-use-related programs that have potential for better protecting and managing wetland resources on a watershed basis. Chapter 3 compares case-by-case versus broader planning and watershed approaches to better protect wetland resources and meet landowner’s needs. Chapter 4 evaluates the general pros and cons of federal, state, tribal and local roles in wetland/watershed protection and management. Chapter 5 suggests approaches for tailoring the mix of federal, state, tribal and local roles in particular circumstances, and Chapter 6 makes more detailed recommendations for future federal, state, tribal and local roles.

EXECUTIVE SUMMARY, RECOMMENDATIONS

1. **Re-evaluation is needed to capitalize upon the strengths of all levels of government.** A re-evaluation of the roles played by the federal government, states, tribes, and local governments in wetland regulation is needed to capitalize upon the strengths of each level while addressing their weaknesses. This re-evaluation is critical in light of the SWANCC decision, in which the U.S. Supreme Court ruled that the U.S. Army Corps of Engineers (Corps) "migratory bird" rule was invalid as applied to isolated wetlands. This means that many isolated wetlands across the country are no longer regulated. See Solid Waste Agency v. United States Army Corps of Engr's, 531 U.S. 159, 148 L.E. 2d 576, 121 S.Ct. 675 (2001). However, revaluation of federal, state/tribal, and local roles in wetland regulation and management should be part of broader efforts to address gaps in wetland regulations created not only by SWANCC but by other court decisions, and statutory and administrative policies (e.g., exemption and partial exemptions for activities in Section 404, state regulations, other regulations). Re-evaluation needs to look more broadly to consider the capabilities of each level of government and how governments can work together to better protect and restore wetland and related ecosystems while meeting landowner needs.

Re-evaluation is also needed in the face of federal, state, tribal and local budget deficits. More efficient and effective wetland regulation is needed at all levels of government with less duplication and more efficiency. Future efforts to both improve the protection and restoration of wetlands and better meet landowner needs should be scientifically based and make the best possible use of staffing and financial resources. Re-evaluation is needed in light of the experience gained at federal, state, and local levels over the last decade (e.g. state programmatic permits) and the need to reflect this experience in Corps and the U.S. Environmental Protection Agency (EPA) policies. Re-evaluation is needed in view of the many nonregulatory landowner incentive programs adopted by Congress to assist landowners, such as the federal Farm Bill programs and state bond issue open space programs in New York and Florida. Re-evaluation is needed to take into account federal agency initiatives to better manage wetlands in landscape or watershed contexts, such as the 2002 Mitigation Action Plan and the need for better governmental coordination in implementing such a plan.

2. **Goals for an appropriate mix.** The appropriate mix of roles for federal, state, tribal and local government regulation of wetlands is one which will (a) regulate all activities that impact the critical characteristics of wetlands that determine their functions and values, and (b) provide an efficient combination of staff and financial resources needed to regulate such activities. To date, wetland regulations at all levels of government have been partially deficient in both respects.

3. **Need to better reflect scientific requirements.** The appropriate mix of partnership roles for federal, state, tribal and local government wetlands regulations must be consistent with the scientific characteristics of wetlands. It must reflect a fundamental nature of wetlands as part of broader hydrologic regimes and aquatic ecosystems and the need, over time, to evaluate, regulate, and otherwise manage wetlands as part of such broader watersheds and ecosystems. Regulations at all levels of government have failed to do so up to this point in time.

Wetland systems are extensive (an estimated 5 percent of U.S. lands). They affect development and use of an even larger amount of land because they are located along the 3.2 million miles of rivers, creeks, and streams that form an interrelated network, and along lakes and along the oceans' shores. The functions and values of wetlands depend on the use of watershed lands because wetlands are sensitive to changes in hydrology and water quality. This is particularly true for isolated, freshwater wetlands and those along small creeks and steams. These include many of the altered, artificial, managed, and drier-end wetlands throughout the country. Wetland systems are also highly complex. They change over time both naturally and in response to changes in hydrologic regime caused by human activities. Evaluating, planning, mapping, permitting, restoring and monitoring of such wetlands are often extremely time consuming and expensive. Any attempt to evaluate them once and for all will be difficult if not impossible.

4. **Case-by-case and landscape versus watershed approaches.** To adequately reflect the scientific characteristics of wetlands, case-by-case permitting approaches now being applied in the Section 404 program and many state, tribal and local wetland regulatory programs need to be supplemented by broader information gathering, GIS analyses (where appropriate), and watershed and ecosystem planning approaches, which take into account not only wetlands but also adjacent aquatic ecosystems, buffer areas and broader watershed lands and waters.

5. **Future as well as present conditions.** Such approaches need to consider existing and reasonably anticipated future conditions in order to protect and manage wetlands and to provide greater certainty and fairness to landowners. Such approaches are particularly critical for isolated wetlands and headwater wetlands which are particularly sensitive to watershed activities.

6. **Capabilities of various levels of government.** Given the high costs of evaluating and managing wetland systems, any attempt to determine the appropriate mix of governmental roles must consider costs and staffing, including the more than $6 trillion federal deficit and budgetary restrictions at all levels of government. The water and land use evaluation, planning, management, and restoration capabilities of various levels of government, and the ability of various levels of government to carry out the tasks required to protect and restore wetlands and associated aquatic ecosystems must also be considered.

7. **Strengths and limitations of all levels.** All levels of government have strengths and weaknesses in regulating wetlands. Prior to the SWANCC decision and the invalidation of the migratory bird rule, the Corps at least theoretically regulated all wetlands since migratory birds utilize virtually all wetlands. However, even prior to SWANCC, the capability of the Corps and EPA staff in delineating, assessing, mapping, processing permits, and monitoring and enforcing wetland regulations was limited by the costs of wetland regulation, limited budgets, and the location of Corps and EPA regulatory staff. Federal costs are often higher than comparable regulatory activities by state or local governments. Corps and EPA staff are primarily located in large cities along major waterways hundreds of miles from many isolated and headwater wetlands. Even a simple delineation may take three days (1 day out, 1 day for delineation, 1 day back) and cost as much as one thousand dollars.

The ability of the federal government alone to regulate wetlands, particularly isolated and headwater wetlands, through case-by-case permitting and broader watershed approaches is further limited by the lack of federal control of water extractions (regulated by the states) and land use, which determines hydrologic regimes. All wetland characteristics, including functions and values, depend upon these regimes.

On the other hand, future initiatives in wetland regulation now being advocated (e.g., watershed planning, mitigation banks, regulation of drainage, advanced planning, sophisticated evaluation techniques) will place additional technical burdens on regulatory agency staff, making it impossible for many local governments and some states to carry such activities without substantial financial resources and help or technical assistance from federal agencies.

8**. A collaborate partnership to create a "national" wetland regulatory effort.** For these reasons and because wetland resources are varied and extensive, a strengthened, cooperative partnership among federal, state, tribal and local entities that involves improved coordination and an improved division of labor is needed to better protect and restore wetland resources and meet landowner needs. The Nation needs a "national" wetland regulatory program with federal agencies, states, tribes and local governments all playing roles. There is no reason a single level of government should undertake all aspects of wetland regulation when the different levels have different capabilities. The issues are: Who can do what best? Who has staff and financial resources and how can these be best utilized and combined?

9. **Building on existing efforts.** It has been suggested by some critics of the Section 404 program that the federal, state, tribal and local framework is so flawed that starting from scratch is needed to improve regulatory efforts. This is wrong. The overall framework now is place is workable. Gaps need to be filled. Revisions and clarifications are needed. But, existing efforts at all levels of government including the Section 404 and Section Programs can create a workable basis for future efforts.

10. **Additional federal technical assistance, mapping, education, and landowner incentives for all wetlands.** The overall goal of the Water Pollution Amendments of 1972 to "restore and maintain" waters of the U.S. justifies strengthened federal mapping, research, technical assistance, educational, and landowner incentive programs for all wetlands. This is particularly true for isolated wetlands in light of the SWANCC decision.

11. **Need to combine regulatory approaches.** The three cooperative federal, state, tribal and local management models (see Chapter One) being applied to regulation of wetlands in specific contexts all have weakness as a single method, but have advantages for application in certain contexts. These models include (1) direct federal permitting in accordance with Section 10 and Section 404(a); (2) state, tribal, or local permitting through "assumption" and "general programmatic permits" where state tribal, and local regulations meet or exceed federal regulatory standards; and (3) state and local permitting consistent with federal general standards and financial incentives (e.g., the National Flood Insurance Program and Coastal Zone Management Program). The three approaches need to be combined in a more integrated framework. However, there also must be flexibility in federal, state, tribal and local roles to reflect differences in resource management needs and the capabilities and preferences of states, tribes, and local governments.

12. **Federal permitting or oversight for all wetlands and waters.** Pollution from any source may, ultimately, run into lakes, streams, or the oceans. Water runs downhill. The functions and values of individual wetlands and waters depend, to a considerable extent, upon broader hydrologic and ecosystem contexts. For this reason (in the author's view), federal permitting or oversight is desirable for all or virtually all wetlands and waters. A federal presence is needed to protect the federal interstate interest in these wetlands and their direct link to navigation, water quality, water supply, flooding, and fishery and other wildlife habitat. This does not mean, however, that the federal government should play the primary permitting role for all wetlands. A continued direct federal permitting role should be continued in many instances for wetlands in, along and adjacent to major rivers, lakes, streams, coastal and estuarine wetlands, and their tributaries, including intermittent and ephemeral streams. This is consistent with the SWANCC decision. Federal permitting should also (in the author's opinion) take place for isolated wetlands if states and local governments fail to adopt and administer regulations meeting minimum federal standards. Federal permitting or oversight would, however, require Congressional action to close the gaps created by SWANCC. See below.

13**. State, tribal and local assistance to federal permitting.** States, tribes and local governments should play greater roles in assisting the Corps and EPA in evaluating and issuing Section 404 permit applications and in enforcing Section 404 regulations. States, tribes and local governments possess on-site expertise, and land and water use planning and regulatory powers, which can supplement federal roles (see Chapter 4). They can help by commenting on permit applications, mapping, planning, monitoring, reporting violations, educating landowners, and restoring wetlands and broader aquatic ecosystems. The Corps and EPA should more fully involve states, tribes, and local government by requesting their assistance, providing them with notices of permit applications and hearings, involving them in planning and mapping, and giving weight to their recommendations on individual permit applications. See other measures below.

14. **Assumption and programmatic permits.** As is now taking place, the Corps and EPA should delegate a portion of this permitting authority to states, tribes and local governments through state "assumption" or "programmatic permits". Assumption and programmatic permits should be encouraged where state, tribal, and local programs will meet or exceed federal standards.

15. **A strengthened role for state, tribal, and local governments in regulating "isolated" wetlands.** The appropriate roles for each level of government in protecting and restoring "isolated" wetlands is a difficult and complicated issue. In light of the SWANCC decision and subsequent court decisions, the Corps and EPA no longer regulates all isolated wetlands although the extent of this gap in regulations remains to be seen. Wetlands "adjacent" to navigable waters and tributaries, tributaries, and other wetlands with a "substantial nexus" to navigable waters continue to be regulated. However, other isolated wetlands are not. What should be done to fill this gap in the near future while this gap exists? What should be done over time by Congress to fill the gap? There are a number of possible options. Some major ones include:

- One option would be for Congress to provide increased incentives for states, tribes, and local governments to regulate and otherwise protect isolated wetlands but there would be no additional, direct federal regulatory powers. Congress could provide financial incentives to strengthen state, tribal, and local protection by increasing the EPA state wetland program grants program. Congress could also increase federal mapping, technical assistance, and other aids to states, tribes, and local governments. Congress could continue and increase federal landowner incentive programs such as the Wetland Reserve Program. Congress might also create a new state and local government financial incentive program for isolated wetlands resembling the incentive aspects of the Coastal Zone Management Program or the National Flood Insurance Program which provide funds to states and local governments.

  With this option, however, there would be no assurance, of course, that states or local governments would adopt regulations even with incentives. Most states, tribes, and local governments without regulations prior to SWANCC have chosen not to regulate wetlands in the three years since SWANCC. And few are likely to do so in the near future without new funds.

- A second option, therefore, would be for Congress to again broaden, again, the Corp's power to regulate isolated wetlands by adopting a broadened Clean Water Act definition for "waters of the U.S." This has been proposed by several bills. The Supreme Court would likely (in the author's view) support such legislation if carefully drafted. This could be done without strengthening the role of states, tribes and local governments.

- A third option (favored by the author) would be for Congress to not only redefine waters of the U.S. to include isolated waters and wetlands but take the opportunity also to create more of a "national" wetland regulatory partnership for addressing isolated and other wetlands and waters.. To do this, it could combine elements from the first and second options and add other key provisions. Congress should, for a start, make clear that federal oversight is needed for all wetlands and waters. It should clearly recognize the importance of all levels of government in planning and regulating wetlands as well as the need for better coordination of programs, reduced duplication, and more certainty. It should stress the importance of integrating wetland protection and restoration into state, tribal, and local water and land use planning and watershed management. Congress could also state an intent that, in the long run, states, tribes, and local governments should play a major role in regulating isolated wetlands, if they are willing to do so, but with federal oversight. The Corps and EPA would continue to do regulate such wetlands until states, tribes, or local governments had demonstrated that they had adopted and were administering regulations which met federal standards. Additional financial assistance would be provided to states, tribes, and local governments for developing and administering regulatory programs. With such an approach, Congress would also authorize "partial assumption" and clarify the legality of programmatic permits. See Chapter 5, tables 9, 10, 11 and Appendices C, D, and E. for more specific recommendations.

16. **Variations in the mix.** Although the roles recommended in 12-14 may be appropriate in a general sense, the approximate mix of federal, state, tribal and local roles should vary somewhat, depending on the overall characteristics of the wetland and water systems in various states and the capabilities and preferences of various levels of governments.

Mechanisms to tailor the roles of different levels of government to particular circumstances include:

- The adoption of additional Memoranda of Understanding or Memoranda of Agreement between federal agencies, states, tribes and local governments that address delineation, joint permit processing, assessing, monitoring and enforcement. Such MOUs and MOAs can be used to divide and clarify responsibilities and share tasks.
- The preparation of additional state, tribal, local wetland conservation plans and strategies with federal inputs to the planning processes..
- Collaborative federal, state, tribal and local mapping of wetland, floodplain, endangered species, topographic, and other types of mapping, data collection and analysis to increase certainty and facilitate permitting with a landscape or watershed perspective.
- State and tribal adoption of strengthened Section 401 water quality certification efforts and water quality standards for wetlands.
- Cooperative local, state, tribal and federal advanced planning of wetlands in watershed contexts.
- The issuance by the Corps of additional state, tribal, and local "programmatic general permits" when state, tribal, and local wetland protection and restoration efforts will meet or exceed federal standards.
- Collaborative technical assistance to encourage landowner, parcel-level wetland management plans and landowner agreements within a context of state and local plans.
- Collaborative implementation of landowner incentive programs (e.g. Farm Bill, Partners for Wildlife, North American Waterfowl Management Plan) through cooperative agreements between federal agencies, states, and local governments.

17. **Increased federal agency support for state, tribal, and local programs.** Federal agencies should encourage state, tribal and local programs to help fill the gaps in the Section 404 program including those created by SWANCC, reduce duplication, and increase certainty by:

- Improving the Section 404 Program, thereby making state, tribal and local cooperation with the Section 404 Program more attractive. Priority improvements include consolidating regulations, providing additional regulatory guidance materials on the web, and improving wetland assessment procedures.
- Ensuring greater consistency in administration of the Section 404 Program between Corps Districts—jurisdictional determinations, mitigation requirements, etc.
- Issuing Corps and EPA guidance that supports the development of state and local programmatic permits, additional joint permitting, and state assumption.
- Not issuing provisional permits prior to 401 water quality certification/CZMA consistency determinations.
- More fully involving the states, tribes and local governments in policy-making and permitting.
- Developing landscape and watershed wetland assessment and models cooperatively with the states. Provide cooperative demonstration projects. Widely circulate the results.
- More fully sharing regulatory programmatic information via RAMS on the Internet.
- More fully sharing natural resource information, such as digital mapping and helping states, local governments and tribes to incorporate wetlands and other data into GIS systems.
- Undertaking additional joint training, education, research with states, tribes and local governments.

18. **Congressional help.** Congress could encourage state, tribal and local programs and help fill the gap created by SWANCC through additional appropriations and statutory amendments by:

- Providing additional funds for state, tribal and local wetland programs. The EPA state wetland grant program has been extremely useful in encouraging state wetland programs. This program should be continued and funding levels increased. Presently, congress provides about $15 million per year through the EPA state grant program for development of state programs. This amount should be at least doubled to $30 million in light of SWANCC. Funds should also be made available for program implementation as well as development.
- Authorizing and funding federal agencies to provide additional technical assistance to states, tribes and communities.
- Filling the gap created by SWANCC by defining all wetlands and waters as waters of the U.S. In doing so, it could give states, tribes and local governments a recognized statutory role as part of a national wetland regulatory partnership rather than simply federal wetland regulation, protection, and management efforts. See discussion above.
- Authorizing and funding EPA, USDA Natural Resources Conservation Service, the Corps, U.S. Fish and Wildlife Service and National Oceanic Atmospheric Administration (NOAA) to jointly develop and fund landscape and watershed wetland assessment and models, planning efforts, and management efforts with the states, tribes, and local governments. This should include cooperative demonstration projects.
- Clarifying Section 319, 401, 404(e) powers. Congress could help promote state, tribes and local wetland regulation efforts as part of a broader national program by requiring or encouraging the inclusion of wetland protection and restoration as on of the goals of watershed planning pursuant to Section 319 of the Clean Water Act. Congress could also clarify Section 401 powers with regard to oversight of federal nationwide permits. Congress could clarify Section 404(e) powers to specifically include state and/or local programmatic permits.
- Continuing to fund nonregulatory wetland conservation programs, such as the Farm Bill, Partners for Wildlife and NOAA restoration programs, including partnership arrangements for implementation between the federal agencies and the states.

Tables 9, 10, 11 in Chapter 6 set forth more detailed recommendations with regard to federal, state, tribal and local roles.

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Chapter One:
EVOLUTION OF FEDERAL, STATE, AND LOCAL WETLAND REGULATORY PROGRAMS

"The United States urgently needs a better system for protecting and managing its wetlands…Over the past two decades, the United States has devised various public and private programs to protect and manage this valuable resource. Unfortunately, most of these programs have addressed only limited aspects of the wetlands protection problem, and they have been adopted haphazardly and incoherently. This has led to duplication and uncertainty, at times imposing burdensome costs on wetlands owners. The existing programs also leave major gaps in the protection effort."

– The Conservation Foundation, Protecting America's Wetlands: An Action Agenda. The Final Report of the National Wetlands Policy Forum. 1988.

HISTORICAL PERSPECTIVE

Federal, state, tribal and local wetland regulatory programs in the United States have developed through a number of stages.

Pre-1972: No national wetland regulatory program existed prior to Congressional adoption of the Water Pollution Control Amendments of 1972, although the U.S. Army Corps of Engineers (Corps) issued permits for wetlands activities within traditionally navigable waters in accordance with Section 10 of the Rivers and Harbors Act of 1898. A number of state wetland programs predate 1972. Massachusetts adopted the first state wetland regulation statute in 1963. Many other states adopted coastal zone management, shoreline management, or public water regulatory statutes with wetland components during the 1966-1972 period. (See J. Kusler et al, State Wetland Regulations: Status and Emerging Trends, 1994.) During this period, most coastal states except Texas adopted regulations for coastal wetlands. At least eight states also established state or cooperative state/local regulatory programs for freshwater wetlands. Several thousand local governments adopted wetland regulations pursuant to these statutes.

1972-1976: Congress adopted Section 404 of the Water Pollution Control Amendments of 1972, which required a permit from the Corps for discharges of dredge or fill material into navigable waters. Navigable waters were defined by the act to include "waters of the U.S." No reference was made in this act to state or local regulatory efforts nor were wetlands specifically mentioned. At first the Corps did not require permits for wetland activities in accordance with Section 404. But, the federal district court in a successful lawsuit by the National Resources Defense Council, NRDC v. Callaway 392 F. Supp. 685 (D.D.C. 1975) directed the Corps to adopt new wetland regulations, which it did in response to this case.

1977: Congress adopted the Clean Water Act amendments, which for the first time specifically used the word "wetland" in Section 404. Congress also clarified exemptions from Section 404 permitting and established a procedure for state assumption of a portion of Section 404 permitting powers for qualifying states pursuant to Sections 404(g), (h).

1978-1987: During this twelve-year period, the Corps repeatedly revised its Section 404 regulations. However, it continued to administratively focus most of its monitoring and enforcement efforts on coastal and estuarine wetlands and wetlands adjacent to large rivers and streams. Only one state – Michigan – assumed the Section 404 program. Michigan was joined by New Jersey later on.

1988-1989: Federal agencies took a number of measures to strengthen administration and enforcement of the Section 404 program. The National Wetland Policy Forum issued its final report (Conservation Foundation, 1988) stating an interim goal of "no net loss" and a longer-term goal of "net gain." President George H.W. Bush endorsed the no net loss goal in his Budget Message of 1989 and directed the federal agencies to help implement this goal. The proposed 1989 Federal Manual for the Identification of Jurisdictional Wetlands was jointly released by the Corps, the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (FWS) and the USDA Natural Resources Conservation Service. A Memorandum of Agreement (MOA) between the EPA and the Corps dealing with mitigation policy and including an overall no net loss goal and sequencing was issued in 1989. The Corps, EPA, and other federal agencies began more rigorous monitoring and enforcement policies to apply the Section 404 regulations (including the 1989 Manual and the MOA) to isolated and other wetlands throughout the United States.

1990-1993: Efforts by the Corps, EPA, and other agencies to enforce Section 404 regulations and associated policies for partially drained agricultural lands, altered wetlands, and many drier-end wetland systems resulted in complaints from the development community. A number of wetland bills were introduced in Congress that would have substantially cut back the Section 404 program. HR 1330 (Hayes/Ridge), co-sponsored by 160 plus members of Congress in the House in 1992, would have adopted a highly restrictive definition of wetland, broadened exemptions, classified wetlands, and provided landowners with compensation for certain Class A wetlands. The Bush administration also attempted to reduce federal jurisdiction through adoption of a new Federal Manual for the Delineation of Jurisdictional Wetlands (1991). The Bush Administration in August 1992 issued a wetland policy statement setting forth a variety of other proposed reforms, including classification of wetlands, revised permitting procedures, revisions in sequencing requirements, and the establishment of mitigation banks.

From 1992-1993, federal agencies undertook additional measures to clarify and add certainty to the program and to state local programs, including the issuance of a variety of nationwide and programmatic general permits, the funding of state wetland conservation planning efforts in many states, the initiation of various advanced identification programs, the issuance of several research reports on wetlands, and the conduct of training programs.

1993-2004: In August 1993, President Clinton issued a new White House wetland policy statement that contained proposals to improve the protection and restoration of wetlands and better meet landowner needs. Many of the initiatives set forth in this policy statement have been implemented, such as an administrative appeals procedure for the Section 404 program. In January 2001, the U.S. Supreme Court issued the SWANCC decision. In this decision, the court held that it was not the intent of Congress that the Corps regulate isolated wetlands and waters pursuant to the "Migratory Bird Rule" contained in Section 404 regulations. The second Bush administration in 2002 and early 2003 reiterated its commitment to wetland protection and no net loss of wetlands. The Corps issued revised guidance in January 2003 on compensatory mitigation that had been drafted in response to a National Academy of Sciences report. The second Bush

administration also issued in January an intent for rule-making to further define regulated wetlands and waters in accordance with the SWANCC decision. The Administration decided not to go forward with such rule-making at this time. Wetlands will likely be a principal issue in Congress's reauthorization of the Clean Water Act.

During the 1993-2003 period, while the debate over federal, state, tribal and local roles in wetland regulation was taking place, another set of Clean Water Act reauthorization issues were being discussed. These concerned watershed approaches (e.g., Section 319) for better controlling nonpoint sources of pollution, such as stormwater and sediment. Despite the expenditure of more than $100 billion in the 1972-1990 period by the public and private sectors on point source pollution controls and abatement facilities, the quality of many of the nation's waters had stubbornly refused to improve beyond a certain point. Lack of adequate control on nonpoint sources has led to a variety of new initiatives, such as EPA's stormwater program and watershed planning initiatives. Because of the importance of wetlands in controlling nonpoint pollution, the relationship between wetland protection and restoration to pollution control has emerged as a key issue. Conversely, watershed planning has emerged as a key wetland protection and restoration issue, particularly for isolated and headwater wetlands.

EXISTING MODELS OR APPROACHES

The inconsistencies and duplications in federal, state, tribal and local efforts are understandable, given the independent evolution of wetland programs in a piecemeal manner in response to particular issues and as part of programs designed to serve a broader range of goals. Wetland programs reflect the varying philosophies of these broader programs rather than those of a program designed to address the needs of wetlands, per se.

In attempting to decide what the appropriate future roles for the federal government, states, tribes and local governments should be, it is useful to first examine the three approaches or "models" now being applied. These models are relevant to future efforts in several ways: they are the building blocks; all three represent relatively large-scale programs that have been underway for many years and are likely to continue into the future (albeit in a somewhat modified form). They have considerable staff, resources, and political constituencies. Since there is no single, coordinated national program, the strengths and weaknesses of these individual efforts constitute the strengths and weaknesses of the overall federal wetland regulatory agenda as it now exists.

The three principal models are:

(1) Direct federal permitting. Direct federal Section 404 wetland permitting on a case-by-case basis follows and is derived from the Section 10, Rivers and Harbor's Act case-by-case permitting model. It is the overall approach that has been applied by the Corps and the EPA in permitting discharges and activities in navigable waters since 1898. With this approach, each individual permit is examined on a case-by-case basis to determine its consistency with the public interest. Broad, discretionary guidelines are proposed in regulations issued by the Corps and the EPA (Section 404(b)(l) guidelines. The focus of the program is on individual sites. No federal wetland regulatory plans or maps have been prepared, except on an experimental basis and for a small number of areas (e.g. advance identification and SAMP efforts).

This case-by-case direct permitting approach has some advantages (see Chapter 3.) But, it also has many important disadvantages, particularly for isolated and headwater wetlands.

There has been some overlay of the EPA federal/state water pollution control approach on this direct permitting approach, as will be discussed. In addition, Section 404(c) authorizes the EPA to designate sites that are to be off-limits to discharge of fill materials. However, this section has not been broadly applied.

Although Section 404 employs a direct federal permitting approach, the Corps has encouraged state, tribal, and local governments over a period of years to comment on proposed Section 404 wetland permits. Permits are rarely granted where states and local governments oppose issuance. State veto power over federal Section 404 permits has, to some extent, been formalized through the adoption of Section 401 water quality certification programs in 47 states and Coastal Zone Management (consistency requirements) in virtually all coastal states. This has given states more power over the issuance of permits and monitoring for compliance, although all other aspects of the program, such as wetland definition, delineation criteria, and overall standards for permitting, continue to be held exclusively in federal hands.

If this Section 404 model were to be followed in the future, permitting in all or most wetland areas would be a federal matter (with some state and local input) and would probably take place without advance watershed planning on a discretionary, case-by-case basis. As indicated above, the U.S. Supreme Court in SWANCC reduced the geographical scope of existing Section 404 permitting for isolated wetlands. Other federal decisions have reduced the scope of regulated activities. So, any future application of a direct federal permitting model for all wetlands would require congressional action to clarify and broaden, again, the scope of direct federal regulations.

The use of broad discretionary standards and criteria for permits, combined with case-by-case analysis, does permit the tailoring of specific regulatory policies to particular circumstances, primarily through the attachment of conditions. But, such discretionary standards and criteria also provide limited guidance and certainty for landowners with regard to the acceptability of particular uses in specific circumstances. Such discretionary standards also result in varied outcomes for individual permits and complaints that the permitting process is uneven.

The Corps has attempted to provide more certainty in permitting and to more specifically tailor regulations to particular conditions through the issuance of regulatory guidance letters, nationwide permits, regional general permits, and some state and local (area-wide) general permits.

(2) Federal permitting, but with assumption or programmatic permits for certain wetlands for qualifying state, tribal or local programs. The direct federal permitting approach to wetlands was modified by the Clean Water Act of 1977, which authorized state assumption of Section 404 (principally Section 404(g) and (h), and Section 208, which has never been used). State permitting is authorized for wetlands other than Section 10 waters and adjacent wetlands. State assumption follows what may be described as the National Pollution Discharge System (NPDS) point source pollution control model. With this NPDS model, the federal government is the primary permitting authority until states adopt and administer regulations that meet federal standards. Once these standards are met, the states, tribes, or local governments are then allowed to issue permits on a case-by-case basis within a context of water quality standards for particular water bodies or classes of waters.

There is one major difference between water quality regulation and state assumption for wetlands. Federal water quality statutes and regulations require states to define standards for receiving waters. Section 404(g) and (h) wetland regulations do not. This overall planning requirement contained in water quality regulations has encouraged statewide assessments and categorization of waters, and up-front tailoring of pollution control policies to specific conditions. However, state water pollution control has usually not contained specific standards for wetlands.

At least 20 states have explored state assumption of Section 404 powers. However, for a variety of reasons (see Chapter 6), only Michigan and New Jersey have applied for and been granted assumption.

If this assumption model were followed in the future, states, tribes or local governments could regulate certain wetlands consistent with federal standards. All states do, in fact, directly regulate coastal wetlands and many directly regulate freshwater wetlands. However, all states except New Jersey also involve local governments in the regulatory processes for freshwater wetlands.

Following adoption of the Clean Water Act in 1977, the EPA did not originally encourage state assumption of Section 404. However, in the last ten years (particularly the last five years) it has made strong efforts to encourage and facilitate state and local wetland programs. The EPA has also strongly encouraged state and tribal preparation of wetland conservation plans and, to some extent, local advanced identification and special area management for wetland areas.

In addition to state assumption, the Corps has generally encouraged "state programmatic general permits" in accordance with Section 404(e) which allow state or local permitting in lieu of direct federal permitting for selected activities and areas (see Chapter 5). Because these permits are more flexible than state assumption, at least 13 states have sought and been granted programmatic permits. Others are seeking such permits.

(3) Federal standard-setting and economic incentives for state, tribal and local permitting consistent with federal standards, but without direct federal regulation. The National Floodplain Management Program (NFIP) and the Coastal Zone Management Programs (CZM) represent a third approach whereby the federal government encourages but does not require state and local regulation of specific areas and offers a variety of financial and other incentives (e.g., consistency requirements) to encourage state, tribal and local programs consistent with federal standards.

The National Flood Insurance Program was, in part, the result of House Document 465 issued in 1966 (Task Force on Federal Flood Control, 1966). This document recommended a federal/state/local framework for floodplain regulation that involved state and locally implemented floodplain regulations within a framework of federal standards and with federal incentives (subsidized flood insurance, disaster assistance, etc.), data gathering, and technical assistance. Local governments were to be the primary regulatory authority. There are no direct federal regulations for floodplains. Most regulation of floodplains is by the 18,300 local governments enrolled in the National Flood Insurance Program, although some states directly regulate floodway areas.

Similarly, the Coastal Zone Management Program of 1972 established as a grant program to encourage state and local planning, assessment and regulation of coastal zone areas consistent with overall federal guidelines and regulations.

Section 319 of the Clean Water Act is a third example of such an approach. This section makes funds available to states for watershed identification and the preparation of watershed plans to address nonpoint sources of pollution.

If this incentive model were exclusively followed in the future for all types of activities, there would be no direct federal regulation of wetland areas. This model could encourage a broader geographical, watershed planning approach (as it has for coastal zone and pollution control programs) than the Section 404 program and could facilitate the tailoring of regulatory standards to local watershed conditions and needs within a framework of federal and state standards. However, without federal regulators powers to back it up, it would lack teeth.

Most state wetland regulatory programs incorporate a state/local government element, like the NFIP and CZM models in state coastal wetland programs which involve state standard-setting, mapping, and technical assistance for local regulation for at least a portion of coastal wetlands (e.g., Washington, Oregon, California, Alabama, Mississippi, Florida, Virginia, Massachusetts, Maine, Louisiana). Except for Pennsylvania, Rhode Island, New Hampshire, New Jersey, and New York, state freshwater wetland regulatory programs also involve state standard-setting for local regulation and direct state regulation only in the event of local inaction.

ACHIEVEMENTS AND PROBLEMS

Achievements

Much has been accomplished in protecting wetlands in the last 30 years through the combination of federal, state, tribal and local regulations and complimentary non regulatory programs such as mapping, landowner education, and restoration. Prior to 1972, there was virtually no federal wetland regulation and only a modest amount at the state or local level in a few states. Wetland losses were estimated in excess of 300,000-400,000 acres per year. By 2004, filling of major wetlands had become a rarity due to the combination of federal, state, tribal and local regulatory programs. Compensatory mitigation is now typically required for most large and mid-size fills.

The direct federal permitting approach, including federal prosecution of high visibility violations, has been subject to problems, such as fiscal restraints on staffing, but it has protected many wetlands and raised the awareness of the public to the functions and values of wetlands.

Federal, state, tribal and local wetland regulations have been particularly effective for large-scale fills for wetlands adjacent to lakes, major rivers, and tidally influenced waters. They have been much less effective for isolated and headwater wetlands and for many drainage projects for a variety of reasons discussed below.

Limitations and Problems

There have been problems, despite the progress in slowing the loss of wetland resources and providing at least some regulation of fills. The problems and complaints with the existing

framework from both environmental and developer perspectives were discussed in the National Wetland Policy Forum Report: Protecting America's Wetlands and in many hearings before Congress. Complaints may be grouped into two major categories:

- Inadequate protection and restoration of wetlands, particularly certain types of wetlands
- Complaints from landowners

Table 1 provides a list of these problems, whose causes are varied. Several causes include:

- **Inadequate regulation of isolated wetlands after the SWANCC decision.** Many of these wetlands are also not regulated at state and local levels.
- **Inadequate regulation of many activities that directly and indirectly impact wetlands.** The Section 404 program regulates only certain fills but not drainage, unless there is "fallback"; it has only regulated areas within wetland boundaries (no buffers); it has theoretically applied to all wetlands, but individual permits have not been required for substantial fills in headwater wetlands (e.g., Nationwide 26--less than ten acres) and for "prior converted" croplands. Similarly, state and local regulations have often exempted agricultural and forestry activities and many public uses.
- **Inadequate staff, expertise and budgets and duplicative use of available staff and funds.** Inadequate staffing and budgets have been a problem at all levels of government (see discussion below). Duplication is also a problem. For example, a wetland may need to be delineated three separate times, once for each federal, state and local agency, when three wetland regulatory programs apply different wetland definitions and delineation criteria at the three levels of government.
- **Inadequate dissemination of information to landowners** with regard to (1) the location of wetland boundaries, (2) the details of regulations, (3) how landowners can comply with the regulations.
- **Inadequate training, technical assistance and education for regulatory staff.** This is an increasingly serious problem as wetland regulation and restoration techniques become increasingly sophisticated and difficult to understand.

Table 1
Problems Within Existing Approaches:

(Note: Landowner complaints and inadequate protection and restoration often overlap.)

Landowner Complaints

- Landowners sometimes do not know if they are subject to regulation. This is a particular problem for drier-end wetlands. Also, landowners lack information on the specifics of regulations and how they can comply (e.g., impact minimization techniques, restoration).
- Federal wetland regulatory maps are lacking; state, tribal and local wetland maps at an adequate scale are also rare. National Wetland Inventory Maps, however, have been developed for much of the country and at least provide some notice to landowners.
- Multiple levels of uncoordinated regulations have often been adopted.
- Duplication of efforts is common by various federal agencies and by states and local governments, although progress has been made in joint permit processing.

- Uncertainty and delays in permitting are common, but progress has been made in establishing specific time deadlines.
- Delineation and permitting may be expensive for landowners.
- Insufficient federal, state, tribal and local government technical expertise exists for evaluating permits and mitigation proposals.

Failure to Adequately Protect and Restore Wetlands

- Landowner compliance is low in some areas because landowners are not aware of regulations, fail to understand regulations, or refuse to comply with regulations.
- Many regulatory exemptions exist based on size, type of wetland and other features.
- Many agencies fail to adequately consider the importance of wetland hydrology in regulation and to plan and regulate buffers and watershed areas.
- Inadequate monitoring and enforcement of regulations is taking place.
- Many compensatory mitigation projects are not working.
- Delineation criteria and policies are not tailored to watershed (water regime) conditions.

THE NEED TO CONSIDER IMPLEMENTATION NEEDS

Efforts to determine appropriate future federal, state, tribal and local roles in wetland regulation need to go back to basic implementation needs. Effective wetland regulation must have three principal components:

(1) Wetland regulations must **protect, restore and manage the essential scientific characteristics** of wetlands that determine functions and values and development/use potential. This requires regulatory efforts which consider how systems function and the adoption of mechanisms sufficient to address the basic scientific requirements of wetland protection and restoration (e.g., regional hydrology).

(2) There must be **adequately trained regulatory staff and budgets** to carry out all of the necessary steps in regulation (see discussion that follows). Some of the data-gathering and analytical burden can be shifted to landowners and their consultants. Typically, governmental units expend all or virtually all of their staff resources on permitting and little on monitoring and enforcement.

(3) Landowners must know **whether they are in a wetland, the specifics of the regulatory requirements, and how they can meet those regulatory requirements.** They must also be willing to comply with them for voluntary reasons or due to threat of fines or jail terms.

Wetland regulations will fail to protect wetlands if any one of these principal components are lacking.

Unfortunately, much of the discussion about appropriate federal, state and local roles in wetland regulation has been highly ideological and has begun (and often ended) with arguments about the relative merits of control at the various levels of governance, rather than an examination of wetland resources, what it takes to protect and manage such resources, what units of government realistically possess necessary powers and resources, and how landowners can be informed and educated with maximum effectiveness.

Steps in Federal, State, Tribal or Local Regulation

Certain basic steps are needed in any successful regulatory program. There are, of course, differences in wetland regulatory efforts at various levels of government. An appropriate mix of federal, state, tribal and local roles must have adequate staff, expertise, budgets, and staff capability to meet the needs of each of the following steps:

Delineation of Wetland Boundaries

Landowners must be able to determine whether or not their land is located in a wetland in order to comply with regulations. Conversely, regulatory agency staff must be able to define wetland boundaries if they are to administer and enforce regulations.

Wetland delineation may be either up front (e.g., delineation through maps) or carried out at the time permit applications are submitted to a regulatory agency (field determination) or a combination of both. State and local wetland regulatory programs have almost all involved some measure of up front, regulatory mapping prior to regulation. This provides some advance notice to landowners. In contrast, the federal Section 404 program has not prepared wetland regulatory maps. Some case-by-case delineation assistance has been provided by the Corps of Engineers field staff, but long delays have been common in the past and have led to loud complaints from landowners.

Maps help establish the presence of a wetland at a particular location, but they are rarely detailed enough to delineate precise boundaries. Field investigation, which may or may not require much expertise, is generally needed to supplement maps. For example, the boundaries of certain types of wetlands are located quite easily, such as coastal and estuarine wetlands, riverine wetlands along steep-banked rivers and streams, and lakeshore and pothole wetlands. However, delineation of altered and drier-end wetland boundaries and for wetlands that lack a sharp upland/wetland topographic demarkation is more difficult.

Delineation may take place at any level of government, but expertise is often lacking at the local level.

Evaluation of Wetland Functions and Values.

For each permit application, some measure of evaluation of impacted wetland functions and values is needed, although this evaluation is often superficial for smaller or degraded wetlands. The scope of the required analysis depends on the type of wetland and the type and severity of the impact of the proposed activity in the wetland. For example, a detailed analysis is needed where a landowner proposes to destroy a 300-acre wetland with possible endangered species and potentially important flood storage and flood conveyance functions and values. On the other hand, limited analysis may be needed for a very small wetland where less than 5,000 square-feet of fill is proposed for one corner of the wetland.

Some of this analysis can be done through air photos and other information typically available in an office, but a thorough analysis requires one or more site visits and additional, data-gathering.

Analysis may be carried out any level, but the expertise needed for detailed assessment of functions and values is often lacking at the local level.

Evaluation of the Impact of the Proposed Project on Functions, Values and Other Wetland Features.

Evaluation of impact requires an evaluation of wetland functions and values (see above), and an evaluation of the proposed project design on such functions and values, including how the project will be carried out (e.g., time of year, pollution control measures, etc.).

Considerable expertise may be needed to evaluate large, complicated projects that involve many aspects of project design, which may directly (e.g., a fill) or indirectly (e.g., stormwater runoff) affect wetlands.

Determination of Whether There Are Practical Alternatives.

Section 404 regulations and some states and local government regulations require a determination of whether there are practical alternatives to the proposed project. This analysis can be difficult, particularly when no broader land use plans or ecological analyses are available. Typically, the permit applicant is allowed to submit much of the relevant information.

Determination of Whether All Practical Measures Have Been Taken to Reduce Impacts.

Section 404 regulations and virtually all state and local regulations require the minimization of impacts in project design. Knowledge of impact minimization techniques and their costs are needed. A field visit is often required.

Determination of the Adequacy of Proposed Mitigation Measures (Wetland Restoration, Creation).

The Section 404 program and many state and local wetland regulatory efforts have adopted a no net loss or comparable goal. This means that a permit applicant proposing to destroy or damage a wetland typically offers to restore or create another wetland.

Evaluation of the adequacy of proposed mitigation requires considerable expertise, including knowledge of design criteria for wetland restoration and the ability to decide whether certain functions and values would be restored or created by a project. Evaluation of wetland functions and values and the impacts of proposed projects are also critical to these determinations.

Notices, Possible Hearing.

Virtually all wetland regulations at federal, state, tribal and local levels require the publication of notices of permit applications and a comment period. One or more public hearings may also be held on larger projects. A hearing can be time consuming and expensive, particularly when it must be held by agency staff members who are located many hundreds of miles from a wetland site.

Writing and Issuance of the Permit.

Writing and issuance of the permit with attached conditions can sometimes be a simple matter when a minor activity with limited impact is involved. However, the preparation of a major permit with many conditions can take many hours and require considerable expertise.

Appeals (Administrative, Judicial).

Most state wetland regulations provide for both administrative and/or judicial review of decisions. Judicial review of certain aspects of Section 404 permit decisions has been available since the inception of the Section 404 program. Administrative appeals are also now available.

Both administrative and judicial appeals at all levels of government can be time consuming and expensive. One or more field visits and considerable expertise are typically needed.

Monitoring.

Monitoring of a project once a permit has been issued is a critical phase of regulation, but one that has rarely been adequately carried out. A compliance check is often needed immediately after a project is completed to determine whether the project, including mitigation, has been carried out as described in the permit.

Additional monitoring is often needed over time to ensure compliance and the success of mitigation measures. Determining compliance with very precise elevation requirements requires a fair amount of expertise; determining whether a fill is placed in an area where it is not authorized may not.

Certain aspects of monitoring can (theoretically) take place through the use of air photos. However, field visits are essential for certain aspects of monitoring.

Field monitoring of individual projects has been a particular problem at the federal level, where agencies lack permanent field staff in an area. States, tribes and local governments at least have game wardens, state and local police, building inspectors, city engineers and other government employees who may have the skills to recognize and report violations.

Enforcement.

Enforcement of regulations, including conditions attached to a permit is key to compliance. Unfortunately, enforcement actions may also be extremely time consuming and expensive. A high level of legal and scientific expertise may be needed if actual litigation is involved.

Field visits are essential and travel costs for agency staff and expert witnesses may be large, particularly where a site is located many hundreds of miles from agency offices.

Miscellaneous Additional Components.

Some wetland regulatory efforts have additional components. For example, state wetland efforts have added wetland classification (e.g., New York) to their mapping. This requires even more staff and budget. Other components, such as mitigation banks, administrative appeals procedures, technical assistance to landowners, and advance planning of wetlands, are also being added to regulatory efforts. All have special staff, expertise, data-gathering, and budgetary needs.

As this discussion illustrates, processing a typical wetland permit is a quite complicated matter and often requires several field visits.

The Need for Field Presence

The critical importance of on-the-ground, trained field staff at many stages of wetland regulation is apparent from reviewing these steps in wetland regulation. Adequate field staff has rarely been available in the past, which explains, in large measure, the lack of both protection of wetland resources and landowner complaints. Unfortunately, the field staff available at all levels of government has often been inefficiently used, with extensive duplication of some operations (e.g., routine delineations) and little or no attention to others (e.g., landowner technical assistance, monitoring, enforcement).

Staffing and budget needs are also increasing as wetland evaluation, mapping, and restoration techniques become more sophisticated. For example, efforts to create mitigation banks and joint projects are time consuming and require special expertise, which is not necessary on individual permits. It makes little sense to suggest that a variety of new, more innovative wetland protection and restoration techniques be used if staff cannot even implement existing approaches. Sharing of staff at federal, state, tribal and local levels is needed.

Cost of Federal, State, Tribal and Local Regulations

Significantly, the National Governor's Association, Wetland Policy Statement, February 1992 (NGA, 1992) stated as one of its basic premises: *"Protection efforts should be coherent and coordinated to make the most efficient use of scarce resources and minimize inconsistency among federal, state, and local programs."*

Given the $6 trillion federal budget deficit and budget deficits at state and local levels, the cost of performing various tasks must be considered. Certain activities, such as wetland mapping, which can benefit from high-tech laboratories and economies of scale, might be carried out more cost-effectively at the federal level. However, activities that require on-site field work can often be carried out at the fraction of the cost at the state or local level because of decreased travel time/cost and salary requirements.

A Comparison of Costs

Location of particular types of wetlands in relationship to various cities and staff is critical to the staffing needs and costs of carrying out certain essential wetland regulatory activities.

It is important to have in mind a mental picture of wetland resources as they occur in the landscape when evaluating these costs and determining the appropriate federal, state, tribal and local roles.

The principal regulatory offices of the Corps and the EPA are located in major cities along major rivers, the Great Lakes, or the coasts. Many coastal and estuarine wetlands are also located along such rivers and the coasts. However, large concentrations of freshwater wetlands are located in headwater areas hundreds of miles from cities. . Local government offices and, to a lesser extent, state and tribal government offices are more likely to be found in these areas.

A rough comparison of the costs of a wetland delineation at federal, state, and local levels of government may be made for the purposes of illustration. Assuming that a permit is needed for a proposed wetland project in the Adirondacks region of New York approximately 150 miles north of Albany:

(1) Federal delineation. The nearest major Corps offices are located in Buffalo (250 miles) or New York City (250 miles). To travel to the site from a major office (there is a small office in Schenectady), carry out the delineation, travel back to the office, and write up the report, the Corps employee would typically require 2 or 3 days. The actual delineation might take only l hour.

Estimated cost:

3 days of salary for a biologist who earns $50,000/year	$400-600
Travel (500 miles at $.30/mile)	$150
Food (3 days)	$120
Lodging (1 night)	$ 60
Total:	$730-930

(2) State Delineation. Both the State of New York Department of Environmental Conservation and the Adirondack State Park employees are located within 50 miles of the site. Total travel time is about 3-4 hours roundtrip, with delineation time of 1-2 hours.

Estimated cost:

6 hours of salary of biologist who earns $45,000/year	$140
Travel (100 miles at $.30/mile)	$ 30
Food (not paid since no overnight)	$ 0
Lodging (no need since no overnight)	$ 0
Total:	$170

(3) Local Delineation. Assume that a town or city planner or regulator was available to carry out the delineation. Total round trip travel distance might only be 20 miles. Travel time might be 1-2 hours and the delineation may take 1-2 hours.

Estimated cost:

4 hours of salary of a regulator who earns $40,00/year	$120.00
Travel (40 miles x $.30/mile)	$ 12.00
Food (not paid)	$ 0.00
Lodging (not paid)	$ 0.00
Total:	$132.00

These are only rough estimates of cost and actually underestimate salaries and travel. But they are intended to make a point—local, tribal and state regulation may, in many instances, be less expensive than federal because local, states, and tribal staff are nearby. Expense is not the only relevant factor, but it is important. Similar differences in costs would often appear for an on-site wetland evaluation, a site inspection for a permit, a site inspection for monitoring compliance, a local hearing or an appeal procedure, and an enforcement action.

Expertise

Expertise is another factor. Most federal agency (Corps, EPA) staff typically have academic degrees in biology, botany, planning, or some related field and receive some training in Section 404 regulations and, in some instances, in wetland delineation or restoration. They also receive on-the-job training by carrying out the same operation again and again.

They are, therefore, better trained and often have more expertise than a local zoning administrator in these matters in most instances. However, states, some tribes and larger local governments may have expertise comparable or exceeding, in some instances, federal agency expertise.

Expertise is important in assessing hydrology (see Table 2) and other features.. However, federal, state, and local governments often have different types of expertise. Federal agencies and state agencies of have greater expertise in carrying out wetland delineations and assessments and in evaluating the adequacy of impact reduction and compensation measures. But federal staff often knows little about land planning, water law, zoning, subdivision control or other topics equally important to management of wetlands in a watershed context. State and local planners often have more expertise in these topics.

Other Factors Relevant to Appropriate Roles

Staffing, costs, and expertise are only some of the factors relevant to the appropriate combination of federal, state, and local roles. But these factors are essential part and often overlooked.

Table 3 outlines other factors relevant to appropriate roles, both generically and in terms of specific combinations that might be applied in particular circumstances. These criteria are applied in Chapters 3 and 4, which considers the pros and cons of various levels of governance in greater depth.

Table 2
Critical Water Characteristics that Determine Wetland Characteristics

(Note: The importance of a particular factor varies from one situation to another.)

- Mean water depths
- Velocity
- Sediment regimes
- Total water quantity
- Minimum and maximum depths and flows
- Hydroperiod

Appropriate Roles in a Generic Sense vs. Appropriate Roles as Applied to Particular Situations

Appropriate future roles may be approached from two perspectives – a general sense and as specifically applied to particular areas. It is possible, for example, to have a general regulatory program or model but to vary the mix of federal, state, tribal and local programs for particular areas through some of the techniques discussed in Chapters 5 and 6.

Table 3
Outline of Factors Relevant to the Appropriate Mix of Roles

- Scientific characteristics of wetlands. (See Chapter 2.)
- The extent to which national, state, or local interests are involved and the geographical scope of the regulatory body. (See Chapter 5.)
- Available field staff in relationship to on-the-ground permitting, monitoring, and enforcement. (See Chapter 1 and discussion that follows.)
- Available funds. (See Chapter 1 and discussion that follows.)
- Degree of expertise of each level of government. (See Chapter 1.)
- Existing powers and the ability to plan and regulate not only wetlands, but also watershed water and land uses critical to protection and restoration of areas. (See Chapters 2, 3, 4, 5.)
- The ability to tailor regulations to factual situations (See Chapter 3, 4, 5.), including watershed contexts.

SUMMARY

A patchwork quilt of federal, state, tribal and local wetland regulatory programs has evolved over the last two decades with three primary "models" for regulation including direct federal regulation, federal standard setting for state and local regulation, and local regulation with federal incentives. Despite limitations for each model, these three models form a substantial starting point for future efforts. Future efforts must be cost conscious and make better use of staff and other resources. They must involve a collaborative effort of federal agencies, states, tribes and local governments.

Chapter Two:
OVERVIEW OF FEDERAL, STATE AND LOCAL ROLES

"Over the last two decades, the United States has devised various public and private programs to protect and manage this valuable resource (wetlands). Unfortunately, most of these programs have addressed only limited aspects of the wetlands protection problem, and they have been adopted haphazardly and incoherently. This has led to duplication and uncertainty, at times imposing burdensome costs on wetlands owners. The existing programs also leave major gaps in the protection efforts."

– The Conservation Foundation, Protection America's Wetlands: An Action Agenda. The Final Report of the National Wetlands Policy Forum. 1988.

As discussed in Chapter One, any effort to determine appropriate future roles of the federal, state, tribal, and local governments must match the natural resource management needs of wetlands with the capabilities of various levels of government. This chapter will describe federal, state, and local governmental roles in greater depth. Examination of tribal roles was beyond the scope of this study, but tribal jurisdiction and authority is becoming increasingly important, particularly in the West.

Traditionally, wetland regulatory and nonregulatory efforts have been separated. However, the lines between the two approaches have begun to blur in efforts such as the Swampbuster program, wetlands and watershed planning with regulation as one component, mitigation banking, and in lieu fee programs that have both regulatory and nonregulatory components and objectives. In addition, nonregulatory measures, such federal Farm Bill subsidies for conservation easements and restoration, are increasingly important in gaining landowner cooperation and in addressing potential landowner complaints. For this reason, they are highly relevant to regulatory efforts. State and local real estate tax incentives and open space bond issue acquisitions may also reduce landowner complaints and permanently protect wetlands that were formerly only subject to regulation.

Both regulatory and nonregulatory needs and capabilities therefore need to be considered in suggesting future regulatory roles. These capabilities include staffing, budgets, and expertise and statutory powers (who can plan, regulate, and otherwise manage wetlands and other watershed lands essential to the protection and management of wetlands). Case-by-case permitting and management must be combined with some measure of broader information gathering and management (see Chapter 3).

EXISTING PROGRAMS -THE STARTING POINT

Any theoretical model for future regulation of wetlands is, to some extent, moot. Wetland protection and regulation is not and likely will not be a "start from scratch" issue. Regulations and nonregulatory programs have already been extensively adopted at federal, state and local levels. Congress, tribal and state legislatures, and local governments are also extremely reluctant to create new programs due to budget deficits.

Existing programs are subject to limitations, but they can form the core of future efforts. It is certain that any proposal to eliminate altogether any of these programs would encounter stiff political opposition. And, the advantages of eliminating any role would need to be balanced with the disadvantages from the resulting confusion. This does not mean, however, that roles cannot be supplemented or modified. And, there are opportunities to establish new program missions for existing programs and reallocate existing funds and staff.

We will briefly outline the major federal, state, and local regulatory and nonregulatory programs that offer the potential for strengthening regulation of activities within wetland areas and within a watershed context.

FEDERAL PROGRAMS

The federal government, of course, regulates at least some wetland areas and activities in accordance with the Section 404 program; it also manages federal lands and undertakes or finances a broad range of federal and nonfederal activities. The federal government does not, however, control water or land uses on private lands throughout most watersheds.

Important federal regulatory and nonregulatory programs for wetlands include:

(1) Federal regulation of wetlands and other waters. As already discussed in Chapter One, the federal government exercises direct regulatory permitting powers for most public and private activities in navigable waters and many adjacent and tributary waters in accordance with the Section 10 and 404 Programs and pollution control programs.

(2) Federal land management efforts. The federal government has control over public and private activities on federal lands. This is a substantial role since over one-third of the nation's lands are in federal ownership. In some states like Nevada and Alaska, federal ownership exceeds all other ownership combined and the federal government may control 80 percent or more of the landscape. Coordinated and improved federal planning and management of public land (principally the Forest Service and Bureau of Land Management), combined with federal control of water projects (Bureau of Reclamation, Corps of Engineers) could help achieve wetlands and watershed management goals in many areas, although some watershed activities on private lands would not be regulated.

(3) Federal subsidies, grants, taxing powers. The federal government indirectly influences, but does not regulate, an enormous number of public and private wetland and watershed activities through many programs, including farm subsidies, flood insurance, public works spending, and taxation. However, these efforts have not, to date, involved any sort of comprehensive wetlands and watershed planning or wetlands protection or restoration.

(4) Watershed or water-related lands planning, management efforts and grant programs. The federal government has also undertaken or funded land use and wetlands and watershed assessment and planning efforts through a variety of programs over a period of years, such as the River Basin Planning Efforts, P.L. 566 program (small watersheds) and the Water Pollution Control Amendments Section 208 and 319 programs (watershed water quality). States and local governments have been encouraged to include wetland protection and restoration as planning goals to qualify for federal grants pursuant to the Land and Water Conservation Fund, the Coastal Zone Management Program, and the Watershed Program (Clean Water Act Section

319). These programs do have potential for helping to implement wetland and watershed planning efforts, providing they can be linked to more specific data gathering and goal setting.

(5) Wetland-specific federal grants, other assistance to state programs. Only three federal programs have actively encouraged state and wetland regulatory efforts—EPA's State Wetland Grant Program, NOAA's Coastal Zone Management Program, and the FWS National Wetland Inventory. The latter is not a grant program but has provided invaluable data, technical assistance and training. The inventory has provided substantial help to state programs since its inception in the mid-1970s.

The EPA and the Corps began to actively encourage state programs in the mid-1980s as the Reagan and the first Bush administrations placed greater emphasis on state roles in wetland protection. The EPA has funded a variety of training, education and technical assistance efforts for states. In the last ten years, the EPA state program grants (now at a $15 million dollars/year) have been particularly important in helping states begin Wetland Conservation Plans, development of guidance materials, hold mini-wetland forums, and carry out a broad range of tasks. During this period, the Corps and the FWS have also encouraged state regulatory efforts through technical assistance and limited training, but has not provided any grants.

Despite progress, many states government employees feel the overall federal agency attitude toward state and local wetland management has been ambivalent at best. There has been even less support for a local role in wetland protection and regulation. The Clean Water Act makes no mention of a local government wetland regulatory or planning role in Section 404 or other sections of the Clean Water Act. However, the Corps takes into account the positions of local governments in evaluating Section 404 permits and has issued programmatic general permits for several local governments. The Corps has also encouraged local wetland and watershed planning in some instances. The EPA has also encouraged local government wetland planning, in some instances, by providing funding for advanced identification projects and by indirectly funding (through the states) some local government watershed planning efforts (Section 319).

Table 4
Some Federal Regulatory and Nonregulatory Programs Relevant to Wetland or Broader Watershed Regulation and Management

Direct Regulatory Powers

Rivers and Harbors Act, Section 10 Program
Water Pollution Amendments, Section 404 Programs
Water Pollution Amendments, Point and Nonpoint Source Pollution Controls (Most of these work indirectly through state standard-setting.)
Endangered Species Act

Nonregulatory Grant and Subsidy Programs

Coastal Zone Management Program
Clean Water Act, Clean Lakes and Estuarine Sanctuaries Programs

National Flood Insurance Program (Makes Federally Subsidized Flood Insurance Available to Communities Which Adopt Floodplain Regulations Meeting Federal Standards)
CRP and Wetland Reserve Programs
EPA's State Wetland Grant Program
Clean Water Act, Section 208 and 319 (Watershed Planning) Program

Technical Assistance, Research

Training Efforts, Workshops Funded by EPA's Division of Wetlands
National Wetland Inventory
Corps of Engineers Wetland Research
Corps of Engineers Training

Federal Land Management

National Park Planning and Management (NPS)
National Wildlife Refuge System (FWS) Forest Service (USDA) Planning and Management
Bureau of Land Management Planning and Management
Forest Service Land Planning and Management
Estuarine Sanctuaries Program
Corps of Engineers Planning and Management of Water Projects

STATE PROGRAMS

In the last fifteen years, states and local governments have played increasingly aggressive roles in protecting and managing wetlands. Michigan and New Jersey have assumed Section 404 powers for a portion of their wetlands. At least 13 states have also been issued programmatic general permits that allow the states to issue individual permits for wetlands in lieu of federal permits (see discussion in Chapter 6).

State and local programs that protect wetlands or control watershed uses that may affect wetlands are varied and complicated. Principal programs include:

- **State coastal or freshwater wetland regulatory programs adopted specifically to regulate activities in or near a wetland (within a buffer area).** Many of these regulate wetlands more broadly and stringently than the Section 404 program by applying a broader definition of wetland, by regulating buffer areas, and by regulating a broader range of activities (e.g., drainage).

- **State public water regulatory programs, including permit requirements for fills, water extractions (surface, ground), channelization.** These programs apply to some or all wetlands and, in some instances, also apply to broader (but often limited) watershed activities since they require permits for ground water pumping and any other appropriation of waters.

- **State coastal zone, shoreland, shoreline, critical area and other broader regulatory efforts, which include wetland protection regulations as one component.** Many of these regulate not only wetlands, but also at least some buffer areas and watershed activities.

- **State pollution control programs.** These efforts provide regulatory control over point discharges pursuant to the NPDS program. However, there is great variability in efforts to regulate nonpoint sources, with some states controlling many activities (e.g., Maryland's sediment control program). At least 47 states have adopted Section 401 water quality certification programs, which apply to federal Section 404 permits. Most of these programs operate, in part, under the state water pollution control statues. Many states have amended their definition of state waters to include wetlands.

  Several states (e.g., Wisconsin, Nebraska) have adopted specific water quality standards for wetlands and at least a dozen others are working on these standards.

  State water quality programs, particularly the nonpoint source programs, have the potential for regulation of watershed activities that impact wetlands, particularly if combined with Section 319 planning with explicit wetland protection and management goals and biological standards for receiving waters.

- **Broader state growth management and land use management efforts.** A number of states, such as Florida and Oregon, require local governments to prepare and adopt land use plans and regulations. These state programs set environmental protection goals, including wetland protection goals. The programs have to regulate wetlands and watershed activities.

- **Other programs.** Wetland and watershed activities are, to some extent, also regulated by the states through water permitting systems (surface and ground water), waste disposal, including septic tanks (most states), floodplain and floodway regulatory statutes (31 states), stormwater and watershed management programs (e.g., Maryland, Pennsylvania), permit systems for public waters, and permit systems for water appropriation (both surface and ground waters in some states).

Statutes in many states require environmental impact statements for certain types of development (e.g., New York, California), large-scale development review acts (e.g., Act 250 in Vermont), dune protection statutes (e.g., Maine), strip mining statutes (many states), sediment control programs (e.g., Maryland) and statutes pertaining to withdrawal of water from surface waters or ground waters.

Principal state regulatory programs are summarized in Table 5 as they collectively apply to coastal/estuarine and freshwater wetlands.

Table 5
Summary of State Regulatory Programs
As They Apply to Various Types of Wetlands

Coastal and Estuarine Wetlands. All coastal (salt water, Great Lake) states have adopted some sort of a coastal wetland protection program pursuant to either an explicit state coastal wetland statute (e.g., Connecticut Maryland, New Jersey) or a broader "public waters" (e.g., Texas, Minnesota), coastal zone management (e.g, California), or shoreline zoning (e.g, Washington, Wisconsin, Michigan, Minnesota) statute. The geographical scope, form, and regulatory standards for these programs vary greatly, however. Most states also regulate fills in coastal waters (often below the tide line) through separate public water or public land statutes. Virtually all coastal states have also adopted Section 401 water quality certification programs. In addition, all coastal zones are participating in the Coastal Zone Management Program. Usually a portion of the federal monies supplied to states by the Coastal Zone Management Program has gone to local governments for preparing and adopting coastal zone management plans.

Freshwater wetland regulatory programs. Approximately half of the states have also adopted some sort of explicit protection for some or all freshwater wetlands through freshwater wetland protection acts (e.g., Wisconsin, Indiana, Massachusetts, Vermont, Maine, New York, Florida, Maryland, Rhode Island, Connecticut, New Hampshire, Illinois, Oregon, Virginia, Ohio), shoreland or shoreline zoning acts (Wisconsin, Minnesota, Michigan, Maine, Washington), or public water statutes (Wisconsin, Minnesota) which define public waters to include some or all wetlands. In addition, some states are attempting to partially protect wetlands through water quality legislation, including water quality standards for wetlands (Wisconsin, North Carolina, Nebraska, Texas), critical areas legislation (Maryland, Minnesota, Florida), comprehensive local planning legislation (Oregon, Florida (to some extent), California (to some extent)), floodplain management legislation (e.g., Maryland), scenic and wild river legislation (e.g., Michigan, New York), or riparian zone protection legislation (Wyoming). Most states have adopted a Section 401 water quality certification program, which provides some additional wetland protection. Despite all of these programs, protection of freshwater wetlands is highly varied due to wide variations in the scope and content of regulations.

States also influence and control wetland and watershed activities through several other types of programs:

- **State acquisition programs.** All states have adopted some sort of conservation, fisheries, or wildlife acquisition programs with wetland protection as one component. Only a few programs are directly aimed at wetlands, but wetlands are often acquired because of their fish and wildlife habitat value. Often states have several programs housed in different agencies or divisions, including a waterfowl program, a fisheries program, an endangered species (or heritage) program, and a parks and recreation program. In addition, state universities often acquire and manage selected lands. These programs often involve not only acquisition of selected lands, but also the active management of these lands over time. During the last decade, state acquisition of lands has dropped dramatically due to fiscal constraints, but some states, such as Florida and New York, have aggressive acquisition programs funded by bond issues.

- **State land management programs.** States often manage a variety of lands, which include parks, stream and lake beds, coastal beaches and foreshores, coastal underwater areas, recreation areas, wildlife refuges, reservoirs, and scientific study areas, which often contain substantial wetlands or control the water supply reserves to other areas. In addition, states manage developed lands in public ownership, including state-owned highways, dams, dikes, airports, universities, and other developed areas that contain wetlands.

- **State public work programs.** State public works programs to some extent overlap with state land management activities. Nevertheless, public works projects involve the active phase of selection, acquisition, and intensive development of selected lands for roads, highways, airports, pollution control, etc. Often these programs are carried out in conjunction with local governments and federal grant-in-aid agencies. These programs have considerable potential to damage or destroy wetlands and are only partially subject to regulation. Conversely, they offer wetland protection and/or mitigation opportunities if properly coordinated.

- **State real estate tax incentive programs.** Most states now provide real estate tax incentives for farmland, forests, and other open space, including wetlands. In general, landowners must formally enroll in these programs to gain tax advantages. These programs offer protection opportunities and may strengthen regulations.

All of these programs offer wetland protection opportunities if the appropriate goals are adopted. Conversely, these programs may destroy wetlands if they lack wetland protection goals and are not properly coordinated.

LOCAL GOVERNMENT PROGRAMS

Although precise figures are not available, it is estimated that approximately 5,000 to 6,000 communities have adopted specific wetland protection ordinances. This is not only because of the growing interest in wetland protection at the local level, but also because many of the state acts pursuant to which state wetland regulations have been adopted require or encourage local adoption of regulations. For example, the shoreland zoning acts of Wisconsin, Minnesota, Michigan, Washington and Maine establish a state-standard setting for local regulation of shoreland areas. Wetland protection is one component. Similarly, coastal zone management acts in Alaska and California place primary regulatory implementation at the local level. The Virginia state coastal wetland act and the freshwater wetland acts of Maine, Connecticut, Florida, Maryland and Maryland also place primary regulatory implementation authority at the local level.

In addition to these communities with wetland protection regulations, many thousands of other communities have adopted floodplain regulations (a total of 18,300) or broader zoning, subdivision control, building code, or special codes (e.g., grading regulations, tree-cutting regulations, erosion controls) which have the potential for controlling the types and densities of watershed uses. Chapter 3 will describe in greater depth some of the local land use planning, advanced identification, and water planning programs that have the potential for wetland and watershed protection and management.

Local wetland regulations can reinforce and fill the gaps in state and federal regulations even if they do not replace state and federal regulations. However, the potential role of local governments in achieving no net loss and net gain is far greater than simply acting as explicit wetland regulators. Most aspects of land use and some aspects of water use, such as stormwater management, are firmly in the hands of local governments which exercise by far the most extensive powers of any unit of government over land uses and which carry out the largest number of public works (see Table 6). Most local governments have adopted land use plans and zoning and subdivision controls.

Local governments are key to watershed planning and multi-objective programs, such as greenways along rivers to protect water quality, wetlands, recreational opportunities, etc. They are also key to protecting and restoring smaller wetland areas and maintaining wetland buffers, water supplies, and water quality.

At the present time, the Section 404 only incidentally involves local governments. No role is provided for local governments in wetland regulation, protection, or management addressed anywhere else in the Water Pollution Control Amendments or the Clean Water Act.

FILLING THE GAPS IN REGULATORY EFFORTS THROUGH NONREGULATORY PROGRAMS

It has been suggested that gaps in regulatory programs including the gaps created by SWANCC for isolated wetlands may be filled by various nonregulatory programs including restoration and creation efforts such as the Swampbuster and Wetland Reserve Programs. These programs are, in the absence of federal, state, and local regulations, playing a critical important role in reducing drainage and filling of wetlands by certain types of agricultural activities in the Prairie Pothole region and other agricultural areas. But, these programs do not apply to nonagricultural activities such as shopping malls, landfills, bridges, private residences and a host of other activities. These incentive programs often involve limited term licenses and easements for agricultural lands which will expire, leaving the wetlands vulnerable again.

There are other problems as well. Restoration programs may, on a regional basis, help restore wetland acreage and, to some extent, wetland functions when viewed from a national perspective. But restoring wetland functions such as flood storage or pollution control at one point in a watershed does not remedy the threats to property, water quality, water supply and other functions created by wetland destruction in another area. For example, restoration of wetlands in the Adirondacks or western New York may create a net gain for the state as a whole but will be of little help to the New York City water supply if wetlands are destroyed in the Catskill watershed. Restoration of wetlands in one location will not address the legal problems created by the destruction of wetland and consequential flooding of landowners in another location. See, e.g., **Hendrickson v. Wagners, Inc**. 598 N.W.2d 507 (S.D., 1999) (Injunction granted by the court to require landowner who drained wetlands with resulting flooding of servient estate to fill in drainage ditches.); **Boren v. City of Olympia**, 112 Wash. App. 359, 53 P.3d 1020 (Wash. 2002) (City was possibly negligent for increasing discharge of water to a wetland which damaged a landowner.); **Snohomish County v. Pos**tema, 978 P.2d 1101 (Wash. 1998) Lower landowner had potential trespass action against upper landowner who cleared and drained wetland.); **Lang et al v. Wonnenberg e**t al, 455 N.W.2d 832 (N.D., 1990) (Court upheld award of damages when one landowner drained a wetland resulting in periodic flooding of neighboring property.)

SUMMARY

Each level of government possesses an array of tools for providing wetland protection and restoration; each level has strengths and weaknesses. A combination of federal, state, tribal and local roles is needed to build upon the strengths and address the weaknesses of each level of government (including gaps in coverage), and to provide more comprehensive protection and restoration. Both regulatory and nonregulatory programs are needed at all levels of government to protect and restore wetlands.

Table 6
Selected Local Government Programs Relevant to Wetland and Watershed Regulation/Management

Planning and Regulatory: may help protect wetlands if properly carried out; will destroy wetlands if not:

- Comprehensive and use plan: usually contains an open space element and may specifically address wetland and floodplain areas.
- Zoning: Many communities have adopted special wetland protection districts or overlays. These often contain density controls, setbacks from waters, and transferable development rights for wetland areas.
- Subdivision control: often contain cluster provisions, dedication requirements for park and open space, and stormwater detention requirements.
- Sanitary codes: usually prohibit septic tanks in high groundwater areas.
- Floodplain regulations: usually prohibit fills or other alternations in floodways (preferably defined with a zero rise standard) or broader floodplains; prohibition of fills in wetlands and other flood storage areas.
- Sediment and erosion control, grading ordinances: often contain buffer and revegetation requirements for development near wetlands.
- Tree-cutting and other vegetation removal ordinances: some prohibit or limit vegetation removal in or near wetlands; require restoration.
- Environmental impact statement requirements: prepared for certain types of projects.

Acquisition: (may help protect wetlands if properly carried out)

- Acquisition programs for parks, recreation areas, greenways, scientific areas, general open space, and public works projects.

Public works projects: (may threaten wetlands or help protect wetlands, depending upon the circumstances and how projects are carried out). These include sewer, water supply, solid waste disposal, highways, airports, dikes, levees, chanelization projects, stormwater detention, pipelines, erosion control (bank stabilization), schools, municipal offices, mosquito control, and marinas.

Public land management: (may help protect wetlands if designed to do so)

- (This may overlap with acquisition and public works projects but involve the long-term operation and maintenance.) Parks, greenways, sewers, water supply reservoirs, road corridors, dikes, levees, stormwater facilities, forest lands and other open land.

Chapter Three
CASE-BY-CASE PERMITTING VERSUS BROADER LANDSCAPE/WATERSHED LEVEL INVENTORY/PLANNING APPROACHES

"Many wetlands functions and values derive from the location of wetlands in the watershed and the relationship of wetlands to other land and waters. Management policies must be tailored to local hydrologic and ecological conditions."

– National Governor's Association, Wetland Policy, February, 1992

Regulatory approaches are subject to important limitations if they only focus on individual wetlands without considering the relationship of wetlands to one another and other water bodies, without considering existing and anticipated land uses, and without having some way of predicting and controlling watershed land and water uses. Chapter Three examines both case-by-case permitting and broader information gathering, planning and implementation approaches.

CASE-BY-CASE PERMITTING APPROACHES

To date, the Section 404 program has been implemented almost entirely through a case-by-case approach at every phase of permitting – delineation, permit analysis, notice and hearing, mitigation, monitoring and tracking, and enforcement. Most state, tribal and local wetland programs also operate primarily with a case-by-case approach. Section 404 has no regulatory maps, but many states, tribes and local governments have adopted their own. Wetland delineation is carried out on a case-by-case basis at all levels of government. Except for advanced identification plans for a few areas, there are no regional assessments of wetland functions or values. Once a permit is submitted to the Corps or a state/tribe/local government, regulatory personnel evaluate the permit after site-specific fact-finding. And, there is no advanced watershed planning (except to a limited extent where advanced identification or special area management projects are carried out). See Kusler, Wetlands and Watershed Management: A Guidebook for Local Governments. ASWM. 2003.

With the federal case-by-case permitting approach, only the areas identified as "wetland" are regulated. There are no buffer zones or broader watershed controls. Only existing conditions are typically reflected in the permit-processing analysis. No data generally exists to relate assessment of wetland functions and value to short-term and long-term regional hydrologic regimes or land use plans. In contrast, many state and local wetland regulatory programs regulate not only the wetlands, but also 25 –150-foot buffer areas.

It is understandable; therefore, that use of a case-by-case approach alone only partially protects many wetlands. It also provides landowners with limited up-front certainty.

In contrast, many local wetland regulations have been developed as part of broader zoning and planning efforts on a community-wide basis. A variety of zoning, septic tank, grading, filling, subdivision control, building code, and other regulations are often simultaneously applied to proposed wetland alterations. This does not mean, however, that local wetland protection is necessarily superior, only that a broader range of factors are typically regulated and that the

statutory powers and procedures exist for considering and regulating wetlands in a broader context.

Advantages of Case-by-Case Permitting Approaches

The goal of this chapter is not to attack the case-by-case approach, which has a number of important advantages. It is difficult to see how a case-by-case approach can ever be completely abandoned due to the high costs of site-specific information gathering needed for permit evaluation and the changes occurring in wetlands. But, a number of up-front mapping and planning approaches are also available to be used in combination with some measure of case-by-case permitting, to capitalize on its strengths and reduce its weaknesses.

As discussed in Chapter One, the Section 404 case-by-case permitting approach to wetlands applied by the Corps in the mid-1970s was, in fact, an extension of the case-by-case approach that had been developed by the Corps for implementation of Section 10 Rivers and Harbor's Act. Such an approach had worked quite well for fills and structures in traditionally navigable waters, where the primary concern was obstruction of navigation.

Utilization of a case-by-case approach was dictated by other factors as well. The Corps' regulatory powers in the 1972 Water Pollution Control Amendments were limited to navigable waters and did not include buffers or land uses. Federal regulation of water or land uses was highly controversial in 1972 and continues to be controversial today. A case-by-case approach that focuses only on the immediate wetland area has the advantage of minimizing the direct federal regulatory role. Other important factors include:

(1) A case-by-case approach permits highly focused data-gathering, including delineation and analysis of individual site-specific conditions, as individual permit applications are submitted. Such a focused approach is cost-effective in many circumstances and perhaps the only approach that can be used for very detailed site analysis, given the high cost of evaluating wetland functions, values and other features on a regional or statewide basis. Advanced evaluation of these features for all wetlands in a jurisdiction is extremely expensive and would often be of limited value in areas with little or no development pressure.

(2) A case-by-case approach allows up-to-date analyses of wetland boundaries, functions, and values. This is extremely important in situations where hydrologic regimes are rapidly changing.

(3) A case-by-case approach combined with broad, discretionary standards allows the consideration of a broad range of factors in the permitting and tailoring of wetland regulations to special factual situations (albeit the policies are not known up-front).

(4) A case-by-case approach, which emphasizes avoidance and mitigation, but does not prohibit all economic use of lands helps avoid the "taking" issue.

Despite these advantages, the case-by-case approach also has a number of limitations from both resource protection and landowner perspectives, which have already been briefly discussed. These disadvantages have given rise to many of the complaints with Section 404 regulations, and similar state and local regulations.

(1) Such an approach provides little advance guidance to landowners with regard to the acceptability or unacceptability of particular activities at particular sites or the sorts of conditions that may be attached to development permits.

(2) Such an approach does not adequately tailor wetland policies to the overall hydrologic, ecological, and land use context since there is usually limited off-site data-gathering, little "broader context analysis." (See discussion below)

(3) Such an approach does not address cumulative impacts or necessarily protect water supply, hydroperiod, etc., which depend upon watershed uses.

(4) Such an approach does not anticipate future watershed conditions. Such conditions determine future hydrologic regimes and future wetland functions and values.

(5) Such an approach may result in arbitrary and discriminatory permitting since discretionary guidelines and policies are often variously interpreted by different Corps offices and individual regulators.

(6) Such an approach does not monitor or address wetland losses due to activities not regulated under Section 404 such as draining or illegal activities.

(7) Such an approach is, to a greater or lesser extent, incompatible with the use of sophisticated wetland regulatory and management approaches, such as mitigation banks and multiobjective river corridor management.

It should be noted that some of the problems with case-by-case approaches were not readily apparent in the early 1970s when both the Section 404 program and most state wetland programs were adopted. A great deal has been learned about wetland science and the management and restoration of wetlands and related ecosystems since then.

MORE COMPREHENSIVE APPROACHES

It is easier to criticize the case-by-case approaches than to come up with practical substitutes that may be carried out with the present limitations on the scope of regulatory powers (federal regulatory powers confined only to wetlands) and limitations upon staffing and budgets. A variety of more comprehensive information gathering and planning approaches that consider factors outside as well as within wetlands have been implemented in specific contexts. However, it is to be noted that the most successful efforts have, with little exception, involved a combination of case-by-case and broader approaches, rather than one or the other.

Landowners want certainty with regard to location of wetland boundaries, what uses are and are not permitted in particular areas, and what conditions will be attached to permits. Up-front certainty is needed for private planning of particular activities, buying and selling land (potential uses affect price), and negotiating mortgages and other financial help. Up-front policies can also promote even-handed treatment of landowners in similar circumstances and reduce arbitrary decision-making.

Although certainty is attractive to landowners, it also has a downside to landowners – reduced flexibility. Landowners often want certainty but oppose certainty that restricts flexibility. In addition, it is very difficult to provide long-term certainty in wetland policies because functions and values change over time.

Upfront, comprehensive inventory and mapping approaches may be grouped under three general headings:

- Mapping, GIS and other information gathering and analysis
- Regulatory classification for wetlands
- Advanced planning

MAPPING, GIS, AND OTHER INFORMATION GATHERING AND ANALYSIS

One approach for increasing certainty for landowners while simultaneously facilitating permitting is upfront mapping and other information gathering and analysis, and the storage and dissemination of such information through maps, GIS systems, the Internet and other techniques to the regulated community. This information need not be incorporated into formal plans or regulations nor need it be developed specifically for wetlands in order to be useful to landowners and regulatory agencies. But, it must be available to them.

Compare, for example, a landowner seeking a permit from an agency with upfront data and a landowner seeking a permit in a community with a broad range of wetland, flood, soils, endangered species and other maps available in GIS on the Internet. The landowner in the community with no or little data will not know whether he is within a regulated wetland. The landowner and the regulatory agency must also start from scratch in determining the impact of the proposed activity and the adequacy of impact reduction and compensation measures.

In contrast, a landowner seeking a permit from a community with considerable upfront data may use the wetland maps to determine, overall, whether a permit is required, even if more detailed delineation of boundaries is necessary. Maps and other data may provide a great deal of additional information which may help the landowner and the regulatory agency determine, early on, whether a permit may or may not be issued and the mitigation/compensation needs. Useful information now available in some communities and states includes:

- Flood and hazard maps
- Endangered species maps
- Public ownership maps (if public waters are involved)
- Soil suitability for onsite waste disposal (soils maps)
- Existing use maps
- Zoning zoning maps
- Relationship of the site to source water (source water inventories)
- Relationship of the site to parks (public land ownership maps)
- Relative scarcity of the wetland type in the area (wetland maps)

CLASSIFICATION OF WETLANDS

A variety of proposals have been made at all levels of government to classify wetlands for regulatory purposes. The principal goal of these proposals is up-front certainty and the tailoring of regulatory standards to regulatory goals. Unfortunately, most of the proposals for classification put forth to date have been incomplete in the factors considered, which has led to over or under regulation.

There is little argument that wetlands vary in terms of hydrologic regime, size, depth, vegetation, animal species, rarity within a region and many other characteristics. There is also little argument that wetland functions, values and natural hazards also vary depending not only upon the characteristics of a specific wetland but its relationship to other wetlands, hydrologic regieme, and users.

At the federal level, the best-known regulatory classification proposal is the one contained in HR 1330, which was introduced in 1991 by Congressmen Hayes and Ridge and reintroduced in 1993. This bill proposes a very simple classification system of Class A, B, and C wetlands. Wetlands are to be first delineated based on the simultaneous existence of all three parameters (hydrology, vegetation, and soils). They are then to be classified once and for all, ostensibly, on functions and values. However, a broad set of economic and other planning factors that reflect value judgments are also set forth in the bill.

This classification scheme and most other regulatory classification schemes aim for simplicity in terms of the categories of wetlands and the factors considered in categorizing the wetlands. This simplification may result in highly misleading groupings.

Superficially, proposals to classify wetlands based on function and value seem sensible and perhaps not too difficult to carry out, until one begins to consider the dynamic nature of wetlands, their interdependence with watershed and human activities, and the high cost of attempting to assess up-front all functions and values. It is very difficult, if not impossible, to define function and value once and for all because of changing hydrologic regimes and changing land uses in watersheds. Determination of wetland functions and values is extremely expensive, even on a case-by-case basis, for a relatively small number of wetlands and prohibitively expensive on a statewide or nationwide basis.

Grouping of wetlands for determination of development potential based on natural resource functions alone is misleading since development potential often depends not only on natural resource values, but also on natural hazards (flooding, erosion) and overall community context. A wetland with few natural functions may, nonetheless, lie in a river floodway or coastal high hazard area. Development may be subject to severe hazards and may increase hazards on other lands.

Grouping or classifying by natural resource characteristics alone can be useful for a variety of scientific purposes, but it also cannot, by itself, indicated the public interest in various activities or the development potential of various sites. Any attempt to group wetlands by their natural resource characteristics and their values must begin to reflect social and economic factors, which determine “value.” Such factors are often difficult to establish and quickly change. For example, the value of a wetland providing flood storage might change dramatically in a single year if flood-prone development were located downstream from the wetland.

But, there are other problems as well. Value depends on context and this can only be determined through broader data-gathering and planning efforts. The classification scheme set forth in the Hayes/Ridge Bill attempts to do the impossible – provide a planning analysis without undertaking broader data-gathering and goal-setting; it would attempt to determine wetland functions and values without considering the relationship of wetlands to one another or to long-term water supply; it fails to recognize that the appropriateness of particular activities in wetlands depends not only on functions and values, but also on natural hazards.

This does not mean that some useful classification of wetlands for regulatory purposes might not be possible. The FWS is experimenting with a combination of the HGM categories and National Wetland Inventory maps to indicate overall functions and values. Several states now use some type of presumptive regulatory classification scheme in their wetland regulation efforts to establish functions and values. The classifications are based upon highly generalized characteristics of wetlands, not detailed data-gathering, and the resulting classifications are not viewed as a final word. There are no throw away categories of wetlands as considered by HR 1330. These classification approaches provide some increased certainty to landowners and regulatory agencies, but are not a substitute for case-by-case analysis.

More detailed regulatory classification has been carried out by some local governments, such as Eugene, Oregon, as part of comprehensive water and land use planning efforts. Detailed data-gathering and resource assessment precede the classification. Future and existing watershed conditions are projected. A no net loss goal is incorporated into the planning process.

LANDSCAPE OR WATERSHED LEVEL PLANNING

A more satisfactory approach than regulatory classification for providing up-front certainty, tailoring regulations to particular situations, and reflecting and (in some instances) controlling broader context, is advanced planning of wetlands in a watershed, ecosystem, or governmental unit context. Such planning efforts may include:

1. Local land use planning, with the inclusion of wetland provisions. Tens of thousands of local governments have prepared and adopted land use plans for some or all of the lands within their geographical boundaries over the last four decades. Some states (e.g., Oregon, California, Florida) mandate local governments to prepare plans. In general, these plans are based on surveys of existing land uses and natural resource characteristics. They reflect population characteristics, needs and other local conditions. These plans deal not only with existing conditions, but also establish goals for infrastructure development and various land use activities throughout a community, including the types and densities of uses.

In general, local land use plans are prepared by professional planners working under the supervision of a local planning board. Even if adopted, these plans usually have no regulatory force unless implemented through supplementary zoning, subdivision control, building code, and other regulatory efforts. Usually zoning and other regulations do not rigidly follow the comprehensive plan.

Local zoning regulations are typically implemented by a zoning administrator who makes field visits to any major development. Other local staff, such as building inspectors and members of the planning and/or engineering staff (if a subdivision is involved), typically also visit building sites.

Most older, local land use plans did not identify wetlands and did not have any water assessment or planning component. Wetlands may have, instead, been designated for industrial, residential, farming, or other use. These plans are, of course, of limited value in protecting or restoring wetlands.

Since 1970, 5,000 – 6,000 local communities have mapped and set policies for wetland areas as part of planning processes due, in part, to the adoption of state shoreland, shoreline, coastal zone, or other statutes that mandated adoption of such regulations. Many of these plans designate wetlands as conservancy zones. In addition, over 18,300 communities have adopted floodplain maps and regulations. Some of these regulations also contain wetland protection standards.

Many communities are now undertaking detailed water planning as either part of broader comprehensive planning efforts, or as independent planning efforts (see discussion below). Local land use planning efforts that identify wetlands and reflect the broader water regime, have important potential for regulating wetland areas (even if wetland protection is not now a major goal): they involve advance data gathering and mapping; they set forth relatively detailed policies for particular areas; they can regulate not only wetlands, but also adjacent buffers and land uses throughout a community.

2. Advance wetland identification efforts. Section 404(c) of the Water Pollution Control Amendments of 1972 authorizes the Administrator of the Environmental Protection Agency to designate sites that are unsuitable for disposal sites (Section 404 permits), where the Administrator determines "after notice and opportunity for public hearings, that the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies, shellfish beds, and fishery areas (including spawning and breeding areas), wildlife, or recreational areas." In accordance with this authority, the EPA has initiated at least forty "advanced identification" efforts. The EPA has also provided funding to local governments to help identify such areas.

Advanced identification efforts vary, yet all apparently involve the mapping of wetlands. Many use some measure of classification. However, it appears that few relate wetlands to broader hydrologic regimes. Advanced identification efforts have the potential for becoming a more useful tool if linked to a water-related planning and plan implementation process. The EPA could and should adopt regulations, establishing specifications for such a process.

3. Various water and related land planning efforts. A relatively large number of state and local governments have also undertaken water or water-related planning efforts in the last decade. These efforts vary and include:

- point and nonpoint source pollution planning (e.g., Section 319, 208 planning)
- stormwater and floodplain management planning
- water supply planning
- coastal and estuarine management planning
- river corridor and greenway planning (e.g., scenic, wild, recreation rivers, special river corridors such as the Saco in Maine)
- shoreline planning (lakeshore, floodplains in Wisconsin, Minnesota, Washington)
- wetlands and watershed plans (e.g., West Eugene, Oregon)

These efforts all involve, to a greater or lesser extent, inventories and mapping of water and related lands, and the establishment of goals and standards for future use of these lands. The efforts however differ in terms of:

- primary goals (e.g., stormwater management, floodplain management, water supply, point and nonpoint source pollution control, etc.)
- whether they take a watershed approach and, if they do, their definition of watershed
- geographical scope (e.g., a few acres to millions of acres)
- prior data-gathering, including wetland mapping (scales, types, etc.), use of geoinformation systems, etc.
- hydrologic factors considered (e.g., water quantity, hydroperiod, water quality, etc.)
- the weight given to social and economic versus natural resource factors
- types of implementation techniques (e.g. regulations, acquisition, etc.)
- degrees of state and federal involvement, including supervision, technical support, oversight, funding, etc.

As one might expect, in light of these differences, the usefulness of these efforts in protecting and managing wetlands also differs. Watershed planning efforts, which fail to identify wetlands or fail to take into account the factors critical to wetland protection and restoration will be of little use in protecting and regulating wetlands. Some of these efforts, such as flood control and water supply programs, have, in fact, targeted wetland areas for destruction.

Other efforts show more promise and provide some protection for wetlands, although they may not address all aspects of wetland protection. For example, most coastal and estuarine planning programs, shoreland zoning programs, wetlands and watershed programs, some floodway and floodplain management, and some river and greenway programs have identified wetlands and set wetland protection standards. A few have explicitly examined wetlands in terms of hydrologic and watershed protection needs.

Even where such efforts do not now take a hydrologic approach to wetlands, these water and water-related land use planning efforts are in place and can serve as the basis for more sophisticated future efforts.

In the last few years, many local governments (e.g., King County, Washington; Du Page County, Illinois) have initiated detailed water planning for water supply, floodplain, stormwater, and other types of water management. Many of these require careful analysis of water – sources, quantity, quality, hydroperiod. Although wetland protection is not the principal goal of these efforts, the detailed hydrologic information that has been developed is precisely the kind of information also needed for wetland protection and restoration.

Future wetland and watershed planning may best be multi-objective. Often funds are not available at the local level for the detailed hydrologic analysis to achieve wetland protection and restoration. More money is available for water supply, stormwater, pollution control, and other types of water resources planning. There is a strong incentive for detailed, multi-objective water resources planning due to a need to:

- plan water supply
- address floodplain and stormwater management and avoidance of liability
- comply with state and federal nonpoint source and stormwater regulations
- reflect an overall community recreational interest in birdwatching, greenways, etc.
- reduce community cost for infrastructure.

SUMMARY

Case-by-case regulatory approaches are now being applied at all levels of government. However, a variety of more comprehensive land planning and watershed management approaches are also being applied on a more limited basis. They have both strengths and weaknesses. Case-by-case approaches can be applied with little advance information gathering and permit highly focused information gathering and analyses at particular sites. However they also, in most instances, fail to consider broader ecological and hydrologic context. A number of upfront information gathering, classification and planning approaches are available to supplement but not necessarily act as a substitute for case-by-case analysis. Upfront information gathering and analysis approaches hold considerable potential for improving and lending certainty to case-by-case permitting. Regulatory classification has some potential, but is also subject to many limitations. Planning approaches hold much potential, but they are best carried out at local government and state levels, with federal standard setting, data gathering and technical assistance.

Despite the need for such broader approaches, experience suggests several caveats:

- Given the high cost of data-gathering and analysis and changing conditions, it is not practical to accurately determine wetland functions and values up-front on a large scale basis. Some measure of continued case-by-case data-gathering and analysis must accompany regulatory permitting and other site-specific management. This can be done at all levels of government.
- The usefulness of various planning approaches will depend upon the factors considered in such approaches, the level of detail in analysis, and the weight given to individual factors. Rigid regulatory classification schemes have particularly severe limitations.
- Local government, multi-objective watershed-based planning approaches that simultaneously consider water supply, stormwater and floodplain management, pollution control, wetland protection and restoration, and other water-related objectives have particularly great potential. (See J. Kusler et al, Wetlands and Watershed Management: A Guidebook for Local Officials. ASWM, 2003)

Table 7
Suggested Components of a Local/State/Tribal Comprehensive Wetland/Watershed Management Planning Effort

- Mapping of stream, lake, wetland, and other aquatic resources
- Mapping of other land uses, including land cover, types and densities of uses
- Description and analysis of overall hydrologic regime, including all water levels (even relatively superficial analysis may be useful)
- Preliminary assessment of functions, values, natural hazards of wetlands (there are limits to the possible detail)
- Public outreach and dialogue; feedback mechanisms to the planning process
- Establishment of water resource and land management goals (pollution control, floodplain management, stormwater management, water supply, etc.); adoption of no net loss goal for wetlands
- Establishment of use presumptions for various wetland areas
- Designation of potential restoration sites, including potential sites for mitigation banks (if considered desirable)
- Establishment of specific standards for particular activities, including activities in wetlands, in buffer areas, and in broader watershed areas
- Formulation of regulatory and nonregulatory implementation strategy
- Implementation, including supplemental data-gathering and analysis through case-by-case permitting

Chapter Four
PROS AND CONS OF FEDERAL, STATE, AND LOCAL REGULATIONS

This chapter takes a closer look at the pros and cons of federal, state, and local regulation of wetlands. An examination of pros and cons reveals (I believe) that a combination of roles, which capitalizes on the strengths of all levels of government while reducing their weaknesses, is needed for future efforts. It is to be noted that tribal roles are not discussed here in depth because a detailed survey of tribal efforts was beyond the scope of this study. Nevertheless, their roles are important.

THE FEDERAL ROLE

Pros of the Federal Role

The pros of a strong federal regulatory role include:

(1) **Federal ownership.** More than one-third of the nation's lands are federally owned. The federal land versus state, local, and private land ratios vary from state to state, but is particularly great in the West and Alaska. The federal government can, of course, control both public and private uses on federal lands. It can control activities in wetlands and in broader watersheds (to the extent that these are in federal ownership). Arguably, federal ownership of large acreages of land in some areas also increases the federal interest in ensuring that activities on adjacent private lands do not damage wetlands and waters on public lands.

(2) **International treaty powers.** Many aspects of wetland protection and management have international dimensions, such as the migration of waterfowl and other birds. The U.S. shares significant river, lake, and coastal resources with Canadian and Mexican neighbors.

(3) **Interstate nature of many wetlands and wetland functions.** The U.S. Constitution vests the federal government with the power to control and protect interstate commerce and to prevent conflicts between the states. The U.S. Supreme Court has recognized interstate interests as the basis for federal regulation pertaining to a broad range of topics such as (note this list is not exhaustive):

> (a) Protection of navigation. The federal government continues to play a major role in managing and protecting the navigable waters of the U.S. including maintenance of navigation and flood control pursuant to its Constitution power to maintain commerce. The Rivers and Harbors Act of 1899 was directed to protection of these waters. Courts have recognized a strong public (national) interest in such navigable waters in terms of a "navigable servitude."
> (b) Flood control and disaster assistance. The federal government has made a large investment in flood control facilities and provides national flood insurance and disaster assistance.
> (c) Air and water quality protection restoration. The federal government has also made a huge investment in pollution control and indirectly or directly regulates air and water pollution.
> (d) Protection of rare and endangered species. The federal government protects endangered species which are considered of national interest.

(4) **Broad federal geographical scope and perspective.** The federal government has the broadest geographical scope of any level of government. This is particularly important in management, where the hydrologic or ecological regimes of wetlands transect state borders.

(5) **Expertise.** The federal agencies have greater expertise and staff capability on certain topics (e.g., water engineering) than most local and state governments.

(6) **Strong regulatory field (staff) presence in some areas** (particularly near major cities where the Corps, the EPA, and other federal agency offices are located).

(7) **Better ability to resist local real estate pressures** than state or local governments, due to the broad base of political support.

Limitations Upon a Federal Role

Limitations on the federal role include:

(1) **There are strong state and local interests in the use of waters and lands.** In fact, most of the beds of navigable waters are owned by the states. Waters are generally held in trust by the states.

(2) **Federal agencies have insufficient statutory powers** to address wetland buffer and watershed areas (e.g., lack of control of water uses, land uses).

(3) **The Corps and the EPA lack field staff in many rural areas.**

(4) Because of this lack of field staff, **wetland delineation, permitting, monitoring and other planning and regulatory operations are often difficult and extremely expensive** if federal staff must travel long distances.

(5) **Federal staff lack expertise and experience in local land planning, zoning, local and state public works planning** and other aspects of land planning.

(6) **Federal staff often have difficulty in reflecting local conditions,** including zoning, in permitting because zoning maps and other local data is rarely available in federal offices and federal staff do not routinely deal with local issues.

THE STATE/TRIBAL ROLE

Pros of a State/Tribal Role

The pros of a strong state/tribal regulatory role include:

(1) **Constitutional concept of the states/tribes possessing broad "sovereign" powers and the federal government as a government of limited powers.**

(2) **State/tribes institutional framework of existing water and land use laws.** Water allocations are crucial to wetland protection and restoration, and rest primarily in state hands. Relevant state laws include surface and ground water appropriation, point and nonpoint source

pollution control, groundwater extraction, dam and reservoir, beds of navigable waters, floodway and floodplain regulations.

(3) **Experience.** Many coastal states have adopted strong state coastal wetland programs and have many years of experience implementing these programs. Almost one half of all states have also adopted freshwater wetland programs, and many states have considerable experience realizing such programs.

(4) **Field staff and expertise**. In some instances, states/tribes have considerable field staff and expertise, which greatly facilitates wetland delineation, evaluation of impacts, monitoring and enforcement. Typically, the state Department of Natural Resources, Department of Conservation, or other agency staff are located in field offices throughout a state, making them much closer to potential permitting sites than federal staff.

(5) **Quite broad geographical perspective**. States possess broad geographical perspectives, although not as broad as the federal government.

(6) **Resistance to political pressure**. States/tribes are in a better position to resist political pressures than local governments, but less so than the federal government.

(7) **Close to the ground**. States/tribes are closer to the ground than the federal agencies with often a variety of people in the field to call on – university extension, fish and game, state forest – who are familiar with local conditions.

Limitations Upon a State/tribal Role

Arguments against a strong or primary state/tribal regulatory role include:

(1) **Insufficient geographical scope.** States/tribes may have insufficient geographical scope to regulate entire wetlands or hydrologically controlled waters that cross state boundaries.

(2) **Limited staff and budgets.** Many states/tribes have limited staff and budgets allocated to wetlands and some have constitutional budget restraints that limit future funding.

(3) **Lack of motivation, political will**. Some states/tribes lack an interest in managing and protecting wetland areas.

(4) **Vulnerability to development pressures.** States/tribes are often more vulnerable to development pressures than the federal government, although less so than for local governments.

(5) **Limitations on expertise**. Many states/tribes lack expertise in certain matters.

THE LOCAL ROLE

Pros of the Local Role

The pros of a strong local regulatory role include:

(1) **Home rule.** A strong local role is consistent with home rule concepts and the traditional role of local governments in regulating land use.

(2) **Broad powers.** Local governments implement the broadest range of regulatory, public works, and other programs of any level of government and have more influence over land uses (and to a lesser extent water uses) than any level of government in many areas of the country. It is local governments, not the federal government or the states, that exercise the full range of land use control powers through zoning, subdivision controls, building codes, septic tank regulations, vegetation removal regulations, and other regulations. This means that they can strongly influence what happens throughout communities, which is particularly important for isolated freshwater wetlands.

(3) **On the ground staff presence.** Local governments have considerable on-the-ground field presence: zoning administrators, building inspectors, and planning staff. They are close to wetland areas, cutting down travel time to wetland permitting sites.

(4) **Multiple information sources.** Local governments often have many sources of information available to them in permit processing, such as tax maps, land use maps, detailed topographic maps (prepared for sewer and water), which are not readily available at other levels of government.

(5) **Opportunities for involving the public and landowners.** Local governments are often better able to involve the public and landowners than states and federal agencies due to their strong local presence.

(6) **Watershed planning.** Local governments are playing increasingly important roles in watershed planning and regulating the quality and quantity of water within their jurisdictions, including water extractions for water supply and other purposes, drainage, nonpoint pollution, stormwater, and floodplain management.

(7) **Improving expertise.** Larger local governments, particularly those in metropolitan areas, now often employ a range of experts and have considerable resource assessment and management capability, although this varies greatly. The expertise of large metropolitan governments often equals or exceeds that of state or federal wetland regulatory agencies.

(8) **Restoration opportunities.** Local governments often have major opportunities to restore or create wetlands as part of infrastructure projects, such as construction of stormwater management facilities, Superfund clean up efforts, construction of roads and other public works, restoration of gravel pits, creation of local parks, and management of local publicly owned lands.

Limitations Upon a Local Role

Arguments against a strong local role include:

(1) **Real estate pressures.** Local governments are the most susceptible to real estate pressures since they depend upon local real estate taxation to provide roads, schools, and all public services. Often developers are well represented on local government planning commissions and governing bodies.

(2) **Limited geographic scope.** Local governments have a limited geographical perspective and quite often control only a portion of a lake, river, or wetland.

(3) **Limited staff and expertise.** Many local governments have limited staff and expertise needed to map wetlands, delineate boundaries, evaluate permits, and monitor sophisticated restoration/creation compensation projects.

(4) **Limited budgets.** Many local governments have extremely limited budgets. This is particularly true for small, rural governments.

SUMMARY

All levels of government have strengths and weaknesses in regulating, protecting and restoring wetlands. All have limitations on staffing and budgets. Any future strengthened effort to protect and restore wetlands should be cooperative, building upon the strengths and involving federal, state, tribal, and local partnerships to address weaknesses and fill gaps in individual programs.

The next chapter discusses options for better coordinating federal, state, tribal and local regulatory programs to create strengthened and more effective partnerships.

Chapter Five
ELEMENTS OF A COLLABORATIVE, "NATIONAL" WETLAND REGULATORY PROGRAM

"The Administration is committed to increasing State, Tribal, and local government roles in Federal wetlands protection and restoration efforts."

Protection America's Wetlands: A Fair, Flexible, and Effective Approach.
White House Office of Environmental Policy, August 24, 1993.

Theoretically, many combinations of federal, state, tribal and local roles are possible. However, an improved collaborative effort should (in the author's view) include:

- Continued federal permitting for Section 10 waters, their tributaries, adjacent wetlands and other wetlands with "significant nexus" to navigable waters. However greater state, tribal and local assistance is needed to help implement and fill in the gaps in federal efforts. This would include increased state, tribal, and local mapping, analyses through GIS systems, wetland conservation planning, comprehensive land use planning, watershed planning, monitoring, and enforcement for all wetlands.

- Continued and enhanced state, tribal or local permitting in lieu of federal permitting for the portion of the wetlands under federal jurisdiction through state/tribal assumption, or state/tribal or local programmatic permits. This would take place only where nonfederal regulations meet or exceed federal standards. It would be supported by continued and enhanced federal mapping, research, training, and technical assistance.

- State, tribal and/or local permitting for isolated wetlands not under direct federal control due to SWANCC. This would also take place with continued federal incentives, standard-setting, federal mapping, research, training, and other assistance. Ideally, Congress would broaden, again, Corps and EPA Section 404 permitting powers to include all wetlands and waters. However, Congress would also establish an intent that states, tribes, and local governments assume a primary permitting role for isolated wetlands where state, tribal, or local regulations meet or exceed federal standards. The federal government would regulate isolated wetlands until states, tribes or local governments adopted and administered regulations consistent with minimum federal standards.

We will now consider these three major components for a collaborative effort in greater depth.

CONTINUED FEDERAL PERMITTING FOR NAVIGABLE WATERS, TRIBUTARIES AND ADJACENT WETLANDS, WITH GREATER STATE, TRIBAL AND LOCAL ASSISTANCE

As discussed in Chapter Four, direct federal permitting (Section 404, Section 10) has important advantages in terms of broad geographical scope, high levels of expertise on certain subjects, and resistance to real estate pressures. Direct federal permitting is taking place for navigable waters, tributaries and adjacent wetlands, but because of the SWANCC decision, federal regulation of all wetlands and activities is not taking place for isolated wetlands and inclusion of isolated wetlands would require Congressional action.

Direct federal permitting of Section 10 waters, tributaries and adjacent wetlands without changes in the Section 404 program is also subject to the other limitations of the existing Section 404 program. Drainage is only partially regulated. There is no federal control over most water extractions and watershed land uses that can destroy a wetland as effectively as a direct fill. Buffer areas are not regulated. Large acreages of "prior converted" wetland are not regulated. And, wetland permits are evaluated on a case-by-case basis, with little consideration of broader context.

The Corps and the EPA have lacked sufficient staff in many districts to carry out the activities required for effective permitting. Some Corps Districts staff have virtually refused to carry out delineations. Site visits prior to issuance of permits are performed in some, but not all instances. Actual permitting has often taken a long time, giving rise to landowner complaints. Compliance checks, including monitoring of restoration projects, are rare except for large, prominent projects.

For these reasons, state, tribal, and local government help is needed even where direct permitting is occurring.

States, Tribal and Local Government Assistance for Areas Subject to Federal Permitting

States, tribes and local governments could, if motivated to do so, carry out a range of activities to help overcome limitations with existing, direct federal permitting and aid federal permitting efforts, such as the following. These measures would be effective, however, only if the Corps consulted with states, tribes, and local governments on individual permit applications.

- State, tribal, or local preparation of state/tribal and local wetland regulatory maps that use federal wetland definition and delineation criteria (or comparable criteria). Such mapping could help provide up-front notice to landowners.

- Establishment of GIS systems with a broad range of information relevant to regulatory permitting, such as sites of endangered species, wetland maps, floodplain maps and potential restoration sites.

- Preparation of wetlands and watershed plans, among other types of land and water use plans.

- Authorization or operation of mitigation banks. This would help Section 404 regulatory staff decide on the acceptability of off-site mitigation.

- Routine delineation of wetlands, including Section 404 delineations, if provided with standardized procedures, forms and some training. For example, it is often quite easy to delineate the boundary of a tidal or coastal wetland (distinctive salt-tolerant vegetation, limited number of species, tidal action) or a floodplain or lakeshore wetland when the water body has steep banks. Federal staff or consultants could carry out difficult delineations.

- Solicitation and coordination of comments from the broad range of state and local governmental and nongovernmental units that might be affected by a federal permit decision. Many of the state 401 water quality certification efforts do just this.

- Submission of information to the Corps as part of comments on individual permit applications. This information could pertain to fish and wildlife values, historical values, land use conflicts, property ownership issues and other information often available only at the local level. States and local governments could also supply local zoning and other maps and regulations to help identify present and future watershed conditions.

- Regulation of buffer areas adjacent to wetlands, preparation and implementation of water and land use strategies for watersheds through zoning and other regulations. These areas and activities are not regulated by the federal government (see Chapters 2 and 3).

- Education and technical assistance to landowners with regard to alternatives analysis, techniques for reducing impacts, restoration of wetlands, and preparing wetlands and watershed management plans (e.g., Soil and Water Conservation Districts) and site plans as part of Section 404 permitting.

- Designation of potential wetland restoration sites, including sites for mitigation banks.

- Wetland interpretation through the creation of interpretative centers and walks, establishment of wetland courses or components of courses in schools, creation of adult education programs, distribution of regulations, maps and other educational materials, and working with individual landowners.

- Monitoring landowner compliance with Section 404 regulations, including compliance with conditions attached to permits.

- Information gathering necessary for enforcement actions, including the original condition of sites and violations.

- Provide state and local real estate tax breaks for strictly regulated areas, reducing landowner complaints and reducing the chance of a successful "taking" decision.

- Acquisition of wetlands where denial of a Section 404 permit might constitute a "taking" or where public ownership is desirable.

Would states, tribes and local governments be willing to help federal permitting efforts without additional delegation of permitting power or financial incentives? Some would. Others would not. States, tribes and local governments are well aware that regulation of wetland areas is expensive and requires considerable expertise. Yet, at least 47 states have already adopted Section 401 water quality certification programs, which help coordinate and enforce the Section 404 program in these states. Many states have adopted their own wetland regulatory programs. So, state action without federal financial incentives is possible.

We will now focus more specifically on the four most promising options for increasing state, tribal and local roles which might be applied without reducing federal permitting: (1) state, tribal and local mapping and information gathering; (2) state and tribal wetland conservation plans; (3) state and tribal Section 401 programs and water quality standards for wetlands; and (4) state, tribal or local wetland/watershed management planning.

State, Tribal and Local Mapping, Modeling and GIS Systems

Mapping, modeling and GIS systems for analyzing wetlands could provide greater upfront certainty concerning regulated wetlands, help determine wetland functions and values, help identify prime restoration sites, help track regulatory permits including mitigation, and help integrate wetlands into watershed and land use planning and management (see discussion in Chapter Three).

State, Tribal and Local Wetland Conservation Planning

The National Wetland Policy Forum in its summary and overview report (page 4 of the Forum report) made two specific recommendations for state wetland conservation plans. First, it recommended that "all states undertake the preparation of State Wetland Conservation Plans to provide a basis for all subsequent acquisition, regulation, and other wetlands protection and management activities. These efforts, which should reflect local land-use plans and other societal values, should result in the nation's wetlands programs anticipating needs and problems rather than merely reacting to them."

Second, the Forum recommended that "states immediately begin the process of assuming primary regulatory responsibility by undertaking the preparation of State Wetland Conservation Plans, administratively consolidating their wetland regulation activities, and enacting any legislation they need to provide full protection to their wetlands and qualify for the delegation of federal regulatory responsibilities." More specifically, the Forum recommended that to make regulatory programs "more effective and efficient" steps be taken to:

> *"Delegate primary responsibility for all wetlands regulation to qualified states, so long as they have the authority and capability necessary to achieve the proposed wetlands protection goal and have undertaken State Wetlands Conservation Plans indicating how they will do so.*
>
> *Provide financial and technical assistance, allow partial delegation of responsibilities; allow states to assume permitting authorities under Section 404 of the Clean Water Act over all wetlands; and require federal activities to be consistent with approved State Wetland Conservation Plans, in order to encourage the assumption of wetland regulatory responsibilities by the states."*

Despite these dual goals for state wetland conservation planning, of the 20 states that have initiated State Wetland Conservation Planning since 1988, few have done so with the primary goal of "state assumption." Most, instead, are attempting to improve coordination of wetland policies and to strengthen state programs more generally.

A broad range of possibilities exist with regard to the goals for a state conservation plan, its elements, who should prepare it, who should pay for it, and what its effect should be. No state has developed a truly comprehensive plan, although many states have what might be considered innovative components.

All state wetland conservation planning efforts have involved a number of activities which could help improve the 404 process. All involve inventory of state wetland regulatory and management efforts and identification of gaps in their efforts; all involve goal-setting for future

efforts and public outreach. Many state wetland planning efforts involve the establishment of water quality standards for wetlands and strengthened Section 401 water quality certification efforts (see discussion below). Many involve the development of improved wetland evaluation procedures, technical assistance and training efforts. Some involve watershed planning.

As suggested by Chapter Two, states typically possess a variety of programs with wetland protection and management potential. Due to the multiple programmatic and bureaucratic entities, however, agencies often work at cross purposes. There is a need, therefore, to consolidate and coordinate efforts into a comprehensive strategy for wetlands protection. Due to the large number of programs and their varied goals, it is unrealistic to suggest that a new, massive wetlands agency be created to implement such a strategy. Rather, implementation must involve the networking of existing efforts. This is the goal of most state wetland conservation plans.

State wetland conservation plans could be even more useful in assisting the Section 404 process if facilitating the Section 404 process were an explicit goal of the process.

Table 8
Elements of State, Tribal or Local Wetland Conservation Plans
That Could Help Federal Agencies Implement the Section 404 Program

(Note: Many of the elements are being prepared for broader purposes but could also help implement the Section 404 program.)

(1.) Inventory of wetland resources, including maps, status and trends analyses, sources of data. This could help Section 404 staff carry out delineations (or evaluate delineations carried out by others), assess wetland functions and values, assess potential restoration sites, etc.

(2.) Description of state and tribal regulatory programs that control activities in wetlands and that may impact wetlands in public waters, buffer zones and watershed areas. Contact information, including a description of regulatory standards, can be provided. This could help Section 404 personnel understand state and local regulatory requirements and determine whether permit applications will comply with such requirements.

(3.) Preparation and adoption of water quality standards for wetlands. This would help Section 404 staff determine the consistency of proposed permits with state and local regulations.

(4.) Creation and adoption of state procedures for monitoring activities in wetlands, including tracking permits. This could help Section 404 staff to monitor and enforce regulations.

(5.) Establishment of priorities for acquisition of wetland areas; identification of wetland acquisition programs and funding sources. This could help Section 404 staff address difficult permit applications, where denial might constitute a “taking.”

(6.) Identification of wetland restoration sites, including potential mitigation bank sites. This would help Section 404 staff evaluate mitigation proposals and mitigation banks.

(7.) Preparation of detailed, special area management planning for particular areas in the state. This would help Section 404 staff evaluate permit applications.

(8.) Public outreach, education, technical assistance. These could help implement the Section 404 program by making the public and landowners more aware of wetland functions and values, regulatory requirements, and how these requirements could be met.

Section 401 Water Quality Programs

A third approach for providing the Section 404 program with state or tribal help is through the adoption of strengthened state Section 401 Water Quality Certification Programs. At least 47 states have already adopted Section 401 water quality programs, although these programs vary greatly in content and staffing. At least three states have adopted water quality standards for wetlands, and at least 15 more have efforts underway to develop such standards.

In general, Section 401 Water Quality Certification Programs work like this: copies of the individual permit application submitted to the Corps for activities in wetlands are sent to the state Section 401 Water Quality Certification Agency. The state agency must certify that the permit will be in compliance with state law before it is issued. This works best if the state has adopted water quality standards for wetlands (see discussion below). However, only a few states have done so.

The Corps has also submitted nationwide permits to the states for certification. Some states have denied certification for some or all of these permits. If a state has denied certification of a particular permit (e.g., Nationwide 26) then the Corps must require individual permits for the activities covered by the nationwide permit.

Many of the Section 401 programs are the only state wetland regulatory efforts underway in states, such as Nebraska, New Mexico and Nevada. The scope of such programs has been reduced by the SWANCC decision because 401 programs only involve federal permits (e.g., Section 404) and the SWANCC decision reduced the scope of federal Section 404 permitting.

State Section 401 programs offer several advantages, even to those states that have not adopted wetland regulatory programs of their own.

- They can generally be implemented by states without new legislation. They are, in based, at the state level, upon existing water quality statutes and Section 401.

- They are desirable from both state and federal perspectives because they are nonduplicative. The federal permitting program remains primary, and delineation and site inspections are carried out by Corps staff. State 401 staff can focus on review of proposed permits for consistency with state policies, water quality considerations and other matters. This means, in some instances, that more can be achieved with limited staff.

- They are desirable from state perspectives because they can be (and generally are) implemented with limited staff and budgets.

- They are desirable from both state and federal perspectives as a way of coordinating state and federal policies. In general, state staff allocated to Section 401 review spends much of their time collecting comments on permit applications from various state agencies and coordinating state responses on proposed permits. This means that the Corps receives a more coordinated response from the state.

- They are desirable from both state and federal perspectives because they help to coordinate water quality and wetland regulation efforts.

- They are desirable from both state and federal Section 404 perspectives because they offer the potential for promoting broader planning and watershed management, particularly if linked to water quality standards for wetlands or based on watershed/water quality plans.

On the other hand:

- They often have a narrow case-by-case, water quality focus.

- From both state and federal perspectives, many of the Section 401 programs have not been well-staffed and lack budgets, reducing their ability to provide meaningful input to the federal process. Staff members often have expertise in water quality, but not in other aspects of wetland management.

- From a state perspective, a Section 401 program is at the mercy of any change in federal regulations and does not provide a truly independent basis for state regulation.

- Experience suggests that it is very difficult to apply numeric water quality standards to wetlands because of their dynamic nature and the many distinct environments often encountered in a single wetland.

State or Tribal Water Quality Standards for Wetlands

Another priority approach for state assistance to federal Section 404 permitting is state adoption of water quality standards for wetlands. A number of states have already adopted water quality standards for wetlands as part of Section 401 Programs—Washington, Wisconsin, and Ohio. Many other states are considering such standards.

Water quality standards for wetlands have a number of important benefits to both the Section 404 program and to state wetland and water quality efforts:

- If used in combination with permits for pollution discharge or wetland permitting, they can permit the tailoring of wetland standards to the quality of particular waters and ecological systems. Biological standards for receiving waters are particularly promising for protecting wetland and other aquatic ecosystems.

- Water quality standards require or encourage a broader ecosystem and hydrologic regime perspective to wetland permitting, thereby reducing cumulative impacts.

- Water quality standards for wetlands can further the coordination of water quality and wetland protection efforts.

Despite these potential advantages, water quality standards for wetlands also have limitations:

- Highly generalized standards may be difficult to implement and may result in arbitrary permitting.

- Standards which reflect only poor, existing water quality conditions in a receiving water may not provide protection for wetlands, which are critical to maintenance and restoration of water quality.

- Numeric biological standards are difficult to prepare and implement.

State, Tribal and Local Wetlands and Watershed Management Planning

State, tribal and local wetlands and watershed management plans are another priority option providing additional assistance to Section 404 staff.

As discussed in Chapter Three, a variety of land use and water planning efforts have been undertaken or are underway at state and local levels. They vary greatly in content and usefulness for wetland protection and management. Detailed plans have been adopted for some areas (e.g., West Eugene, Oregon) and have been proposed for others.

Assuming that such plans are developed at an adequate scale, state or local wetlands and watershed plans can aid Section 404 permitting in a number of ways, even if permits continue to be issued at the federal level. Such plans can facilitate evaluation of Section 404 permit applications by:

- Documenting existing natural resource, population, land use, economic and other conditions. This can help federal regulators consider the relationship of one wetland to other wetlands and land uses. This information, which is needed for a public interest review, is rarely available to the Section 404 staff.

- Providing a summary of local and state wetland and related resource management and zoning, building code and other regulatory policies applying to an area.

- Identifying wetlands. This provides notice to landowners. These maps might not be the final word, but could establish a presumption.

- Evaluating or helping to evaluate wetlands in a general sense, even if it is not the final word for wetland regulators.

- Setting future water/land use management goals for areas, including types and densities of development. This can help regulators project future conditions and can help with alternatives analysis.

- Identifying future water/land use, designating restoration sites, including mitigation banks.

- Facilitating alternatives analysis.

- Maximizing community involvement and long-term monitoring.

Despite the benefits from a properly designed wetland/water planning process, it is unlikely that many local governments will undertake detailed wetland planning if they do not think such plans will be used by Section 404 regulators. Local governments, therefore, need to be assured that regulators will consult such plans when permitting, even if they are not legally obligated to follow the plans. Such plans also need to be based on sound hydrologic data which can be supplied, in part, by federal agencies.

STATE, TRIBAL, OR LOCAL PERMITTING IN LIEU OF FEDERAL PERMITTING

A second major component of a strengthened, collaborative federal, state, tribal and local collaborative partnership should be enhanced state, tribal or local permitting in lieu of federal permitting when state, tribal, or local permitting will meet or exceed federal standards. This option is already authorized by Sections 404(g) and (h) of the Clean Water Amendments (state assumption) and has also been implemented through state or local programmatic general permits pursuant to Section 404(e) in some states.

Principal sub options include:

- State or tribal assumption of Section 404 powers
- State, tribal or local permitting pursuant to programmatic general permits

Variations on the Assumption, Delegation or General Permit Themes

There are many possible variations with regard to state, tribal or local permitting in lieu of federal permitting for waters under federal jurisdiction. Variations may pertain to:

- The range of activities and types of wetlands subject to state, tribal or local permitting in lieu of direct federal permitting. State, tribal or local permitting may be a complete substitute for federal permitting; or it could take place for certain types of wetlands and activities. For example, existing state assumption procedures pursuant to Sections 404(g) and (h) involve the substitution of state permitting for federal permitting for certain activities and types of wetlands. In contrast, state and local permitting pursuant to state or local programmatic general permits from the Corps maintain the overall federal permit framework. This means that citizen suit provisions continue to apply.

- The types of wetlands subject to state, tribal or local permitting in lieu of federal permitting. State or local permitting might take place in lieu of federal permitting for only certain types of wetlands (e.g., freshwater versus tidal) or for all wetlands. It can be confined to certain areas (e.g., a portion of a locality or state) or applied to broader areas (an entire local government, region, states). It can apply to only certain activities (e.g., small fills, small subdivision) or to all activities.

- Conditions under which state, tribal or local permitting in lieu of federal permitting will be allowed. There are also a broad range of possible conditions or standards for such permitting. For example, state or local permitting in lieu of federal permitting might be permitted if all aspects of the state/tribal or local regulation meet or exceed minimum federal requirements such as wetland definition, delineation criteria, standards for permitting, notice and hearing, and penalties. Or, state or local programs could be permitted only if a state or local government met not only minimum regulatory

requirements but also adopted an approved wetland conservation plan, watershed management plan, or some other type of planning requirement. It might be allowed only if a state/tribe or local government can demonstrate adequate staffing capability. It may be allowed only if a state, local government or tribal government had adopted a no net loss of function or function and acreage goal.

- Degree of federal oversight. The degree and type of federal oversight is another issue. A state, tribal or local government may be required to submit a report on all permits including the number issued, acreage affected and restoration. This might be required annually, biannually, or at some other duration. There are other options as well. A state, tribal or local program might be conditionally approved (e.g., for 1 year) or unconditionally approved. Approval may be for a specified period of time (e.g., 5 years) or for unlimited duration. Oversight and approval procedures may also vary. For example, a state, tribal or local government might be required to submit a proposed program to only one agency (e.g., the Corps) or to several agencies for approval. It may be required to submit all permit applications to a single federal agency (e.g., the Corps). Or, it might be required to submit applications to a number of agencies (the Corps, EPA, FWS). Even if referrals where not required for all applications, certain applications might be referred (e.g., major fills, subdivisions, drainage projects. Finally, quite a broad range of options are also available for disapproval of state, tribal and local program once adopted if they fail to meet minimum federal standards. A state, tribal or local program might be revoked for failure to comply with even a single condition or for only gross violations. Disapproval may take the form of administrative action or court action or some combination of both. Various conditions may or may not be specified for approval.

Arguments for and Against State, Tribal or Local Permitting in Lieu of Federal Permitting

Arguments **for** state, tribal or local permitting in lieu of federal permitting in certain circumstances include:

- A division of labor may take place between federal, state, tribal and local staff, increasing the amount of staffing for particular tasks and improving the quality of permitting and wetland protection. For example, in Michigan, the state and local governments focus on smaller isolated wetlands and wetlands along small lakes, rivers and streams. The Corps focuses on the wetlands along the Great Lakes and major water bodies.

- State, tribal or local permitting based upon a condition of prior planning may be a powerful incentive for planning of wetland resources with a watershed perspective.

- State, tribal or local permitting in lieu of federal permitting may reduce inconsistencies and duplication and encourage integration in land use and water planning, which is important to long-term protection and restoration of wetlands as well as to providing certainty to landowners.

Arguments **against** state, tribal or local permitting include:

- Some local governments, states, and tribes may take advantage of flexibility to circumvent the protection that the Section 404 program provides wetlands.

- Many local governments and some states and tribes lack the budgets and staff to competently regulate wetland resources.

With these general considerations in mind, the individual options for state or local permitting in lieu of federal permitting will now be examined.

State or Tribal Assumption

Section 404(g)(1) of the Clean Water Act permits the Governor of any state "desiring to administer its own individual and general permit program for the discharge of dredged or fill material into the navigable waters..." to apply to the Administrator of the EPA for such permitting authority. To qualify for delegation of Section 404 powers, a state must have a regulatory authority comparable to the federal program. Once a state program is approved, Section 404 permits from the Corps are not required for certain waters. Since this provision was adopted in 1977, at least a dozen states have indicated a preliminary interest in the delegation of permitting powers. Only Michigan and New Jersey have been approved.

Limited state interest in assumption has been due to several factors:

- **The expense of operating their own permitting programs, particularly if they must be consistent with the federal Section 404 program.** Wetland mapping, boundary delineation, and permitting are quite time-consuming and expensive. Many states have severe budget problems, which will likely continue for some time.

- **Inadequate state regulatory authority and the failure of Section 404 to authorize "partial" assumption.** Few states regulate the broad range of wetlands and activities regulated by Section 404 because their wetland definitions are more restrictive or they exempt activities that Section 404 does not. As noted above, one-half of the states regulate freshwater wetlands. Of these, some apply a more restrictive definition of wetland than the federal definition. In addition, many states apply a size limitation on regulated wetlands.

- **Stringent federal permitting criteria.** To issue permits pursuant to an approved section 404(g)(1) program, states must comply with federal 404(b)(l) guidelines as well as many additional statutory requirements. A number of states have considered amending their statutes to bring them in line with the federal program, and New Jersey has actually done so. Nevertheless, few states have been willing to take this step in light of the other limitations on assumption.

- **Complicated permitting procedures.** State regulatory permitting procedures with a state program adopted in accordance with Section 404(g)(1) are also quite complicated. States must submit notice and copies of permit applications to the EPA and provide public notice. They must also provide notice to other states whose waters may be affected and to the Corps if navigation is affected.

- **Permitting authority limited to nonadjacent wetlands.** States may not assume direct permitting authority over "waters which are presently being used, or are susceptible to use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce shoreward to their ordinary high water mark, including all waters which are subject to the ebb and flow of the tide shoreward to their mean high water mark, or mean higher high water mark on the West coast, including wetlands adjacent thereto... " In some states, this includes most of the wetland.

- **State "general permits" are available from the Corps.** The Corps presently allows states to issue permits in lieu of direct federal Section 404 permitting without all of the complexities and comparable requirements of assumption. Programmatic permits rather than assumption has, therefore, been pursued by most states.

With assumption in effect in only two states, it is difficult to determine its overall merits and disadvantages. The Michigan Department of Natural Resources believes that assumption has helped protect wetland resources. Assumption has been supported by the development community and by some environmental organizations. Certain aspects of the state program are more stringent than the Section 404 program. Delegation has encouraged very close federal/state cooperation in wetland regulation. Nevertheless, there have been some conflicts between the state and the EPA with regard to certain regulatory requirements, such as alternatives analysis and complaints about lack of state and local enforcement. Whether the Corps and the EPA would do any better on permitting and enforcement is another issue.

State, Tribal, or Local Programmatic General Permits

Another alternative for partial state, tribal or local permitting in lieu of federal permitting is issuance of state, tribal or local permits pursuant to "programmatic general permits" issued by the Corps. Section 404(e) of the Clean Water Act authorizes the Corps to issue "general permits on a state, regional, or nationwide basis for any category of activities ... if the Secretary determines that the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment."

In keeping with this authority, the Corps has also issued some "area-wide" permits for states and local governments, where a state or local government issues individual wetland permits consistent with federal standards. These area-wide permits apply to a broad range of regulated activities within all or a portion of a governmental unit. The Corps has issued state programmatic general permits for at least 13 states. Most permits are relatively limited in scope, but the North Carolina permit applies to the entire coastal zone; the Wisconsin permit applies to much of the state; and the Maryland and New Hampshire permits apply to the entire state. Many more states are now also considering general permits.

Overall, there is more interest among the states, tribes and local governments in programmatic general permits than assumption. Some advantages of programmatic general permits are:

- They can be issued for only a portion of a state or for particular activities. They do not require total comparability of programs. This means that a state may not need to change its existing program.

- They can be issued for wetlands in and adjacent to Section 10 waters.

- They create a combined federal/state permit with some measure of federal oversight on individual permits. This is a mixed blessing but favored by some states. It can bring in federal technical assistance, expertise and federal clout. On the down side, it can also result in confusion and duplication.

- They can be used to encourage watershed planning approaches (e.g., West Eugene, OR).

- They are favored by a number of federal agencies and may create less opposition from environmental groups than state assumption.

- The Corps administers general permits; the EPA oversees assumption. Some states favor this because the Corps has more field staff than the EPA.

Overall, states appear pleased with their programmatic permits. Maryland has complained about too much federal oversight. However, North Carolina, Wisconsin, and New Hampshire appear satisfied with federal oversight.

Impediments to state programmatic general permits have included:

- The legality of some types of permits has been questioned, since states are not specifically authorized by the Clean Water Act. Some environmental organizations have threatened suits.

- The Corps did not until recently encouraged states to apply for these permits.

- The Corps has not published adequate guidance for state permits.

- There has been no federal funding. However, this is a less serious problem than for state assumption because a general permit can be tailored to a state's program, and substantial changes in the program may not be needed.

STATE, TRIBAL OR LOCAL PERMITTING FOR WETLANDS NOT REGULATED AT THE FEDERAL LEVEL

A third component of a strengthened federal, state, tribal and local collaborative, regulatory partnership would be enhanced state, tribal or local regulatory permitting programs for isolated wetlands not presently regulated at the federal level. Such programs could be encouraged by increased federal technical assistance and funding. They should include both regulations and incentives (e.g., landowner education). See Appendices C and D. They should include integrated wetlands and watershed management. See J. Kusler. 2003. Wetlands and Watershed Management: A Guidebook for Local Governments. ASWM. Berne, N.Y.

The author believes that Congress should, over time, authorize the Corps and the EPA to directly regulate isolated wetlands and other waters. However, such regulation would take place within the framework of a revised "national" wetland regulatory program with states, tribes, and local governments as enhanced partners. In light of SWANCC, enhanced state, tribal, and local regulations will need to suffice for the present.

Approximately one half of the states are now regulating isolated wetlands (to a greater or lesser extent) pursuant to state wetland, coastal zone, public water or other statutes. That means that one half of the states are not, and the number of states which will adopt programs in the immediate future is uncertain due, in part, to budget crises and issues with political acceptability.

In some states, local regulation of isolated wetlands appears to be the only politically acceptable alternative to state permitting. Many states that now regulate freshwater wetlands carry out such regulation in cooperation with local governments. The states establish standards for local regulation and assist local regulatory efforts. The states only directly regulate if local governments fail to adopt and administer regulations that meet state standards.

Some of the advantages of local government regulation include:

- Some local governments are well-staffed and well budgeted, with much larger per capita and per square mile staffs than the federal government. Allowing local governments with sufficient capability and motivation to undertake permitting would reduce duplication and allow federal staff to concentrate on other areas.

- Local permitting in lieu of federal or state permitting may facilitate integration of wetland, floodplain, stormwater, sediment control and other programs.

- Permitting that involves multiple field visits may be more cost-effective at the local level due to reduced travel times (see discussion in Chapter Two).

- Local government permitting may provide more rapid turn-around times for delineation and permit processing.

However, there are also disadvantages of local permitting in some instances. These disadvantages have been discussed earlier but will be repeated as the apply to isolated wetlands.

- Local governments may lack sufficient geographical scope.
- Many local governments have limited staff.
- Many local governments lack wetland expertise.
- Many local governments are subject to severe real estate pressures.

Because of these limitations, which are particularly severe for many smaller units of government, relatively federal oversight is particularly desirable for local regulatory programs although oversight of state and tribal are also needed. The federal government should continue to provide wetland maps, technical assistance, and financial incentives to the states, tribes and local governments for these wetlands.

SUMMARY

Looking to the future, a strengthened, collaborative federal, state, tribal and local government partnership is needed, which builds upon the strengths and reduces the weaknesses of each level of government. This should take the form of a strengthened “national” wetland program incorporating all levels of government. See more discussion below.

Chapter Six
GAINING THE COOPERATION OF STATES, TRIBES AND LOCAL GOVERNMENTS

This chapter makes more detailed recommendations for gaining the cooperation of states, tribes and local governments in creating a strengthened, collaborative partnership. Arguments for a strengthened partnership are summarized, followed by suggested incentives for fostering cooperation.

WHY STATES, TRIBES AND LOCAL GOVERNMENTS MAY BE WILLING TO PARTICIPATE

States, tribes, and local governments may be willing to participate in a strengthened partnership for a number of reasons discussed earlier but worth summarizing:

- The SWANCC decision has created a significant gap in the federal Section 404 program with regard to isolated wetlands. Only three states (Wisconsin, Indiana, and Ohio) have adopted legislation to fill that gap. Other states have an interest (e.g., South Carolina, Illinois).

- The federal Section 404 program regulates only limited activities within wetland boundaries. This is increasingly recognized as insufficient to protect and restore wetland functions and values, which depend upon water quality and broader water regimes. The political acceptability of extending federal powers to other activities, buffers and watershed activities that affect wetlands is questionable. State, tribal and local regulation of unregulated activities and buffers, and the planning and regulation of water and watershed activities that determine the functions and values of wetlands are needed to manage wetlands, particularly isolated and headwater wetlands (see Chapters 2 and 3).

- The federal Section 404 program has been, over the last 30 years, inadequately staffed or financed to carry out the field visits needed to properly administer a federal permit system for all wetlands or for even the wetlands regulated post-SWANCC. See discussion above. This is particularly true for the delineation of wetlands, monitoring and enforcement. It is unlikely that Congress will make large, new appropriations to provide such staff given the large federal budget deficits. States, tribes and local governments can help meet some of those staffing needs if duplication in efforts is reduced. In addition, states and local governments are in a position to carry out many tasks at a much lower cost than the federal government, due to less travel cost and the integration of tasks with ongoing programs.

- Wetland protection and restoration need to become a routine component of local and state water and land use planning, zoning, and other activities. Such integration of water and land uses is essential to long-term protection of wetland functions and values, which depend on hydrologic regime and hydroperiod.

- Duplication and inconsistent federal, state, tribal and local policies, combined with lack of maps, technical assistance, and up-front information gathering, have given rise to landowner opposition to wetland regulation at all levels of government. The problems can best be reduced through a coordinated and strengthened federal, state, tribal and local planning and regulation that makes use of staff and resources at all levels of government.

BUILDING AN IMPROVED PARTNERSHIP

Important foundations for improved cooperation are already in place.

First, and foremost, there is new motivation at all levels of government. See discussion above. There is widespread recognition that duplication and lack of coordination not only wastes staff and financial resources, but also results in loud and often unnecessary landowner complaints. There is the recognition that watershed activities do, in fact, affect wetlands and that there is a need to coordinate watershed activities and wetland protection and management. It is also recognized that broader planning approaches are essential to improving wetland evaluation and integrating wetland, floodplain management, stormwater management, water supply planning and other water-related planning efforts. It is obvious now that new approaches, such as regional restoration schemes (e.g., the North American Waterfowl Management Plan), mitigation banks, and the Wetland Reserve Program, cannot be implemented without creative partnerships.

Second, there is increased leadership at the national level promoting improved federal, state, tribal and local partnerships. In its 1993 wetland policy statement, the Clinton Administration endorsed the partnership concept. The second Bush administration is showing renewed interest in the states and in partnerships. The Corps, the EPA and other federal agencies are now working on a number of measures to implement this policy, such as detailed policy guidance on mitigation. What Congress will do with Clean Water Act reauthorization remains to be seen, but it appears likely that efforts will be made to more clearly define and coordinate federal, state, tribal and local roles.

Third, considerable progress has been made in the last two decades in developing the federal, state, tribal and local wetland management and regulatory capabilities. Many contacts between levels of government necessary for such partnerships have been made. Much progress has been made in educating states and local governments with regard to the specifics of the Section 404 program. The EPA's state grant program and many training efforts have helped develop state and tribal wetland programs. The sophistication of government staff and consultants throughout the country has been greatly increased.

Federal, state, tribal and local staff have, increasingly, come to know one another through measures such as joint permitting, state programmatic general permits, joint training sessions, and workshops and seminars. Much has been learned about what works and what does not. These are important prerequisites to cooperation

INCENTIVES FOR STATES, TRIBES AND LOCAL GOVERNMENTS

Many states, tribes and local governments report that they would need financial help to regulate isolated wetlands and even more to assume the entire Section 404 program through

assumption or a programmatic general permit. But, financial help is not the only incentive for state or local assistance to federal permitting. Other incentives may include:

- Decreased duplication in permitting
- Decreased times for permitting
- Increased certainty in policies
- Increased coordination
- Increased autonomy
- Increased flexibility

These can be strong incentives. Michigan and New Jersey have assumed the Section 404 program without federal financial help. The 13 states with programmatic general permits have also not received financial aid from the federal government. Several local governments have sought and received local programmatic general permits without federal financial help. Financial assistance would, obviously, encourage states, tribes and local governments. Even modest grants of $50,000 to $75,000 per year per state would encourage states, tribes and local governments to seek assumption and local programmatic permits.

Progress in wetland programs is not uniform across the country, however. Much still needs to be done to create a coordinated, collaborative program. Additional incentives for state, tribal, and local action include.

(1) Make state/tribal and local cooperation with the Section 404 Program more attractive by improving the Program. State and local wetland staff often have viewed the program negatively due to the lack of regulatory maps, highly complicated regulations, inconsistent policies from one Corps District to the next, lack of field staff, lack of monitoring and other deficiencies. State and local wetland staff members have in some instances wished to distance themselves from the federal efforts.

(2) Give states/tribes and local governments a recognized statutory role as part of a "national" rather than simply federal wetland effort. This could be facilitated in Clean Water Act reauthorization by providing that states, tribes and local governments with explicit roles in wetland planning and regulation, even where continued, direct federal permitting will take place. Congress could also state an intent that states, tribes, and local governments play a major role in regulating isolated wetlands (with federal oversight).

(3) More fully involve the states, tribes and local governments in policy-making. Federal agencies could more fully involve states, tribes and local governments in policy-making by soliciting their ideas and distributing copies of draft policies to them or representative organizations before adoption. This is already, to some extent, being done but could be made more systematic and extensive.

(4) More fully involve the states, tribes and local governments in Section 404 regulatory permitting. This could be done by issuing additional state, tribal, and local government "general" permits and encouraging "assumption" discussed in Chapter 5.

(5) Ask the states, tribes and local government for their help, enter into additional memoranda of understanding and agreement for shared responsibilities. Chapter 5 suggested a relatively large number of ways states, tribes and local governments could assist the Corps and other federal agencies in processing and enforcing Section 404 permits. The Corps

should actively ask for state and local help. The Corps and EPA should then enter into additional memoranda of understandings with states and local governments pertaining to wetland delineation, permitting, and monitoring and enforcement to reduce duplication and permit a division of responsibilities in some instances.

(6) Undertake joint training, education, research with states, tribes and local governments. The Corps and EPA have already provided considerable training to state and tribal staff. But, additional training is needed for not only state and tribal but local staff for delineation, restoration, wetland evaluation and assessment, permit processing, monitoring and enforcement, and other critical elements in regulation. Such training can often be best held jointly for federal agencies, states, and local governments to encourage direct contacts and cooperation.

Joint research projects and testing of wetland management approaches (e.g., delineation methods, mitigation banks) could also increase state, Tribal and local involvement in federal efforts.

(7) Clarify Section 319, 401, 404(e) powers to encourage and help fund state, tribal and local programs. Congress could help promote state, tribal and local watershed-based wetland regulation efforts as part of a broader national program by requiring the inclusion of wetland protection and restoration as one of the goals of watershed planning pursuant to Section 319 of the Clean Water Act. Congress could also clarify Section 401 powers with regard to oversight of federal nationwide permits. Congress could clarify Section 404(e) powers to specifically include state and/or local programmatic permits.

Additional and more specific recommendations are provided in Tables 9 (states and tribes), Table 10 (local governments), and Table 11 (federal government) and in appendices C, D, and E which follow.

SUMMARY

In conclusion, new thinking is needed to create an integrated, “national” wetland regulatory program rather than a collection of only partially coordinated federal, state, tribal, and local efforts. Additional federal money, technical assistance, mapping, and training are particularly needed to encourage state, tribal, and local collaborative initiatives to close the gaps created by SWANCC and other court cases and by the statutes and policies. However, states, tribes and local governments may also play increasingly important roles in assisting federal regulatory efforts, undertaking regulatory permitting (in some instances) in lieu of federal permitting, and undertaking a broad range of information gathering, planning, regulatory and nonregulatory protection and restoration initiatives as discussed in earlier chapters. Over time, a federal oversight role is needed for all wetlands (this would take Congressional action) but much of the actual regulatory implementation for both isolated and non isolated wetlands should take place at state, tribal, and local levels.

Table 9
Suggested State and Tribal Roles
For a Strengthened, Collaborative Partnership

State and tribal legislatures and agencies should:

- Undertake more aggressive identification, assessment protection and restoration for wetland and riparian zones on state lands.
- Incorporate wetland protection as a goal and standard in state and tribal ground and surface water permitting programs.
- Prepare state, tribal wetland conservation plans, including more specific wetland and watershed plans for particular areas.
- Prepare more detailed wetland maps for specific areas (e.g., urbanizing areas, restoration areas) in cooperation with federal agencies, local governments.
- Map potential restoration sites; establish mitigation banks and regional mitigation projects.
- Adopt water quality standards for wetlands and enhanced Section 401 water quality certification efforts.
- Include wetland protection and restoration as a goal in multi-objective watershed planning for pollution control (e.g., Section 319), water supply, floodplain management, stormwater management, etc.
- Adopt new wetland regulation statutes and regulations in states, tribal lands where none now exist; amend state wetland statutes (wetland definitions, procedures, penalties) to bring them in line with federal Section 404 regulations.
- Assume Section 404 (g) and (h) powers; apply for state, tribal programmatic general permits.
- Encourage local planning and regulation, and provide maps and technical assistance to local government and nonprofit wetland protection and restoration efforts.
- Provide training and education for state and tribal staff, local governments, consultants and landowners.

Table 10
Suggested Local Government Roles
For a Strengthened, Collaborative Partnership

Local government roles may vary, depending on their capabilities and political will. Some local governments will be able to undertake sophisticated wetland management, although geographical perspective may be an issue. In general, local governments will need help with wetlands that exceed municipal boundaries, large development projects, large-scale restoration/creation proposals, and with mitigation banks.

Local governments should:

- Increase staffing and budgetary commitment to wetland regulation and protection.
- Become more involved with federal Section 404 and state wetland permitting. Local governments should request that the state and the Corps submit copies of all permit applications to them. They should examine and provide feedback on permit applications in terms of consistency with adjacent land uses, floodplain and stormwater criteria, grading ordinances, vegetation removal ordinances, septic tank regulations, etc.,
- Help monitor and enforce federal and state wetland regulations, even if they do not adopt their own.
- Carry out wetland mapping and data-gathering at a scale necessary for zoning and land use regulation, with the help of states.
- Prepare advanced identifications and wetland/watershed management plans in cooperation with the federal government, and states.
- Map wetland restoration sites and establish mitigation banks and joint projects.
- (In some instances) undertake local permitting in lieu of direct federal permitting pursuant to Section 404(e) programmatic general permits.
- Restore wetlands as part of park, recreation, wildlife, stream restoration, or other projects.
- Provide real estate tax breaks for regulated wetlands.
- Purchase fee or lesser interests in wetlands as part of park, recreation, greenway, or other projects.

Table 11
Suggested Federal Roles
For a Strengthened Collaborative Partnership

The following suggestions are broken down into recommended action by particular agencies and Congress.

The Bush Administration and subsequent Administrations:

- Continue to play a coordinating and leadership role with Congress, federal agencies, states, and local governments.
- Support measures in Congress to strengthen the federal, state, tribes and local partnership.
- Support Federal financial assistance to local governments, states and tribes for state wetland conservation planning, local wetlands and watershed planning.

BLM, Forest Service, Bureau of Reclamation, National Park Service, Other Land Management Agencies:

- Play a more aggressive role in mapping, managing, protecting, and restoring wetlands and riparian on public lands and wetlands associated with federal public works projects. Continue to carry out joint research and demonstration projects with the states and tribes.

The EPA:

- With the Corps of Engineers and other agencies, provide more detailed guidance on SWANNC, which continues federal regulation of all but clearly isolated wetlands.
- Continue the State Wetland Grant Program, including grants for State Wetland Conservation Plans and other areas of state program development, but make it more flexible to include implementation elements (e.g., more detailed watershed plans).
- Continue state wetland training and education efforts for wetland delineation, restoration, evaluation, permitting, Section 401 programs, water quality standards for wetlands, multi-objective river corridor management, wetlands and watershed planning and other topics.
- Continue to provide financial support for local and state advanced identification and special area management programs, but provide more detailed guidance for these efforts to make them more effective, watershed-based planning efforts.
- Better integrate wetland protection, management, and restoration into stormwater, water quality, estuarine and other programs; make wetland protection and restoration a component of all programs.
- Provide continued oversight and support of state, tribal and local programs.

The U.S. Army Corps of Engineers:

- Provide more detailed guidance on SWANNC.
- Provide more detailed guidance on critical issues, such as state and local programmatic general permits, watershed planning, and restoration for mitigation purposes.
- Adopt more standardized permit application forms and procedures for all aspects of permitting for possible use at state, tribal and local levels.
- Request that Congress allow more flexibility in use of Corps staff to allow nonregulatory staff to participate in some aspects of regulatory information gathering and decision-making.

- Continue the primary federal role in directly regulating many wetlands in and adjacent to major lakes, rivers, and streams and their tributaries.
- Organize the Section 404 program to evaluate, track, and monitoring permits on a watershed basis.
- Make better use of states and local governments in the Section 404 direct permitting process as suggested in Chapter Five, even where federal permitting is continued. Enter into memoranda of understanding with states and local governments to carry out specific tasks.
- Issue additional state and local programmatic general permits with adequate safeguards.
- Codify all Section 404-related statutes, regulations, regulatory guidance letters, etc. by topic and activity and make them available on the Internet. For example, anyone interested in constructing a dock should be able to find on-line references to all statutes, regulations and policies pertaining to dock construction.
- Carry out additional research and demonstration projects on topics, such as mitigation banks.
- Prepare and widely distribute informational materials, such as videos dealing with wetland delineation, wetland restoration, assessment, etc.
- Conduct increased joint training sessions for federal government, state, tribal, and local staff.
- Compensate for any loss of wetland acreage or function due to Corps' projects (Water Resources Development Act of 1990); identify and carry out restoration activities on new projects.

U.S. Fish and Wildlife Service:

- Complete the National Wetland Inventory in digital form.
- Undertake additional wetland mapping and digitalization of data with states/tribes and local governments on a cost-share basis.
- Help identify potential restoration sites for mitigation banks, post flood restoration, etc. as part of the National Wetland Inventory, National Biological Survey, etc.
- Provide technical assistance and data to local governments and states to help them undertake wetland and watershed management planning.
- Carry out research on wetland restoration, altered wetland systems, wetland management strategies. Disseminate this research to states, tribes and local governments.
- Assume administrative responsibility for cooperative restoration ventures and mitigation banks (under certain circumstances).

USDA Natural Resources Conservation Service:

- Continue to administer the Farm Bill conservation programs cooperatively with the states and tribes.
- Identify priority wetland restoration sites with the states, tribes and local governments.
- Continue wetlands-related research pertaining to assessment, wetlands and carbon storage, and a broad range of other topics. Distribute research to the states, tribes and local governments.

National Oceanic Atmospheric Administration:

- Continue to support state, tribal and local wetland plans and policies, including restoration as part of the Coastal Zone Management Program.
- Continue to comment on Section 404 permits and development activities through the National Marine Fisheries Program.

- Continue to support estuarine and coastal wetland protection and restoration through the National Marine and Estuarine Sanctuaries and the NOAA restoration programs.

U.S. Geological Survey:

- Continue to carry out water resources monitoring, stream gauging and other wetland, floodplain, and related ecosystem mapping and analysis with states, tribes and local governments.
- Continue to carry out research and technical studies in cooperation with the states and tribes on topics such as wetlands and climate change, the effectiveness of wetland restoration techniques, wetland assessment, mitigation banking and other initiatives.

Congress:

- Clearly recognize the need for a mix of federal, state and local roles in wetland planning, management, regulation and restoration in reauthorization of the Clean Water Act and other legislation. It is not enough that a de facto federal, state, tribal and local hierarchy exists. Too often the role of states and local governments has been given lip service while there has been little involvement of these entities. The role of states, tribes and local governments in wetland protection and restoration should be recognized in both Section 404 and in other sections of the Clean Water Act, such as Section 319 (watershed planning).
- Adopt an overall no net loss or equivalent goal in Clean Water Act Reauthorization. This would do much to establish a bottom line for federal, state, tribal and local wetland regulatory efforts and to establish a standard for judging the effectiveness of programs at all levels.
- Create financial incentives for states, tribes and local governments interested in equaling or exceeding federal standards in the protection and restoration of wetlands.
- Clarify the ability of the Corps to issue state, tribal and local programmatic general permits, including the conditions under which such permits might be issued, criteria for permitting, oversight requirements, and suspension of permits.
- Establish specific wetland protection and restoration goals for the purposes of Section 319 planning, stormwater management, and other wetland-related planning and management tasks at federal, state, tribal or local levels.
- Continue to adopt and fund landowner incentive programs, such as the Wetland Reserve, Partners for Wildlife and Swampbuster programs.
- Provide additional landowner income tax incentives for wetland protection and restoration.

APPENDIX A:
BASIS FOR RECOMMENDATIONS:
MEETINGS OF THE ASSOCIATION OF STATE WETLAND MANAGERS
July 1989 – March 2004

Wetland Protection: Strengthening the Role of the States, September 1984.
This national symposium addressed state wetland protection programs. A proceeding was prepared. There were 220 attendees.

National Wetlands Assessment Symposium, June 1985.
This symposium addressed wetland assessment issues. A proceeding was prepared. There were 250 attendees.

National Wetland Symposium: Mitigation of Impacts and Losses, October 1986.
This symposium was held to answer the question: What progress has been made in developing techniques for reducing the impacts of activities conducted in wetlands or compensating for such impacts through wetland restoration or creation? A proceeding was prepared. There were 520 attendees.

National Wetland Symposium: Wetland Hydrology, September 1987.
This symposium focused on wetland hydrology. A proceeding was prepared. There were 250 attendees.

National Wetland Symposium: Urban Wetlands, June 1988.
This symposium focused on urban wetland management issues. A proceeding was prepared. There were 450 attendees.

1st International Symposium: Ecotourism, April 1989.
This symposium was held in Mérida, Mexico and focused on the Yucatan, with presentations from the U.S. and participation from other countries. A proceeding was prepared. There were 225 attendees.

International Symposium: Wetlands and River Corridor Management, July 1989.
This meeting was held in Charleston, South Carolina and was attended by 380, and included representatives from 20 countries. Presentations addressed river and stream corridor management, including the adjacent riverine and estuarine wetlands, from a natural systems protection and restoration perspective. A proceeding was prepared.

Implementing No Net Loss: Issues and Options for the States, November 1989.
This Washington, D.C. meeting drew approximately 200 individuals from 42 states. A variety of concerns about the no net loss goal were raised, and many recommendations for implementation of this goal were made by attendees.

Translating No Net Loss Into Regulations, November 1989.
The association collaborated on this meeting, which was conducted and hosted by the New Hampshire Wetlands Board in Manchester, New Hampshire. About 200 people attended.

No Net Loss and the Role of Restoration/Creation, April 1990.
This association meeting was hosted by the U.S. Army Waterways Experiment Station in Jackson, Mississippi. There were 420 participants. Many of the papers presented are in the new Island Press/EPA publication: Wetland Creation and Restoration: Status of the Science, edited by Jon Kusler, ASWM, and Mary Kentula, EPA.

Urban Stream and River Corridors: A Multi-objective Management Symposium, April 1990.
The Portland, Oregon Audubon Society presented this meeting with which the association cooperated. Topics addressed included multi-objective management and restoration of urban streams, river corridors, and wetlands. There were 650 attendees and speakers.

International Symposium: Wetlands of the Great Lakes, May 1990.
Approximately 200 attended this meeting in Niagara Falls, New York. Half of the speakers and attendees were from the U.S. and half were from Canada. The focus of the program was on techniques to better protect and restore Great Lakes wetlands in both the U.S. and Canada. A proceeding was prepared.

Federal Wetland Delineation Manual Training Workshop, September 1990.
This training-the-trainers delineation course was conducted in Zion, Illinois. The program had 50 participants from 23 states. Problems and issues with the Federal Wetland Delineation Manual were also addressed.

State Wetland Workshop: Addressing Critical Issues – Federal/State Coordination and Cooperation, September 1990.
This Washington, D.C. meeting focused on emerging issues in federal/state wetland programs. It identified new directions and innovative approaches in state programs, and made recommendations for improving federal/state coordination and cooperation. There were 50 representatives from various states, although not all states participated.

International Symposium: Ecotourism and the Conservation of Natural Resources, November 1990.
This meeting was held in Miami Beach, Florida, and attended by more than 400 individuals from 30 countries. The meeting focused on opportunities for reconciling resource protection with economic development. A proceeding was prepared.

National Workshop on State Wetland Regulations: Wetlands and Water Quality, Clean Water Act Reauthorization, and State Wetland Conservation Plans, May 1991.
This three-day invitational workshop held in Wilmington, Delaware was attended by 130 individuals from 25 states.

National Symposium and Annual Meeting: Regulation of Altered, Artificial, and Managed Wetlands, September 1991.
This meeting held in Chicago, Illinois, focused on the difficult technical and policy issues in regulating altered, artificial, and managed wetlands with special emphasis on agricultural wetlands. A proceeding was prepared. About 300 people attended.

Strengthening State/Federal Wetland Protection and Restoration in Water-Scarce Regions, March 1992.
The goal of this meeting, attended by 30 people in Houston, Texas, was to identify approaches for the states to strengthen wetland and riparian habitat protection and restoration in cooperation with the federal governments and the private sector.

State Perspectives on Wetland Classification, March 1992.
This technical workshop had 80 participants from 23 states and was held in Washington, D.C. A report was prepared.

Wetland Delineation: Drafting a State Wetland Delineation Manual or Revising the Proposed Federal Wetland Delineation Manual, March 1992.
This technical workshop dealt with wetland delineation. It had approximately 100 participants from 22 states and was held in Washington, D.C.

National Wetland Symposium: Effective Mitigation: Mitigation Banks and Joint Projects in the Context of Wetland Management Plans, June 1992.
The focus of this meeting held in West Palm Beach, Florida, was mitigation banks and joint projects in the broader context of wetland management. There were 375 attendees. A proceedings was prepared.

Wetlands and Watershed (Water Resources) Management, 1993.
A series of five workshops with 600 participants were conducted in the fall of 1992 and spring of 1993 by the association or cooperating parties in conjunction with the association in West Palm Beach, Florida; Eugene, Oregon; Niagara Falls, New York; Atlanta, Georgia; and Reno, Nevada.

Annual Membership Meeting and International Wetland Symposium: Improving Wetland Public Outreach, Training and Education, Interpretation, June 1993.
The goal of this symposium was to improve wetland regulatory, planning, land management and other wetland conservation efforts through improved wetland education, interpretation, training, technical assistance, and other outreach efforts. There were 150 attendees. A proceeding was prepared.

Post Flood Recovery and the Restoration of Mississippi Basin Floodplains, Including Riparian Habitat and Wetlands, September 1993.
This workshop was the second in a series dealing with post-flood recovery and mitigation of future losses. The goal of this workshop was to explore potential opportunities and incentives for private landowners and governmental units who wished to relocate and/or restore floodplain areas. A second goal was to help form partnerships for restoring (or managing) the Mississippi Basin floodplains as part of post flood recovery. There were 150 attendees.

Identifying Potential Post-Flood Floodplain/Wetland Restoration Sites for the Mississippi Basin (Including the Missouri and Other Tributaries): Meeting Short-Term and Long Programmatic Needs: Looking For Win/Win Opportunities, January 1994.
This workshop was the third in a series dealing with post flood recovery and mitigation of future losses. The goal was to focus on the identification of restoration sites. It was held in St. Louis, Missouri with 55 attendees.

Restoration of Aquatic Ecosystems: Developing a National Agenda, June 1994.
The goal of this symposium held in St Paul, Minnesota was to help develop a national strategy for facilitating the restoration of wetlands, streams and lakes on a watershed basis at all levels of government and the private sector in the United States and in other countries. There were 225 attendees.

Solving Landowner Problems and Improving the Protection and Restoration of Wetland and Riparian Systems, February 1995.
This meeting held in Columbia, Missouri focused on solving landowner problems and improving the protection and restoration of wetland and riparian systems. There were 100 attendees.

Strengthening State, Federal and Local Partnerships, March 1995.
The goal of the workshop held in Washington, D.C. was to strengthen state, federal, and local partnerships to better protect and restore wetlands. There were 75 attendees.

Wetlands '95: National Symposium: Watershed Management and Wetland Ecosystems, Implementing Fair, Flexible, and Effective Approaches, April 1995.
The goal of this project and symposium held in Tampa, Florida was to promote the management of wetlands in a watershed context and the integration of wetlands and other aquatic ecosystem management into broader watershed management efforts, including floodplain management, stormwater management, water supply, water quality protection, and recreation. There were 250 attendees. A proceeding was prepared.

Meeting Landowner and Resource Conservation Needs Through Partnership Approaches, June 1995.
The goal of the workshop held in Omaha, Nebraska was to aid state and local government needs in planning, managing and restoring wetlands and riparian areas. There were 150 attendees.

State/Federal Cooperation to Resolving Conflicts in Wetlands and Agriculture, February 1996.
This workshop held in Washington, D.C. was attended by state wetland managers, representatives, federal agency staff, representatives of the agricultural community and representatives of not-for-profits. There were 55 attendees.

Wetland Assessment: Implementing the HGM Methodology and State Programmatic and Nationwide Permits, April 1996.
This workshop held in Washington, D.C. aimed to formulate a work plan for cooperation between federal agencies and the states in implementing HGM and to discuss approaches for making the nationwide permits more effective in protecting wetland resources and better meeting landowner needs. There were 65 attendees.

Wetlands '96: Forming Fair and Effective Partnerships with a National Workshop and Training Session in Wetland Floodplain and River On-line Services and GIS Applications, July 1996.
The goal of the workshop, held in Arlington, Virginia, was to help states, federal agencies, local governments, consultants and others evaluate the uses and limitations of various geoinformation and other on-line services and help them make better use of such approaches. There were 250 attendees.

Wetlands'97: The Future of Wetland Assessment: Applying Science through the Hydrogeomorphic Assessment Approach and Other Approaches, March 1997.
The principal goal of this symposium and workshop was to provide a forum on the use and improvement of wetland assessment techniques, including uses and limitations for regulatory, acquisition, restoration, land and water management. This symposium was held in Annapolis, Maryland and had 310 attendees.

Building Native American Partnerships: Wetlands Conservation Planning for the Protection and Restoration of Wetland, Floodplain, and River Systems, June 1997.
The goal of this workshop held in Green Bay, Wisconsin was to help Native Americans and others develop and implement cooperative wetland/floodplain/riparian zone conservation partnerships. There were 150 attendees.

Landscape Level Wetland Assessment, April 1998.
This workshop was held in Arlington, Virginia with the goal of helping improve landscape-level (area-wide) assessment of wetlands and related ecosystems for local land planning, local water planning, infrastructure planning, public land regulation, acquisition, and other purposes. There were 100 attendees.

Selecting and Using Wetland Reference Sites, May 1998.
The goal of this workshop was to help answer the questions: "How can wetland reference and reference sites be used to help protect, restore, and manage wetlands and related floodplain and aquatic ecosystems on a landscape level basis?" More specifically, "How can wetland reference and reference sites be best used to meet planning, regulatory, restoration, educational, interpretation, research, monitoring, and other management needs?" This workshop was held at the Institute of Ecosystem Studies, Millbrook, New York. There were 65 attendees.

Wetlands '98: Integrating Wetland/Floodplain Ecosystems into Water Resources/Watershed Management, September 1998.
The goal of this workshop, held in St. Louis, Missouri, was to help improve communication and reduce the gap between wetland/floodplain ecosystem management and water resources development/watershed management; bring ecologists and water resource engineers together to identify common needs and interests; facilitate the development and application of landscape-level ecosystem and water resources assessment techniques for application by the states, federal agencies, local governments, and the private sector; facilitate the development of wetland/floodplain ecosystem impact reduction and compensation measures in water resources development and watershed management; and develop a priority set of recommendations for better integrating wetlands and water resources/watershed management at state, federal and local levels. There were 200 attendees.

Wetlands and Water Resources (Watershed) Management, November 1998.
The goals of this workshop were to facilitate communication between local governments, federal and state agencies, nonprofit organizations, academic institutions, consultants, landowners, developers and others working with wetlands and watershed management in New York and the Northeast; provide "how-to" training and guidance about wetland and watershed management, including specific techniques and approaches; and to improve communication and reduce the gap between wetland/floodplain management and water resources development/watershed management. This workshop was held in Saratoga Springs, New York and had 125 attendees.

Wetlands and Climate Change: Scientific Knowledge and Management, February 1999.
The primary goals of this workshop were to review and provide recommendations for revising a White Paper on wetlands and climate change that will summarize, on a preliminary basis, scientific knowledge and wetland management options. This workshop also provided a forum for the presentation of relevant U.S. Global Climate Change and IPCC programs and research findings, and the identification of wetland systems of greatest risk from global change and other stresses. It also defined research priorities and information needs. There were 100 attendees. A White Paper was prepared.This workshop was held at the U.S. Fish and Wildlife Service Patuxent Research Refuge in Laurel, Maryland.

Building Conservation Partnerships With Indigenous Peoples in the Northeast: Joint Education and Capacity Building, September 1999.
The goal of this workshop was to build conservation and restoration partnerships for wetlands, floodplains, rivers, and related ecosystems between indigenous peoples and federal agencies, states, local governments, not for profits and other groups and individuals. It was held at the Kanatoken (St. Regis) Recreation Center, St. Regis Mohawk Reservation, Hogansburg, New York and Adirondack Park Visitor Interpretive Center, Paul Smiths, New York. There were 125 attendees.

Wetland Public Outreach and Education Forum "Getting the Message Out: New Techniques and New Partners for the Millennium", September 1999.
The goals of this workshop were to define important messages, key audiences, and effective techniques to improve wetland outreach and education efforts. There were 45 attendees. It was held at the Channel Inn Hotel in Washington, D.C.

Building Wetland Protection & Restoration Capacity in Developing Nations, September 1999.
The goals of this meeting were to acquaint members of the Coordinating Council with each other and to review council objectives, help organize and develop an agenda for Wetlands International - USA, identify measures that various groups and organizations are undertaking to build the capacity of developing nations in the protection and restoration of wetlands, define present unmet needs in underdeveloped countries, and identify opportunities and possible joint measures to improve capacity of those countries. There were 30 attendees. This meeting was held at the Channel Inn in Washington D.C.

Wetlands '99 Restoration: Applying Restoration Science, October 1999.
The goal was to build support at all levels of government for the restoration, creation and enhancement of wetland, riparian area, floodplain, river and stream, coastal and estuarine and related ecosystems. This meeting was held at the Radisson Hotel in Annapolis, Maryland. There were 250 attendees.

State Wetland Programs: Taking Stock at the Millennium, February 2000.
The goal of this workshop was to provide updates on federal agency policies, regulations, and other activities; improve cooperation in federal/state wetland efforts; analyze the potential for national legislation that addresses wetlands and related issues; provide state wetland program managers with opportunity to exchange information on their programs; and identify future trends with regard to state and federal programs. It was held at the Hall of States in Washington, D.C. There were 75 attendees.

Northeast Training Workshop Stream Restoration: Natural Channel Design, May 2000.
The goal of this workshop was to promote and build the capabilities of local governments, states, federal agencies, nonprofits and others in the Northeast to protect and restore rivers, streams, and associated wetlands, with special emphasis on natural channel design for problem solving and prevention. This workshop was held at the Lake Morey Inn Resort in Fairlee, Vermont. Approximately 300 attended this workshop.

Wetland, Migratory Birds, & Ecotourism Workshop, October 2000.
The goal of this workshop was to provide participants with the tools needed to put together wetlands, migratory bird, and ecotourism planning processes; demonstrate the economic benefits of wetland and migratory bird ecotourism; develop recommendations and/or solutions for implementing community-based wetland tourism practices that have the potential to be replicated in other parts of the world; and to help establish the tools needed for an ecotourism planning process in the Gulf of Maine. The workshop was held in Newburyport and Ipswich, Massachusetts. There were approximately 80 attendees.

Annual State Wetland Programs Winter Meeting, March 2001.
The goal of the workshop was to provide updates on state and federal agency policies, regulations, and other activities; improve cooperation in federal/state wetland efforts; discuss/compare state-based solutions to program and policy implementation; analyze the potential for national court and legislative action effecting wetlands; and identify future challenges for state and federal programs. This meeting was held at the Hall of States in Washington, D.C. There were 75 attendees.

Creating a Northeast Action Agenda: Dam Removal and the Restoration of Biological Integrity, May 1-2, 2001.
The goal of this workshop was to bring together technical experts and groups working with dam removal in the Northeast to meet each other, learn from their respective projects and to build consensus among Northeastern experts on future directions for dam removal. This workshop was held at the Sheraton Inn in Plymouth, Massachusetts. There were 55 attendees.

National Symposium and Workshop Coastal and Estuarine Wetland Restoration Into The New Millennium: Improving Effectiveness, June 2001.
The goal of this symposium was to improve the effectiveness of coastal and estuarine wetland restoration in the new Millennium. What have we learned? What are the gaps? What are productive future directions? What are sources of possible future funding? This symposium was held at the Radisson Hotel in Baton Rouge, Louisiana. There were 200 attendees.

Training Workshop: Restoring Streams, Riparian Areas and Floodplains in the Southwest: Improving Landowner Assistance; Incorporating Scientific Advances, October 2001.
The goal of this workshop was to build state, tribal, local government, federal and private stream, riparian, and floodplain capabilities to restore streams, riparian areas, and floodplains in the Southwest. The guiding question for the workshop was: “How can the effectiveness of stream, riparian areas, and floodplain restoration be improved?” This workshop was held at the Crown Plaza Hotel in Albuquerque, New Mexico. There were 300 attendees.

Annual State Wetland Programs Winter Meeting, February 2002.
The goal of this meeting was to provide updates on state and federal agency policies, regulations, and other activities; improve cooperation in federal/state wetland efforts; discuss/compare state-

based solutions to program and policy implementation; analyze the potential for national court and legislative action effecting wetlands; and identify future challenges for state and federal programs. This meeting was held at the Hall of States in Washington, D.C. There were 80 attendees.

Wetlands and Climate Change, June 2002.
This symposium was held in conjunction with the Society of Wetland Scientist International Committee meeting in Lake Placid, New York. The goal was to assess the status of scientific knowledge about the roles of wetlands in carbon sequestering and methane production.

Wetlands 2002: Restoring Impaired Wetlands and Other Waters, October 2002.
The 2002 annual association meeting was held in Indianapolis, Indiana October 7-9, 2002. The goal of the meeting was to examine the successes and failures of science and policy related to restoration of wetlands and related waters and, most importantly, to point to methods for improving future success. There were more than 300 attendees.

Mid-Atlantic Stream Restoration Workshop, November 2002.
The goal of this workshop was to build state, tribal, local government, federal, and private capabilities to restore streams, wetlands, riparian areas, and floodplains in the Mid-Atlantic States. This workshop was held at the Bear Mountain Inn, Bear Mountain, New York. There were 200 attendees.

Annual State/Federal Cooperation Workshop. January 2003.
This meeting was held at the Hall of States, Washington, D.C. for State Agency Wetland Managers, Federal Agency staff and others. This three-day meeting included discussions on state and federal legislative and policy/program activities such as mitigation, wetland water quality regulations, wetland restoration, and new wetland status and trends studies. There were 75 attendees.

Reconciling and Applying Wetland Monitoring and Assessment Techniques. May 6, 2003.
The meeting was held in Washington, DC. The goal of this project was be to improve the capacity of states and local governments in the northeast to reconcile and apply wetlands monitoring and assessment techniques such as water-related "impaired waters" assessment and monitoring, HGM, biocriteria, WETHINGS, and watershed-based GIS wetland and water assessment and monitoring approaches.

National Symposium: Wetlands 2003: Landscape Scale Wetland Assessment and Management. October 20-24, 2003.
The symposium was held in Nashua, New Hampshire. The overall goal of this national symposium was to build the capabilities of local governments, states, federal agencies, not for profits and others to assess and manage wetlands and related ecosystems on a landscape level basis. There were 240 attendees.

Restoring Streams, Riparian Areas, Floodplains; Tailoring Restoration to Community Needs and Scientific Contexts, Inventory and Monitoring. November 16-19, 2003.
This workshop was held at the Macey Center in Socorro, New Mexico. The purpose of this workshop was to build state, tribal, local government, federal, and private capabilities to restore streams, riparian areas, and floodplains in the Southwest. The overall question for the workshop is: "How can the effectiveness of stream, riparian area, and floodplain restoration be improved?"

Presentations focused on the status and progress of restoration science and the application of scientific methods "on the ground." There were approximately 100 attendees.

Wetlands and Floodplains: State/Federal Legal Workshop: Filling the Gaps in State and Federal Programs Through State and Local Actions; Avoiding Takings and Other Problems. December 2-3, 2003.

This workshop was held at the Lowes L' Enfant Plaza, Washington, D.C. This two-day workshop focused on 1) identifying gaps in wetland and floodplain protection, 2) providing an update on recent relevant court decisions, 3) identifying state legislation that could address gaps, and 4) describing strategies for avoiding "taking" and enforcement challenges and 5) preparing for court litigation when necessary. There were approximately 65 attendees.

Annual Federal/State Wetland Programs Winter Meeting: Pre-Workshop: Improving State/Federal Cooperation Through Improved Partnerships Under the Clean Water Act and the 2002 Farm Bill. March 24, 2004.

The workshop was held at the Hall of the States, Washington, D.C. The goals of the workshop was to provide updates on State and Federal Agency policies, regulations, and other sctivities; improve cooperation in Federal/State wetland efforts; discuss/compare state-based solutions to program and policy implementation; analyze court decisions effecting wetlands; compare federal and state compensatory mitigation policies; discuss federal funding for implementation of state wetland programs; identify opportunities for State/Federal cooperation under the 2002 Farm Bill; and identify future challenges for state and federal programs. There were approximately 65 attendees.

State/Federal Technical Workshop: Developing "Outcome-Based" Wetland Protection and Restoration Programs; Measuring and Monitoring Success. March 25-26, 2004.

This workshop was held at the Hall of the States, Washington, D.C. This workshop assisted state, federal agencies, and local governments in the development and implementation of "outcome" based wetland protection and restoration efforts to improve monitoring and assessment, compensatory mitigation, and protection of vulnerable wetlands. The workshop focused on implementation of a "no net loss/net gain" goal. There were approximately 65 attendees.

APPENDIX B:
SELECTED BIBLIOGRAPHY

The following is a selective bibliography of publications pertaining to federal, state, tribal, and local roles. Some but not all are cited in the text.

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APPENDIX C:
OPTIONS FOR STATES TO FILL THE GAPS CREATED BY SWANCC

Prior to the SWANNC decision in January 2001, most states exercised some measure of regulatory control over all wetlands by reviewing federal Section 404 and 10 permits through Section 401 program. By reducing in SWANCC the scope of federal control over isolated wetlands, the Supreme Court also indirectly reduced the scope of most state regulatory programs.

Since 2001 a number of states have attempted to close those gaps in various ways. Three principal options include:

- **Extend water quality programs to explicitly include isolated and other wetlands**. This approach has been taken by Indiana, Ohio, South Carolina, and North Carolina.

- **Adopt limited legislation closing the gaps created by SWANCC (for states that already regulate some wetlands).** This approach has been taken by Wisconsin and Ohio.

- **Adopt new comprehensive wetland legislation.** No state has, as yet, taken this approach although a comprehensive wetland bill was introduced in Illinois. Many states, however, have adopted comprehensive wetland legislation over the last two decades such as Minnesota, Michigan, Massachusetts, Rhode Island, Maine, New Hampshire, New York, New Jersey, Connecticut, Maryland, Virginia, Florida, Vermont, Pennsylvania, and Oregon.

Appendix D suggests the elements of a model regulatory statute prepared by the Association and available on the Association web site.

APPENDIX D:
ELEMENTS OF A WATER QUALITY PROGRAM APPROACH TO WETLAND PROTECTION

A state may wish to utilize existing water quality statutes and an existing state Section 401 program to regulate wetlands. These statutes usually broadly authorize a regulatory agency (pollution control, natural resource) to issue permits for activities which may pollute state waters. This authority has been held in several cases to be broad enough to allow independent state regulatory permitting for wetlands. See

Clarifying Regulations or Clarifying Legislation

A state wishing to adopt new regulations to clarify this role or to adopt clarifying legislation. New regulations or clarifying legislation should, at a minimum, address the following:

- "Waters" should be defined through legislative rule or new legislation to specifically include wetlands. This definition should be sufficiently broad to include isolated wetlands and waters. The federal Section 404 definition of wetland could be used to reduce inconsistency.
- "Regulated activities" should be specifically defined through legislative rule or new legislation to include all of the major activities which may destroy wetlands such as filling, drainage, and water pollution.
- "Goals" for regulating wetlands may include traditional water quality goals such as protection and restoration of the biological, chemical, and physical integrity of waters. However more specific goals may be added such no net loss of wetland acreage and functions, protect of habitat, protection of flood and erosion functions which may be compromised by changes in the physical integrity of waters.

There are many possible, additional priority components for inclusion in regulations or new legislation such as:

- Preparation and adoption of numeric or nonnumeric water quality standards for wetlands;
- Mapping of wetlands and related ecosystems;
- Adoption of wetland assessment methods;
- Wetlands and watershed planning on a watershed, problem area, or numeric basis;
- Technical assistance and education for landowners; and
- Use of mitigation banks.

Program Enhancement

States will usually need to do more than confirm and clarify independent permitting authority to effectively regulate wetlands pursuant to a water quality program. Additional funding and staffing by biologists and hydrologists are needed along with wetland mapping and assessment. Additional permitting guidance is also needed pertaining to the information which must be submitted by project applicants, permit application review procedures, public notice and hearings, and policies pertaining to mitigation. Assessment of wetland condition should become an enhanced portion of Section 305(b) reporting.

APPENDIX E:
ELEMENTS OF A MODEL, COMPREHENSIVE WETLAND STATUTE

Some states may wish to adopt comprehensive wetland regulatory statutes similar to those adopted in New York, Rhode Island, Massachusetts, Virginia, Florida, Michigan, Maryland, Connecticut and some other states.

Elements of a Comprehensive Statute

Based upon state experience with wetland regulatory programs over the last twenty years, the desirable elements of a comprehensive wetland regulatory approach include the following:

- Clear findings of facts and definition of goals including statement of a no net loss of function and acreage goal.
- Broad definition of regulated wetlands to include all wetlands and waters.
- Broad definition of regulated activities to include drainage and fills.
- Authorization for a regulatory agency to adopt more specific rules to implement statutory provisions.
- Permitting requirements for all major activities which will damage wetlands.
- Criteria for issuance of permits including evaluation of cumulative impacts, no net loss of acreage and function, evaluation of the suitability of a wetland site for proposed active
- A listing of conditions which may be attached to permits including mitigation requirements and the use of mitigation banks.
- Adoption of regulatory maps.
- Encouragement for local wetland programs meeting or exceeding state standards; delegation to locals in the event of adoption of such programs
- Authorization for technical assistance and education for local governments.
- Authorization for local government wetlands and watershed planning.
- Penalties, enforcement provisions including restoration requirements.
- Real estate tax breaks for regulated wetlands.

For an example of a model statute incorporating these elements see www.aswm.org.

The federal government has particularly broad geographical perspective and much expertise. There is a strong national interest in navigable waters, their tributaries, and wetlands adjacent to navigable waters and tributaries. A strong federal role is needed for these waters. However, enhanced state and local permitting and, in some instances, state and local permitting in lieu of

federal permitting is justified where state and local permitting may exceed federal standards. See the next chapter. State and local information gathering and assistance to the federal government is also desirable even where the federal government directly regulates wetlands. Conversely, federal mapping, technical assistance, research, and training is needed even where states or local governments regulate wetlands in lieu of direct federal permitting. Federal agencies can greatly influence private and public decision-making for wetlands though grants in aid (e.g. the Farm Bill), education, research, technical assistance, and public infrastructure and land management projects.

The states also have quite broad geographical perspective and considerable expertise. But state budgets are often limited. A strong state role is needed for isolated wetlands if Congress does not strengthen the federal role. States may also issue regulatory permits in lieu of federal permitting for traditionally navigable waters, tributaries and adjacent wetlands where state programs exceed federal standards. However, federal technical assistance and oversight is needed. In general, states need to work closely with local governments in mapping, planning, regulating and otherwise managing isolated and other wetlands subject to state permitting. States can influence private decision-making through nonregulatory wetland mapping, education, grants in aid, and technical assistance to landowners.

Local governments have the most limited geographical perspective. They also have limited expertise in some instances. However, they have the broadest regulatory powers of any level of government. Extensive land and water planning efforts underway in many communities. Local governments can provide maps and information and monitoring and enforcement assistance and federal or state regulatory permitting programs. They can adopt regulations for isolated wetlands and other waters to fill the gaps in regulatory permitting. They can also guide development through nonregulatory approaches such as public works planning, education, and landowner assistance.