

STATE WETLAND PROTECTION PROGRAMS -  
STATUS AND RECOMMENDATIONS

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Office of Wetlands Protection

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## EXECUTIVE SUMMARY

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State governments have played an active role in wetland management since the beginning of this century. The significance of these state activities has been overlooked too often in recent years, with the focus on the federal program created under Section 404 of the Clean Water Act.

Today, many federal agencies, including the EPA, recognize that much of the progress being made on wetland protection is occurring within state and local programs. Although past federal efforts have focused on the specific mandates of federal law, a new pattern is emerging in 1986. Faced with dramatic threats to wetlands, and restricted budgets, state and federal managers are exploring ways to work together to stretch the patchwork of state programs into a broader fabric of management. It is in this spirit that EPA initiated this project, to identify the contribution of states to wetland management and learn how EPA can most effectively interact with states.

To obtain information on state wetland programs, we discussed the programs with managers from each state. They were asked if the state had taxation, acquisition, research/development, coastal wetland, or inland wetland programs. In addition, we asked about means of implementation, funding level, wetland definitions, activities covered, compliance efforts, education efforts, and program successes and problems. Finally, we asked about further needs for EPA assistance.

We found that some experiences were unique to one state, but many were common to numerous states. We found success stories which could serve as an inspiration to all and a lesson. Several successful programs, such as the Michigan Environmental Policy Act, the Missouri state sales tax, and New Jersey's Green Acres Program, are described in the body of the report.

Overall, we found state wetland managers are generally committed to wetland protection but lack the resources and public support based on education for strong enforcement of existing regulations or enactment of tougher regulations. This, coupled with a general dissatisfaction with Corps of Engineers wetland protection efforts, suggests a strong role for EPA.

State program managers made it clear that action by EPA, not just strong statements, is necessary to support state wetland protection programs. They requested that EPA design and implement a comprehensive wetland protection program that includes substantive federal oversight, technical and financial assistance to state programs, assistance to and active participation in state and local planning processes, a centralized data base on wetland resources and activities, public education, and integrated research on management-related topics with broad applications. Other recommendations from the states for EPA action include the following: ✓

- ° Act as clearinghouse/coordinator/public affairs office for wetlands protection programs in other federal agencies, to facilitate coordination and information transfer.
- ° Increase emphasis on public relations and public education.
- ° Catalogue all federal programs and policies which act as disincentives to wetland protection.
- ° Conduct an analysis of gaps in federal wetlands protection, and methods adopted by states to plug these gaps.
- ° Increase oversight functions, particularly as they relate to the Corps of Engineers §404 permitting program.

- ° Establish greater field presence.

Additional recommendations, and detail regarding the recommendations listed above, are included in the General Recommendations section of the report.

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## INTRODUCTION

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State governments have played an active role in wetlands management since the beginning of this century. The significance of these state activities has been overlooked too often in recent years. Since 1972, the focus of wetland protection attention has been on the federal program created under Section 404 of the Clean Water Act. It is important to remember that in many parts of the nation support for that often controversial program was not produced by an act of Congress. Rather, the support resulted from a recognition of resource values, and a willingness to use the tools of government to protect those values in the face of immediate threats. ✓

The oversight of state accomplishments is partly understandable because the use of the term "wetlands" is fairly recent. Wetland areas were among the resources states have been setting aside for special attention in management for decades. But the focus was on parcels of land and water with a broad range of attributes, including wetland functions and values. Public access to beaches, maintaining fishing and waterfowl hunting, and protecting scenic areas for visitor use were the purposes for which many programs were established by states, with the end result that wetland areas were protected or otherwise managed in the process.

In the 1920's, Oregon set aside the state's ocean beaches for protection. Oregon also created a state coastal management program years before the enactment of the federal Coastal Zone Management Act, as did California. Wisconsin and Minnesota enacted shoreline management programs that became models adopted by other states (such as Washington) and resulted in specific protection for wetlands. Many state wildlife refuges, critical habitat areas, and other special management areas have been created and protected over the years because of wetland values.



The contributions by these states and many others are important in supporting federal efforts. They are also significant in protection of the resource, especially when federal efforts falter or are non-existent.

At the state level, it is recognized that many of the state programs have local roots. Town boards in New England, and counties along the coast of Oregon, were dealing with wetlands before the enactment of Section 404.

Today, many federal agencies, including the U.S. Environmental Protection Agency (EPA), are recognizing the management experience and practical perspective of state and local programs. Although the nationwide pattern of state programs is far from complete, the coverage is nonetheless extensive. Within these state programs are experiences which may be unique to one state. But there are also experiences which are common to many, if not most, other states. Also within these programs are success stories which could serve as an inspiration and a lesson to other states, as well as a number of common complaints and problems. Some of the problems may be solved only by a joining of state and federal interests.

In the past, federal efforts have focused on the specific mandates of federal law. These have included efforts by the U.S. Fish and Wildlife Service (Fish and Wildlife Service) to map wetland habitat of importance to waterfowl, and EPA efforts to delegate management functions to the states.

In 1986, a new pattern is emerging. Faced with dramatic threats to the resources (such as serious wetland losses and coastal erosion in Louisiana), and shrinking budgets, state and federal managers are exploring ways to work together, to stretch the patchwork of state programs into a broader fabric of management. It is in this spirit that EPA initiated this and other

projects, to identify the contribution of states to wetland management, and to increase and extend specific state programs which result in protection of the nation's wetland resource.

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## METHODS

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## INVENTORY

A brief inventory of material available on state wetland programs was conducted to avoid duplication and to summarize pertinent points for subsequent use. To increase the efficiency of this and the subsequent process, a form was developed to standardize collection of information from reports and direct inquiries.

Discussions were held with key agency and organization managers to determine the availability, scope, and usefulness of existing information. The first round of discussions also served to introduce the project to federal agencies and organizations.

Additional literature sources identified during the initial discussions were reviewed, and an annotated bibliography was compiled (Appendix A). Program-specific information was placed on the forms for use during further discussions with state managers.

The initial discussions and literature reviews were used to develop a list of names and telephone numbers of state managers for further in-depth information gathering.

## INFORMATION GATHERING FROM STATE PROGRAM MANAGERS

The underlying assumption of this project was that conclusions and recommendations concerning wetland protection strategies should come primarily from state managers implementing wetland protection programs in the field. Therefore, gathering information from state program managers comprised the bulk of the research project.

State manager contact names were obtained from the initial discussions and the literature reviews. In addition, state managers for one specific program frequently provided contact names for agency personnel associated with other programs which impacted wetlands.

Some 300 state contacts provided answers to a number of questions relating to the types of state programs which protect wetlands, names of specific programs, implementing agency, method of implementation, available resources, jurisdiction, problems, EPA role, and suggestions for additional assistance from EPA. In addition, there were discussions with state managers relating to "taking" issues, mitigation, cumulative impacts and wetland function. Each state contact was asked to provide literature on their program; any literature which was received was reviewed for additional program details. Sample questions appear in Appendix D.

A study of this magnitude has some inherent limitations. One such limitation in the approach we used is that state program managers were an almost exclusive source of information on their own programs. We did not attempt to conduct a survey for comments on each state program, nor was it in the scope of this project to review our findings with EPA regional §404 coordinators (an effort that should be undertaken). Therefore, the information on the program reflects the opinion of the individual we contacted. We also relied on state program managers to identify programs in their states which contribute to wetland protection. We felt this method would better identify programs which make real contributions to wetland protection, as opposed to programs which only look effective on paper. However, the danger of this approach is that some programs which protect wetlands may have been missed inadvertently. To prevent this, each person contacted was sent a list of all wetland-related programs identified by contacted individuals in the same state.

## VERIFICATION

Following the inquiries, the program summaries were mailed to each manager contacted, for comments. Comments received from program managers were incorporated into the final program summaries (Appendix C). Within the body of this report it has been necessary to use more generalized statements concerning program elements. Readers will need to consult the charts of state programs in Appendix C for specific information on the programs identified.

## INTERPRETATION

Programs were grouped into the following categories: water quality, taxation, acquisition, research/development, coastal wetland regulation, and inland wetland regulation. The programs were then reviewed by category to determine whether there were common concerns expressed among programs in each category. We also grouped the state requests for additional EPA assistance by program category to develop recommendations for EPA to assist in wetland protection. General recommendations were derived from the specific recommendations identified by the states. The general recommendations are provided to assist EPA in developing a national wetland protection strategy.

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STATE PROGRAMS

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## WATER QUALITY CERTIFICATION PROGRAMS

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### INTRODUCTION

Review of state §401 water quality certification programs indicates the majority of states feel §401 is not specifically designed for wetland protection, and therefore is not very effective in that role. The vast majority of states have not developed specific water quality criteria for wetlands, and instead apply general surface water quality standards. Anti-degradation policies and antidegradation standards have made the program a more effective wetlands protection tool in several states, including Iowa, Minnesota, and Ohio.

### JURISDICTION

Most states use federal wetland definitions to determine the jurisdictional boundaries of their §401 programs. Inland wetland laws (discussed in a subsequent section) take over in some states where the jurisdiction of the §401 programs end, or supersede state water quality efforts to protect wetlands. However, in many states the §401 program is the only means for the state to protect wetlands.

### COMPLIANCE

The majority of states do not conduct compliance monitoring or enforcement activities under §401. Most monitoring and enforcement is left to the appropriate federal agency (e.g., Corps, Federal Energy Regulatory Commission [FERC], Coast Guard).



## PUBLIC EDUCATION/AWARENESS

Public awareness activities related to §401 programs, aside from required public notices, are generally incorporated into an overall public awareness program. These overall programs educate the public on wetland values and laws. However, they rarely specifically address the §401 programs.

## PROBLEMS/ISSUES

An annotated list of problems and issues identified by the states is given below. Specific problems and issues listed by individual states are given in the program charts in Appendix C.

1. **Lack of funding and staff resources** (Connecticut, Idaho, Indiana, Iowa, Maryland, Michigan, Ohio, North Carolina, South Carolina, Tennessee, Wisconsin).

A large number of states reported a lack of funds and personnel for adequate review of permits. For example, Ohio only has one person for the entire §401 program. The lack funds and staff for the state programs cause many of the of remaining problems.

2. **Lack of coordination within and between state and federal agencies** (Colorado, Hawaii, Maryland, Minnesota, Missouri, Nebraska, Nevada, New York, Ohio, Pennsylvania).

States which have multiple Corps districts frequently mention differences in interpretation of jurisdiction and authority between districts. For example, Missouri is covered by five Corps districts, each of which acts independently in defining Section 404 jurisdiction, and carrying out wetland compliance and enforcement activities. EPA com-

munication with many states consists primarily of infrequent calls from the regional offices. Several states noted that haphazard way of communicating, and a lack of coordination on EPA's infrequent site visits.

Duplication of effort with the Corps process, difficulties coordinating between different departments within the state, and problems coordinating activities with FERC and the Coast Guard were also mentioned. Several states, including Maryland and Pennsylvania, recognized the need for joint permit processing with the Corps as a partial solution to coordination problems. The joint permit process seems to be a useful tool in states where it has been employed (e.g., Illinois). North Carolina has employed a system, approved by the Corps, whereby approval by the state of a coastal permit has constituted approval of the Corps §404 permit.

3. **Lack of adequate protection for inland wetlands** (Alabama, Connecticut, Delaware, Kentucky, Maryland, Minnesota, Nebraska, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia).

In some states (e.g., Alabama, Minnesota, Ohio) §401 and §404 are the only means for protecting wetlands in the state. In Ohio, an antidegradation policy has been applied to water quality certification in wetlands. This policy requires that existing instream uses be maintained, making §401 a more powerful tool in areas where a permit is required. It does not affect the extent of program jurisdiction.

Many states indicate §401 is insufficient for protecting isolated wetlands on private property.

4. **Lack of compliance, enforcement, and follow-up evaluation by the federal agencies** (Alaska, Arkansas, California, Colorado Delaware, Iowa, Kentucky, Oklahoma, Maryland, Missouri, New Hampshire, North Carolina, Tennessee, Virginia, Pennsylvania, Rhode Island, West Virginia, Wyoming).

Because of limited fiscal resources, almost all states turn to federal agencies for compliance monitoring and enforcement. However, in general, the federal agencies are not providing this support. After-the-fact permits are widespread and there are no penalties for after-the-fact permits.

5. **Lack of public education/support for land use planning and wetland protection** (Alabama, Arizona, California, Iowa, Maryland, Missouri, Oklahoma, Washington, and West Virginia).

Non-compliance with regulatory requirements is often the result of ignorance on the part of the public, ignorance of the requirements and of the wetland and other values the regulatory program is meant to protect. Most state agencies do not have adequate resources to both aggressively pursue their mandated programs and conduct substantial public education on those programs. Faced with a choice, the limited resources are generally utilized in areas other than education.

6. **Lack of adequate techniques and follow-up case histories to evaluate the impacts of wetland projects, including cumulative impacts** (California, Colorado, Iowa, Kansas, Maryland, North Carolina).

Concern over the technical defensibility of using water quality as a basis for protecting wetlands was widespread.

The states noted the lack of evaluation criteria, based on case histories, to determine impacts from various categories of activity.

7. Other problems:

- ° State rarely denies certification (Delaware).
- ° State needs complete inventory of wetlands (Alaska, Kentucky).
- ° Jurisdictional debates over definition of a wetland (Maryland, Pennsylvania, Tennessee).
- ° Storm water control (North Carolina).
- ° Fresh water runoff into saline areas, harmful to shellfish nursery (North Carolina).
- ° High development pressure (Rhode Island).
- ° Need bonding requirement (Tennessee).
- ° Substantial wetland loss (Tennessee).
- ° Inadequate Corps public notices (West Virginia).
- ° Wetlands loss due to Federal Department of Transportation (DOT) activities (West Virginia).
- ° Need policy for case-by-case review (West Virginia).
- ° Need clarification on what should be done with spoils from intercoastal waterways (Texas).
- ° Hazardous waste threat to wetlands (Oregon).
- ° Dredging does not require a permit (New Mexico).
- ° Balancing economic development and environmental protection (Michigan, Oklahoma).
- ° Existence of previously zoned wetlands, conflicts between zoning and state law (Michigan).
- ° Constant court challenges to the regulation of wetlands on private property (Michigan).
- ° Lack of techniques to assess functional values of wetlands (Colorado).

## CURRENT EPA ROLE

State managers were asked to comment on the current role of EPA in their water quality certification program. A list of these comments is provided below.

- ° Many states recognized that EPA's limited staff and travel money contribute to their lack of participation in state programs. Some specific comments included:
  - EPA plays only a small role (Georgia, Missouri, Minnesota, Oklahoma, Iowa).
  - EPA is too lenient (Indiana).
  - EPA does not comment on §404 (New Mexico).
  - EPA serves only a watchdog role and provides little technical assistance (Michigan, Oregon).
  - EPA comments were requested but not received on §401 (Nebraska).
  - EPA can be a negative influence in wetland protection, but provides major source of state's funding (Nebraska).
  - EPA's restricted travel budget means they do not see many projects (Alabama).
  - EPA does not have enough funds to do oversight, and field people are spread too thin (Kentucky).
  - EPA has little interaction with state resource agencies under §401; duplication with state processes would occur if EPA took more of a role in §401 (New York).
- ° Many state managers said that EPA has a more substantial role in their program. Some specific comments included:
  - EPA provides the major funding source (Alaska, Arkansas, Idaho, Louisiana, Ohio).
  - EPA is assisting state in developing water quality standards (Wisconsin).

- EPA has 230.80 designation underway (Nebraska).
- EPA and the state have a close association through the permit process, quarterly interagency meetings, and frequent telephone conversations (Alabama).
- EPA assists state by enunciating a national perspective, state sees a shift in effort from CZM to EPA wetland management (Alabama).
- Coordination with EPA is rarely a problem (Georgia).
- EPA has a great deal of influence in the state (Kentucky).
- EPA and the state have joint evaluation meetings twice a month (Maryland).
- EPA has increased their emphasis on §401 within the last year, and has good communication with the state (Massachusetts).
- State refers to EPA on big projects, such as marinas; the state and EPA have quarterly meetings but do not discuss §401 in detail (North Carolina).
- EPA has formed a work group with the state on anti-degradation (South Carolina).
- EPA is present at monthly Corps meetings and monthly meetings with the Highway Department, and consults with state on individual projects (Virginia).
- EPA pressured Corps and did good work on Caanan Valley project (West Virginia).
- EPA has preapplication meetings with the state and Corps (California, Nevada).

#### RECOMMENDATIONS FOR FURTHER ASSISTANCE FROM EPA

Both general and specific recommendations were received from the states concerning potential avenues for further EPA assistance.

1. EPA should develop a strong policy to establish their commitment to wetland protection on a national basis. This policy should set the stage for EPA to play a key role in

coordination and information transfer within and between federal and state agencies.

Coordination and communication between federal agencies will produce a more coherent framework for wetland protection and promote more efficient use of limited funds and staff.

EPA should also make a greater effort to place personnel in field positions, and to relate to state agency personnel on a one-to-one basis. Even when travel funds are short, EPA should reach out to state personnel by phone to discuss current wetlands protection efforts, and establish a line of informal communication and rapport with state agencies.

Facilitated information transfer between states, and between federal agencies and the states, will encourage implementation of new programs found to be successful in other states and help prevent repeat applications of policies which have failed in other states.

Such a policy could be used to establish consistent interpretations of jurisdiction and permitting requirements under the §404 (and subsequently §401) program. EPA should work with the states and take the lead to insure that the Corps develops consistency guidelines and facilitates implementation of those guidelines regionally and nationwide. For example, each Corps District should require permit applicants to provide a 404 (b)(1) project alternatives analysis. Currently, requirement of such an analysis is very limited.

2. EPA should develop firm enforcement and mitigation policies. The limited financial resources of most state agencies, in combination with their sensitivity to political issues, makes them less able to develop a strict, large-

scale enforcement program. However, many states suggest that if EPA takes the lead on enforcement and mitigation, the states will back them up. EPA should coordinate comprehensive compliance monitoring activities among state, local, and federal agencies, and work with those agencies to establish priority areas for enforcement activities.

3. EPA should fund or conduct evaluation projects to provide technical backup for the use of water quality as a means of protecting wetlands, and to provide case histories of the impacts of filling. Evaluation projects should include studies of wetland functions and values, as well as the effects of cumulative impacts.
4. EPA should work with the states to improve existing public education programs, and develop programs where none exist. This effort will complement a strong enforcement program, as there will be fewer violations due to insufficient knowledge, and a more knowledgeable public can serve as additional eyes and ears for EPA. Additional public education work could include workshops for specific problem solving and education of public officials.
5. EPA should develop a basin management approach to incorporate lakes, streams, and other wetlands into a comprehensive regulatory framework. This would include modifications of §401 to incorporate wetland protection and to establish specific water quality criteria for wetlands.
6. Other suggestions from the states include:
  - ° Continue technical assistance to states on permit review;
  - ° Continue funding;
  - ° Pressure the Corps to place land clearing under the scope of their regulatory program;



- ° Provide more guidance on regulations for issuing/denying certification to further clarify the §401 program;
- ° Outline a practical approach to wetland protection, concentrating on solutions and remedies developed through applied research;
- ° Develop water quality standards for dredge and fill activities (Sections 301 through 307 of the Clean Water Act); and
- ° Develop criteria for placement of solid waste sites.

#### EXAMPLES OF SUCCESSFUL PROGRAMS

The limited jurisdiction of §401 water quality certification programs limits their effectiveness in wetland protection efforts. However, several improvements to specific state programs have made §401 more successful.

In Iowa, the antidegradation policy provides that existing surface water uses, and the water quality necessary to maintain those uses, will be protected. The policy provides for protection of chemical, physical, and biological water quality. In addition, the policy provides that projects cannot impact water quality either on an individual or cumulative basis. The Fish and Wildlife Service and Conservation Commission serve as consultants for assessing impacts. An antidegradation policy for wetlands in Ohio also provides for maintenance of existing instream uses. In both Ohio and Iowa, water quality permits are the states' only means of protecting wetlands.

Minnesota has an antidegradation standard which can be applied to designated outstanding resources. The antidegradation standard provides for use of background levels as a standard if background is better than general surface water standards, and use of background as a standard if background levels are different than general levels for some identifiable reason (e.g., peat bogs).

A second method of making water quality certification programs more successful in protecting wetlands is to establish joint permitting procedures with the Corps. For example, Illinois has established a joint permit application process with the Corps, Illinois Department of Transportation, and Illinois Environmental Protection Agency.

## STATE ENVIRONMENTAL POLICY ACTS

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### INTRODUCTION

State environmental policy acts range from simple statements concerning control of air, water, and land pollution to complex documents with requirements for environmental impact statements.

### NUMBER OF PROGRAMS

Thirteen of the states have state environmental policy acts: California, Connecticut, Idaho, Indiana, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New York, North Carolina, Virginia, and Washington.

### FUNDING SOURCES

In general, funding is from state general revenues or federal grants. However, in Minnesota developers are assessed the costs of preparation of environmental impact statements, and Nebraska is considering a fee system for permit and engineering review to cover agency costs.

### JURISDICTION/ACTIVITIES COVERED

The California, Idaho, Illinois, Indiana, and Nebraska Acts are broad pieces of legislation which either provide for or incorporate regulations covering air, water, and land pollution. The Michigan, New York, and Minnesota acts provide for citizen suits to prevent pollution, impairment or destruction of natural resources. The Minnesota, New York, Connecticut, Massachusetts,

North Carolina, Virginia, and Washington acts can require environmental impact statements.

### COMPLIANCE

The ability of the states to conduct compliance monitoring, and the penalties for noncompliance, vary. In California, Idaho, and Indiana, penalties for noncompliance with the regulations include administrative, civil, and criminal actions. The Nebraska act is compatible with NEPA language and most enforcement is through federal programs. In Washington, the state has recourse through appeals to the policy board or civil court system, but there are generally no punitive measures. In Michigan, every permit is reviewed to determine whether the issuance is in compliance with the act.

### PUBLIC EDUCATION/AWARENESS

Various public awareness activities, including newsletters and public meetings, are incorporated into programs covered under the California, Idaho, Indiana, and Nebraska SEPA's. Washington has annual workshops on their act. Michigan does not have a public education program related to their SEPA, however Michigan's act has received so much news media coverage and has been so visible that the public is very aware of the program.

### PROBLEMS/ISSUES

The following problems with SEPA's were identified by the states:

1. Vague, unclear definitions of jurisdiction.

2. Lack of authority and limited enforcement.

3. Other problems:

- ° Projects with significant impacts can be conducted without undergoing state permitting (Massachusetts).
- ° Rivalries with other state agencies (California, Massachusetts).
- ° Corps won't work with SEPA process (Massachusetts).
- ° Shortage of staff (New York).
- ° Inconsistency between implementation of the program in different localities (New York has 9 regional offices, all state or local quasi-government or government agencies, responsible for program implementation).
- ° Lack of a specific threshold to determine whether or not to issue a permit (Connecticut).
- ° Act does not cover private activities unless they involve public funding or state action (North Carolina).
- ° Political pressures often force state approval; NEPA process appears less vulnerable (California).

CURRENT EPA ROLE

In states where the SEPA includes regulations covering air, water, land, and hazardous materials, EPA is involved in specific programs.

In states with other types of SEPA's, EPA generally does not play a role in the program. However, in Washington, state and federal agencies (often EPA) jointly develop the required environmental document when NEPA and SEPA are both in effect.

## RECOMMENDATIONS FOR FURTHER ASSISTANCE FROM EPA

In cases where the SEPA parallels or overlaps with NEPA (e.g., Washington), EPA should recognize the existence and value of SEPA and closely coordinate their actions with the state.

Massachusetts noted that it would be of value for EPA to understand their SEPA process and recognize its value as an early warning system, which can be used well in advance of permitting.

## EXAMPLES OF SUCCESSFUL PROGRAMS

### Michigan

The Michigan Environmental Protection Act (MEPA) is a powerful piece of legislation allowing citizen injunction suits to prevent pollution, or impairment or destruction of air, water, and other natural resources. It requires every state and local agency to consider whether their actions will pollute or impair resources. MEPA has been used for protection of wetlands, including manmade wetlands. It has also been used in several cases against the State Department of Natural Resources (DNR). For example, the DNR was sued for permitting oil and gas development within the range of the only wild elk herd.

The state has initiated action using MEPA in several cases. In one case, a landowner was planning to destroy a wetland which contained a great blue heron rookery. The DNR threatened suit under MEPA, and the landowner withdrew his plans.

### New York

New York's State Environmental Quality Review (SEQR) Act also allows citizen suits against state and local governments if envi-

ronmental impacts are not thoroughly considered. SEQR parallels the federal NEPA, and provides for a comprehensive process to evaluate environmental impacts on major actions requiring state or local approval or funding.

Before any state or local agency can approve or fund an action, that agency must determine whether the action is covered by SEQR. "Type I" actions, or covered actions, are such projects as nonresidential construction covering ten acres or more. The agency may decide an action will still be covered even if it fails to meet the appropriate threshold if the project contains other significant factors. Actions which are not covered include "Type II" actions (minor structures or in-kind replacement structures), exempted actions (actions of the state legislature) or excluded actions (approved prior to SEQR). The effect of the classifications scheme is to provide coverage of major actions, but discretion to catch smaller projects with potentially significant impact. For actions covered by SEQR, agencies must decide whether the covered action significantly affects the environment. If so, an EIS is required, and a lead agency is assigned. If not, a negative declaration is prepared. This decision is made on the record.

## TAXATION PROGRAMS

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### INTRODUCTION

A variety of taxation programs with wetland protection components are in effect across the country. Some of these programs give tax advantages to individuals who protect wetlands. These advantages can include a reduction in property tax, income tax, gift or inheritance tax, or capital gains tax.

Other taxation programs provide a mechanism to raise funds for wetland acquisition and research, such as documentary stamp taxes, sales taxes, and nongame checkoffs.

For programs offering tax abatement for retaining wetlands, the success of the programs is related to two key factors. First, and foremost, is whether the compensation given to the property owner offsets the loss in income from use of the property. The second key factor is whether payments in lieu of taxes are made to the tax base. Programs for which the state offers property tax incentives for protecting wetlands, but does not make "in lieu of taxes" payments to the local governments, are generally unsuccessful. This is even more of a problem if the program is administered on the local level, since the county or city governments generally will not promote programs which decrease their revenue base.

### NUMBER OF PROGRAMS

Information was collected on 55 taxation programs across the country.



## METHODS OF IMPLEMENTATION

The states, and in some instances local governments, implement the following tax programs for wetland and natural area protection.

**Property Tax Incentive Programs:** Open Space protection tax incentives exist in many states (Connecticut, Delaware, Maine, New Hampshire, North Carolina, Rhode Island, Tennessee, Vermont, Virginia). Wetlands often comprise a major portion of the land protected under Open Space programs. Some programs offer tax abatement specifically for retaining wetlands in their natural condition (Iowa, Minnesota, New Hampshire). Minnesota offers an exemption from property taxes on wetlands which could be used for agricultural purposes, if the landowner agrees not to drain the area for that year.

In some cases wetlands are protected under other eligible categories, such as recreation, agriculture or timberlands (Connecticut, Maine, Oregon, Vermont). Maine offers an assessment lower than current use for large wetlands associated with timber. Oregon also has a riparian tax incentive program, which provides for a complete exemption of county property tax and a 25% personal state income tax exemption for money spent on habitat improvement.

Most states do not limit the amount of land that can be eligible. However, in Maine where wetlands may be protected under the timber forest category, tracts must be 10 or more acres in size to be eligible for the program.

Some states reimburse localities for a reduction in the tax base (Iowa, New York, Pennsylvania, Vermont). Localities are less likely to promote or cooperate with preferential assessment programs where there is no state reimbursement (Maryland, Rhode

Island, Virginia). In Georgia and North Carolina, the state completes the assessment and the localities are bound by the assessment.

The success of current tax incentive programs is dependent partly upon whether compensation offsets the loss in income from use of the property, and partly upon the landowner's motivation to keep the land undeveloped. Many programs discourage landowners from changing the use of the property by levying a substantial penalty (Connecticut, Maine, New Hampshire, Rhode Island, Tennessee, Virginia).

In some states landowners can obtain property tax reductions for granting conservation easements (Delaware, Maryland, New Jersey, Rhode Island, South Carolina). Maryland offers a complete tax credit for 15 years and then assesses the land at its encumbered value. Generally, easements must be granted in perpetuity. However, temporary easements of a minimum of ten years are available for areas that do not meet the criteria for Open Space in New Hampshire.

New York is unique in offering a reduction in property tax to landowners who have been denied permits to develop wetlands.

**Income Tax Programs:** Some states offer a charitable deduction from income tax for donation of interests in land (Delaware, Maryland, North Carolina, Oregon, Rhode Island, Vermont, Virginia). Under Virginia's program, land must be held under an easement for five years before it can qualify for income tax benefits. In North Carolina, income tax credits of 25% of fair market value of donated conservation easements can be carried over, up to a maximum credit of \$5,000 per year. Oregon's riparian lands program allows for a 25% personal state income tax exemption for money spent on habitat improvement.

In addition, 32 states offer nongame income tax checkoffs. Nongame funds are used for various wetland-related purposes, such as: conducting habitat research and developing wetland inventories and classification data bases (Alabama, Delaware, Kansas, Maine, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Virginia); advising private land owners and state agencies on natural and preserve area management (Delaware); funding Natural Heritage Programs that register and acquire natural areas, including wetlands, for protection (Alabama, Delaware, Illinois, Kentucky, Massachusetts, Mississippi, South Carolina); and funding acquisition of wetlands and other natural areas (Iowa, Louisiana, New Mexico, Ohio, Oregon, West Virginia).

In general, the nongame checkoffs do not raise a significant amount of funds for state wetland protection and acquisition. Nationwide checkoff donations in 1985 totaled approximately \$9.36 million (New York alone raised about \$1.6 million). In 17 states, nongame checkoffs compete with one or more checkoffs for other causes; in several states, they compete with as many as four other checkoffs.

**Gift and Inheritance Tax Programs:** Gift and inheritance tax advantages are available in Delaware, Maryland, North Carolina, and Virginia. These tax benefits provide an important incentive for donating property. Some laws specify tax benefits to non-profit organizations, such as the Nature Conservancy (Maine, North Carolina, Tennessee). Donations to these organizations allow the state to pursue other wetlands for protection.

**Capital Gains Tax Programs:** Capital gains tax reductions are available in some states (Delaware, Maryland, North Carolina).

**Documentary/Severance Tax Programs:** Some states use documentary stamps and severance taxes to raise money for acquisition. A tax

of a few cents for every \$100.00 valuation of property is placed on the transfer of land in several states. Large sums of money can be derived from these programs (Florida, South Carolina, Tennessee). Both Tennessee and South Carolina's programs are new. To accommodate management problems, Florida will allow a percentage of the proceeds raised to be used for property management. Tennessee will allow a portion to function as an in lieu payment program for local governments.

Severance taxes on mineral, oil, and gas extraction are dedicated to acquisition of lands, including wetlands, in Florida.

**Sales Taxes:** In Missouri, one-eighth of one percent of the sales tax is used to fund the Missouri Department of Conservation. Much of the money is used for acquisition of property, including wetlands. The sales tax provides a relatively stable and substantial source of funds. Arkansas has pending legislation to establish a similar program.

#### PROBLEMS/ISSUES

1. **Lack of Consistent Funds** (Alabama, California, Kansas, Kentucky, Maine, New Mexico, New York, Oregon)

Tax programs which require a renewal of commitment each year (e.g., nongame checkoff and duck stamp or print programs) tend to be inconsistent sources of program funds. Typically, the first year of implementation is the most profitable with varying degrees of success during subsequent years.

**2. Lack of Uniform Program Administration (Minnesota, New Hampshire, New York, Tennessee)**

Many of the tax programs are administered on the local level. A lack of local support and training for local administrators can lead to inconsistent program administration. Local governments may provide different levels of effort, including enforcement and public education aspects.

**3. Decrease in Funds to the Local Tax Base (Iowa, New Hampshire)**

A lack of in lieu payments to the local tax base decreases local support for the program and greatly affects program success. In some cases, tax payers who are not participating in the program feel as though they are subsidizing those who place land in protective status.

**4. Lack of Adequate Incentives (Oregon)**

In some cases, a tax break is not a large enough incentive for landowners to participate in a program. The Oregon Riparian Tax Incentive program provides for a complete property tax exemption for money expended on habitat improvement. However, farmers must spend a great deal of money fencing riparian areas to protect them from cattle, and the tax incentives rarely balance the costs of fencing.

**5. Lack of Program Publicity (Kentucky, Minnesota)**

For voluntary programs where the landowner signs up to become eligible, public awareness of the program is a key factor determining program success.

**6. Criteria for Participation Limits Program Success (Georgia)**

Georgia's tax incentive program has an acreage limitation and a penalty for termination of participation. Both of these constraints tend to limit participation in the program.

**7. Lack of Comprehensive Wetland Network (California, New York)**

Through a tax incentive program, the state may end up with small pieces of wetlands scattered across the state. These wetland units may not fit into a comprehensive plan for wetland protection and may not be large enough to preserve wetland functions.

**CURRENT EPA ROLE IN PROGRAMS**

In general, EPA did not play a role in the state taxation programs.

**RECOMMENDATIONS FOR FURTHER ASSISTANCE FROM EPA**

Many of the state taxation programs need additional funds to make the program more effective. However, in most states the primary need from EPA is assistance in promoting the program. EPA should be aware of the various taxation programs in the states and actively promote those programs as part of an overall public awareness campaign. An example of EPA direct assistance to state awareness campaigns is EPA Region II inclusion of duck stamp and print promotional material in personnel's paychecks.

## EXAMPLES OF SUCCESSFUL TAXATION PROGRAMS

Two of the most successful taxation programs are in Missouri and Florida. Each of these taxation programs provide funds for wetland acquisition.

### Missouri

The Missouri program was established in 1976 by an initiative petition by the people. It provides for one-eighth of one percent of the state sales tax to be earmarked for the Department of Conservation. A large portion of the funds go toward acquisition of land including wetlands. The amount of money generated on an annual basis ranges from \$50 to \$60 million, depending on the economy. A large public education program is conducted by the state, and land is purchased only from willing sellers for appraised market prices. Arkansas and Rhode Island are considering similar programs.

### Florida

The Florida program involves a documentary tax of 7.5¢ per \$100.00 on all real estate transactions. This money goes into the Water Management Lands Trust Fund which is divided among five water management districts throughout the state. The money is used for acquisition and management of floodplains and wetlands, including isolated wetlands. Revenue estimates projected over the next 30 years go as high as \$1 billion. This program incorporates public participation through hearings prior to each land purchase, and for an annual 5-year water management plan update. A substantial amount of public education material is distributed on the program. Under a new 1986 law, 10% of the funds can go toward management of the acquired properties, thereby helping to solve the problem of many unmanaged parcels of state land in the future.

## ACQUISITION PROGRAMS

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### INTRODUCTION

Review of state acquisition programs indicates the majority of states have at least one program which acquires wetlands, and some have more than one program. However, many of the programs were not specifically designed to acquire wetlands. Wetlands were frequently acquired incidentally because of their ability to provide habitat for endangered/nongame species and waterfowl, open space, or other values.

### NUMBER OF PROGRAMS

Information was collected on 88 acquisition programs across the country.

### METHODS OF IMPLEMENTATION

Most states prefer fee simple acquisition over conservation easements as a method of obtaining control over wetlands. In general, conservation easements provide less control for a shorter duration, at (in some cases) almost the same cost. In a few states with limited funds, acquisition of conservation easements, including trail easements and flow easements, have provided some wetland protection.



## PROBLEMS/ISSUES

1. **Lack of Funds** (Arkansas, California, Connecticut, Georgia, Idaho, Illinois, Indiana, Iowa, Michigan, Nebraska, New York, North Carolina, Ohio, Rhode Island, South Carolina, Tennessee, Washington)

States with both low and high land values note a lack of adequate funds for wetland acquisition. In farm country, land values have dropped as much as 40% and there are an overwhelming number of wetlands available for purchase by the states. In addition, draining of agricultural land is no longer economically profitable in these areas. States dominated by agriculture are finding they have more willing sellers than available dollars.

States with high land values (e.g., California) are finding funds may be insufficient to purchase wetlands. In some areas, like San Francisco Bay, development interests can outcompete state funds.

2. **Lack of Public Awareness and Support** (Idaho, Indiana, Kentucky, Nebraska, North Carolina, South Carolina, Wisconsin)

The lack of public awareness concerning the value of wetlands and specific acquisition processes contributes to a lack of support for state acquisition efforts. In some states (e.g., Nebraska), the general perception that government intervention is bad hampers efforts to acquire wetlands. Public lands policy, such as the "open range" concept in Idaho, may also hinder efforts to protect wetlands. Wisconsin managers note that many municipalities do not support state efforts to acquire wetlands because of the perceived loss in tax base, despite state payments to compensate local governments for lost revenue.

3. **Lack of Adequate Inventories or Means of Prioritizing Purchases** (Kentucky, Maine, North Carolina, South Carolina, Tennessee)

Without inventories, states cannot determine which property should be acquired, or assure that the most critical wetlands are acquired first.

4. **Intense Development Pressure** (Illinois, Iowa, Michigan, Ohio, Rhode Island, South Carolina, Texas, Washington)

In many states the pressure to develop wetlands for agricultural or for residential/commercial use remains high. A state acquisition program often must compete with other interests to acquire wetlands.

5. **Lack of Adequate Management and Oversight of Acquired Property** (North Carolina, Tennessee)

States may use most of the available funds acquiring property and leave little money for oversight of purchased properties. Problems such as controlling off-road vehicles and littering can occur on properties with no management or oversight.

6. **Lack of Inland Wetland Focus** (Virginia)

Coastal areas are often prioritized over inland areas. However, in most cases, coastal wetlands also receive the greatest regulatory protection and may not experience the degree of threat inland wetlands receive.

## CURRENT EPA ROLE IN PROGRAMS

In general, EPA does not contribute to state acquisition programs.

## RECOMMENDATIONS FOR FURTHER ASSISTANCE FROM EPA

EPA should provide technical assistance to states compiling inventories of critical areas and prioritizing areas for acquisition. Other technical assistance could include:

- ° research into effective means of assessing wetlands;
- ° research into effective spatial distribution of wetland parcels (are five 2-acre parcels as successful as one 10-acre parcel in preserving wetland functions and values?);
- ° research into effective methods for acquiring property rights, including purchase of development rights, flow easements, etc.

EPA should assist in coordination of acquisition programs with federal, state, local, and private groups. In particular, EPA should coordinate with the Fish and Wildlife Service regarding wetland assessment under the 1986 Emergency Wetland Resources Act. In many states, individuals in one department were not aware of acquisition efforts in another department, and few mechanisms exist to facilitate exchange of acquisition information with federal agencies. Acquisition of wetlands by private groups represents a large portion of the acquisition efforts in some states. EPA's role could be as clearinghouse and nationwide data base, including inventory information, and lists of key wetlands prioritized according to the need for acquiring each parcel. Such priorities should be established with federal, state and local input. State, federal, and private groups could then access the information system when funds are available for

acquisition, to determine which properties to acquire. A national list of critical wetland areas could be developed in this fashion. If EPA is unwilling or unable to serve in this role, it should make sure another federal agency does assume the role, and that adequate support is provided to that agency.

Most states acquire properties only from willing sellers. EPA could assist in coordination between sellers and potential purchasers.

EPA should assist states with public education and information about acquisition programs as part of an overall public information program.

#### EXAMPLES OF SUCCESSFUL PROGRAMS

##### Illinois

The Natural Heritage Program in Illinois has established a Natural Heritage Endowment Trust Fund. The fund is a unique method of providing money for a program. It provides \$2.5 million for one-to-one matching funds from private parties for stewardship of natural areas, including management, monitoring, and research.

##### New Jersey

New Jersey's Green Acres Program focuses on acquisition of inland areas, since coastal areas have a significant degree of protection through existing regulations. The program concentrates on watersheds as a basis for stream corridor protection. All acquisition efforts are conducted through one agency within the state, which sets priorities for acquisition.

Local acquisition is a key element in the program, including 20-year loans at 2% interest, and grants to municipalities with a 25% bonus if environmentally sensitive land such as stream corridors and headwaters are purchased. Municipalities are required to put up open space as collateral. They are not permitted to use Green Acres money to replace existing open space slated for development. Fee simple acquisition is preferred for all areas except stream corridors and headwaters, where easements are the preferred alternative.

A large amount of money is available for the Green Acres Program. A state bond issue of \$183 million in 1983 included \$83 million for Green Acres loans to townships, and \$52 million for state acquisition. The program is operated under annual budgets of approximately \$3 million by a staff of about 50. The state has acquired roughly 650,000 acres in open space, a substantial amount of which is wetlands.

### Florida

In recent years, Florida has created several acquisition programs, funded by taxation and other sources, and coupled with various management strategies to protect the acquired properties. Hundreds of millions of dollars have been spent to acquire hundreds of thousands of acres, a substantial part of which are wetlands.

The Save Our Coast program is funded from state bond proceeds and the Land Acquisition Trust Fund, which is funded, in turn, by a documentary stamp tax. Through purchase and donation, the program has acquired some 350,000 acres of combined coastal uplands and submerged lands, including a large amount of coastal wetlands. This acreage has been acquired for passive recreation, wildlife habitat and watershed protection, with approximately

100,000 acres going into the state Aquatic Preserves program for added protection.

The Conservation and Recreation Lands Trust Fund, or CARL program, has acquired substantial acreage in 59 tracts (including substantial wetlands acreage) for habitat protection, water quality enhancement, watershed protection and recreation. Funding comes from some \$40 million of severance tax on oil and minerals, with the potential for an additional \$100 million in bond funds if approved by the electorate. Acquisition priority lists are developed in-house and in conjunction with local government and the Nature Conservancy, with final selection approval by the Governor and cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund. Like the New Jersey Green Acres program, the CARL program is less likely to propose acquisition of a site adequately regulated under the state's wetland act.

The Save Our Rivers Program (see Taxation) is a concerted, long-range effort to purchase hundreds of thousands of acres along the state's major river systems in the state's five water management districts, for water management and protection purposes. Substantial acreage has been purchased for restoration of channelized or impounded rivers which feed the Everglades. As part of the Save Our Everglades program, the state has purchased thousands of acres along the Kissimmee River, to restore it to its original channels, and has initiated a pilot project of marsh habitat renewal. Massive acreage has been purchased in the Green Swamp. The program purchases floodplains in addition to river banks. Management of these lands is within the water management districts.

State owned lands are eligible for designation under a number of protective management programs, such as Florida Aquatic Preserves, the Florida Reserve System and the Outstanding Florida Waters (OFW) program (the state's antidegradation program).

These programs generally include substantial wetland acreage and involve development (with local and federal agencies) of specific management plans aimed at providing increased levels of protection. Under the OFW program, permits in such designated areas require a substantially greater burden of proof than under federal wetland regulations for permitting of activities in wetlands. In these wetland areas, dredge and fill activities are generally not allowed except for minor or public recreation or navigation purposes.

## RESEARCH AND DEVELOPMENT PROGRAMS

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### INTRODUCTION

Most state wetland research is conducted in conjunction with research on fish and wildlife. Most is performed by universities or agencies other than those certifying water quality under §401. Few states have applied research efforts designed to evaluate wetlands. Studies are needed to assess the impacts of permitted activities on water quality and wetland functions, and to assess the effects of cumulative impacts.

### NUMBER OF PROGRAMS

Most states conduct at least some research which is associated with wetlands. However, only 23 states had at least one well developed research program, and most of this research was not the applied research requested by state wetland managers.

### FUNDING SOURCES

Many of the states fund research with state general revenue funds. Other sources of funding include nongame tax refund checkoffs, land and water conservation funds, bond issues, private contributions, hunting and fishing permits, federal Pittman-Robertson and Dingle-Johnson funds, USFWS funds, and other federal grants.

### PROBLEMS/ISSUES

#### 1. No Substantial Research Program (Many States)

Many states do not have a research program per se, although a small amount of research may be conducted as part of other



programs. A state without a well developed research program must rely on research information from other entities. Information transfer through normal channels (journals, conferences, etc.) is slow, and the information may not be specific to the area, wetland type, or problem being considered.

**2. Lack of Applied Research (Georgia, Illinois, Kentucky)**

Managers indicate that although research on wetlands is being conducted, it is rarely applied research. Managers need research which gives them technical backup for their managerial decisions, such as permitting or certification of specific activities.

**3. Lack of Methodologies Related to Key Problems/Issues (Most States)**

In addition to the lack of applied research on specific problems, most states noted a lack of methods for addressing general problems critical to the overall operation of wetland protection programs. Most consistently noted were the need to develop methods of evaluating and assessing cumulative impacts, developing functioning wetlands through mitigation, assessing "acceptable alternatives" to a project, and determining jurisdiction.

**4. Lack of Funds (Arkansas, Delaware, Georgia, Kansas, Kentucky, Wisconsin)**

Aside from some earmarked federal funds, most states do not have funds which are specifically designated for wetland research. In addition, funding for research often does not receive priority over funding for other activities, such as management or acquisition.

## CURRENT EPA ROLE

EPA's role in state wetland research programs is very small and consists primarily of funding a few specific research projects.

## RECOMMENDATIONS FOR FURTHER ASSISTANCE FROM EPA

EPA should develop a working group to identify specific research needs. Members of the working group should include representatives from federal, state, local, university, and private sectors. General research needs include:

- ° Methods to assess functional values of wetlands and cumulative impacts to wetland systems;
- ° Answers to mitigation questions such as: how to create a wetland; how to evaluate functions lost versus functions created; how much acreage should be required to "replace" a wetland;
- ° Methods for identifying wetland functions and boundaries which are inexpensive and easy to use;
- ° Identification and quantifications of the water quality functions of wetlands (to guide decisions made under §401);
- ° Case histories of specific projects, to document effects on water quality and wetland functions; and
- ° Methods to assess various wetland protection measures and programs.

The working group should develop a rapport with state personnel and familiarity with state programs, to identify general and region-specific wetland problems which need to be researched. Research strategies could then be developed on a regional basis. The strategies would identify regional wetland problems, the current status of knowledge on those problems, and the research required to fill gaps in the knowledge. The research needs could then be prioritized.

EPA should serve as a repository for the collection and dissemination of information on research being conducted and high priority research efforts which remain to be addressed. During and following high priority research efforts, updates could be sent to EPA, and EPA could transmit the information to interested parties.

EPA should also assist state research efforts by identifying sources of funding for research projects.

#### EXAMPLES OF SUCCESSFUL PROGRAMS

The research currently conducted in some states is aimed at addressing specific management questions. Some of these management issues are confronted nationwide and the results of these kind of studies could be useful for all states. Florida and Rhode Island are doing research that offers insight to states nationwide.

##### Rhode Island

One important management function for many states is the determination of wetland existence and boundaries. The University of Rhode Island is conducting a study correlating the vegetation, hydrology, and soils of freshwater forested wetlands in southwest-

tern Rhode Island. A knowledge of this correlation may make it possible to use any of these features as an indicator of wetland existence and boundaries. Rhode Island also plans to research wetland value assessment techniques, criteria for determining the avoidability of proposed wetland alterations, and criteria for determining the form and extent of mitigation where wetland losses are unavoidable.

### Florida

Florida is undertaking extensive wetland restoration and creation research. The work is being performed at several sites, with monitoring of in-place mitigation done on a regular basis. The results are used for state mitigation planning, and by industry to meet phosphate surface mining reclamation requirements. Municipal wastewater treatment is also being researched in Florida. These studies began in 1973 and led to state development of regulations permitting discharge of wastewater into wetlands. Research demonstrations are given to state and local authorities.

Rhode Island and Florida identified priorities for applied research which are applicable nationwide. These include: information sharing, long-term cyclic patterns of wetland systems, and regional approaches to wetland value assessment and impact assessment.

## COASTAL WETLAND PROGRAMS

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### INTRODUCTION

There are generally three types of state coastal programs that include wetland protection. Many states have enacted substantive coastal wetland regulatory acts which focus on the protection of wetlands, such as Maine's Alteration of Coastal Wetlands Act, and Maryland's Tidal Wetlands Act. Other coastal regulatory laws, such as Maine's Mandatory Shoreline Zoning and Subdivision Control Act, and Maryland's Chesapeake Bay Critical Areas Protection Act provide wetland protection as one of several program goals. Finally, coastal zone management programs include protection of wetlands and other critical areas within the coastal zone.

By 1970, Connecticut and Massachusetts had adopted coastal regulatory programs specifically to protect coastal wetlands. These programs established a permitting system for development activities which would alter the characteristics of coastal wetlands. Both laws became models for numerous other states. However, most states did not develop these programs until after passage of the federal Coastal Zone Management Act (CZMA) in 1972. That act provided states with the financial and management incentives for adoption of coastal programs, including wetland and other regulatory laws.

California and Oregon were the only states to have coastal zone management programs before 1972. However, several states were developing coastal management programs affecting wetlands at that time (Maryland, Minnesota, Washington, Wisconsin). Now all coastal states have approved coastal management plans except Georgia, Illinois, Indiana, Minnesota, Ohio, and Texas. Georgia and Minnesota have coastal regulatory programs, though they do not have federally approved coastal zone management plans.

Coastal zone management plans evaluated by the federal Office of Ocean and Coastal Resources Management are generally based on a number of state permitting laws for the coastal zone. Some of these laws are specific coastal wetland protection laws and others regulate activities throughout the coastal zone. For example, in New Jersey the coastal zone management plan was approved on the basis of three coastal laws. One, the Wetlands Act, is a specific wetland permit program. The other two, the Waterfront Development Act and CAFRA, are examples of land use permitting laws which affect wetlands though they apply to the entire coastal zone.

Several states with coastal wetland laws have delegated these programs to local governments. States that allow delegation include Connecticut, Delaware, Florida, Maine, Rhode Island, Virginia and Washington. States that do not allow delegation include Alabama, Georgia, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania and South Carolina. In Massachusetts, local governments implement the state program. In some non-delegating states local authorities participate in wetland decision making.

Town conservation commissions in New Hampshire report findings and recommendations to the state. In South Carolina, local authorities regularly comment on development proposals. Local authorities in New York influence state coastal regulation through the state environmental policy act.

Some states cooperate with localities in the designation of critical areas (Alabama, Pennsylvania, South Carolina). In South Carolina, a local ordinance is required for critical areas to be designated and to receive additional protection. In some non-delegating states (New York) local governments can adopt their own, more stringent wetlands program. In contrast, Virginia (a delegable state) localities have little flexibility, and must

adopt a statutory model ordinance in order to establish regulatory authority.

The states can retain a portion of their coastal wetland authority through several means: emphasis on oversight of local program administration (Florida); required local reporting of permit applications (Maryland, New Hampshire, Virginia); state option to intervene in the permit process (Maryland, Virginia); and by the state administering agency taking appeals (Massachusetts, Virginia).

### FUNDING

Funding of coastal programs comes primarily from state general funds and federal CZM funds. Applicant fees is another source of funding (Maine). Some states offer grants to localities for coastal regulation (Maine, Maryland).

### JURISDICTION

Generally, states have jurisdiction over both public and private property and do not distinguish between them. However, Mississippi's law only applies to public tidelands.

The coastal zone of both Florida and Delaware includes the entire state. However, tidally influenced areas are distinguished from the remainder of the states by the estuarine focus of Florida's law and by the delineation of Delaware's coastal strip (which extends 4 miles inland from the coast). South Carolina's coastal law covers the eight coastal counties of the state. Their non-tidal areas are regulated separately by way of a certification, rather than permitting, process.

Specific boundaries are spelled out in some laws. Oregon's coastal program includes areas within 500' of coastal lakes and 100' of estuaries. Maine's coastal program covers land within 250' of the high water mark, and Rhode Island's covers 200' inland from coastal wetlands. Many states have buffer zones that define the coastal program's boundaries. New Jersey, New York, and Pennsylvania laws encompass a buffer of 300' from any coastal wetland. Maryland's Chesapeake Bay critical areas program involves a buffer 25' from any inland wetland and, like Massachusetts, a 100' buffer from any coastal wetland (Massachusetts 100' buffer also applies to freshwater wetlands). In addition to a specified buffer, some states (Mississippi, New Jersey, Rhode Island) restrict activity in any area where the impact would affect the coastal zone.

Some coastal programs include special management areas, the boundaries of which are defined specifically to include the resources of state concern (Alabama, South Carolina).

#### INVENTORY/CLASSIFICATION

Most coastal states have ongoing inventory and mapping programs. These programs are essential for classifying priority wetlands for protection, and for measuring the loss or gain of wetlands and the impacts of development.

Mapping of coastal wetlands has been completed in Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, South Carolina and Virginia. In Florida, Mississippi and New Hampshire mapping is in progress. Minimal mapping is being done in Georgia, Maine and Rhode Island. Alabama is securing funding now for a major inventory effort to be conducted with several state and federal agencies.



The designation of critical areas and land use zoning are means of planning for protection and directing development. States that are classifying wetlands include Alabama, Massachusetts, New Hampshire, South Carolina and Virginia.

Land use zoning establishes what uses are to be permitted or restricted in specific areas. Zoning can be based on the current use of the area as well as its classification or value as a natural area. Zoning under coastal programs is being done in Maine, Maryland, Mississippi and Rhode Island.

#### PERMITTING

Regulatory programs in the coastal zone sometimes outline minimal criteria for permit issuance, and all other development is prohibited. Some of these restrictive criteria include: the activity must be in the public interest (Rhode Island for Class I & II activities); must be water dependent (Alabama, New Jersey); there must be no alternative site available (New Jersey). Any alteration of the natural topography or habitat, or any damage to flora or fauna requires a permit in the following states: Alabama, Georgia, Mississippi, New Jersey, Rhode Island, South Carolina and Virginia. Under Maryland's Critical Area Program, habitat and water quality enhancement are required for permit issuance.

Cumulative impacts are considered in a few states during the permit review process (Florida, Rhode Island). In Florida, project reviews consider the specific impacts of the project, and cumulative impacts of other approved projects. Consideration of cumulative impacts are on a case by case basis in Alabama, Mississippi, New Hampshire, New Jersey, New York and Virginia.

Mitigation is often a condition for permit issuance in several states. All these states noted that additional research on

mitigation-related topics, would be of major assistance to their programs. Although considered on a case by case basis in most states, several states try to use a ratio for wetland destroyed to wetland created for replacement (Alabama, 1:1.15; Mississippi, 1:1.25-2.0; New Jersey 1:2; Pennsylvania 1:1; South Carolina, 1:2-3). Compensatory land purchase or restoration are means of mitigation used by a few states (Connecticut). Some states require on or near-site mitigation (Alabama, Maryland). Alabama has 17 mitigation projects underway entailing creation of 102 acres of wetland for the loss of 77 acres. Massachusetts has several mitigation projects being done on the local level. Maine and Rhode Island require mitigation for Department of Transportation (DOT) activities.

Major exemptions diminish the effectiveness of state regulatory programs in protecting wetlands. Some exemptions in state coastal programs include: agriculture (Alabama, Massachusetts for agricultural draining but not clearcutting, Mississippi); silviculture (Mississippi); DOT activities (Georgia); ditching (Connecticut); water dependent projects (Alabama, Mississippi); public interest projects (Alabama); and general permits for unwarranted hardships (Maryland, Rhode Island).

There are two states, Mississippi and Virginia, where an application for an exemption is required. Three states have no exemptions under their coastal programs (New Hampshire, New York, Pennsylvania).

Frequently the states permit the same activities that are regulated by the Corps under §404. Some states have arranged for joint permit processing with the Corps (Florida, Georgia, Mississippi, South Carolina, Virginia). The Corps is bound by Virginia's general permit to adopt the decision of local communities. At this time, if North Carolina issues a "CAMA" permit, the Corps §404 permit is automatically issued.

## COMPLIANCE

Enforcement of regulations and policies is often the element of most concern to state program managers. Funding and political support are often inadequate for these activities.

Some states rely on court action to stop filling and restore the areas affected. Many states use specific enforcement orders (e.g., notices of violation, compliance orders) to get results prior to taking legal actions. Alaska's "compliance order", similar to EPA's compliance under Section 309 of the Clean Water Act, sets out specific actions and deadlines for a violator. If met, subsequent legal action and penalties can be avoided.

States with programs emphasizing local government implementation attempt to achieve compliance through the local programs by requiring enforcement of state standards, or by withholding funds.

All the states conduct some degree of monitoring of permitted projects. Some states rely on public citizens to provide compliance information (Alabama, Massachusetts, Virginia).

## PUBLIC EDUCATION/AWARENESS

An emphasis on public education has been one of the major contributions of coastal management programs. These efforts include: school curricula (Alabama, Maryland, Mississippi, New Hampshire, Pennsylvania); newsletters and statewide mailings (New Hampshire, New Jersey, Pennsylvania, South Carolina); public presentations, such as movies and/or speakers (Delaware, Maryland, Mississippi, New Jersey, New Hampshire, Virginia); articles written for local newspapers (South Carolina, Virginia); wetland protection plaques

displayed on wetland sites (Alabama); material targeted for developers (Mississippi, New Hampshire, Rhode Island); and technical assistance and/or guidebooks for local officials (Maryland, New Hampshire, Pennsylvania, Virginia). Virginia conducts an annual symposium for local boards. Additional efforts are necessary in most states to promote support for coastal programs. Louisiana and Massachusetts both mentioned lack of public education as a specific management problem.

### PROBLEMS/ISSUES

The list of issues and problems related to coastal programs and coastal wetland management is not as extensive as with other programs. This is the result of greater national interest in coastal areas and a long history of management.

1. Lack of funding and staff support (Louisiana, Michigan).
2. Coordination among state agencies, and between the states and the federal government (Alaska, Oregon).
3. The need for research and development of applied management techniques for specific coastal problems, including resource inventories, abatement of water quality problems, development of oil spill plans, prevention and abatement of coastal erosion, determination of cumulative impacts, wetland values for mitigation appraisals, and effects of water diversion on coastal wetlands (Louisiana, Maine, Massachusetts, Oregon, Wisconsin).

### CURRENT EPA ROLE IN PROGRAMS

EPA's role in coastal and tidal wetland programs is variable, though generally regarded as small or inadequate. States

recognize that EPA tends to focus on interaction with federal agencies and programs, and suggest that EPA's participation in state efforts could be increased. Specific comments follow:

- ° EPA has no role, no positive role, or a limited role (Maine, Oregon);
- ° EPA's construction grants program should recognize wetlands protection goals (Michigan);
- ° EPA has assisted in wetlands assessments (Massachusetts); and
- ° EPA is effective in laboratory support and coordination with permit reviewers (Maryland).

EPA provides consultation to some states on issues where a federal overview and more extensive experience can provide benefits. EPA is assisting Massachusetts in their Buzzards Bay program and providing consultation on spoil disposal and area designation to Maine.

EPA is visible, active, and takes the lead in protection of wetlands in some states. Alabama sees EPA in the forefront of management efforts. EPA does investigations and takes violators to court in Delaware, and meets regularly with the Corps on specific permit actions in several states (Maine, Maryland, Massachusetts, Virginia).

#### RECOMMENDATIONS FOR FURTHER ASSISTANCE FROM EPA

State recommendations occurred in general categories, and categories specific to individual states' issues. The individual issues reflect day to day concerns of state officials working in the field.

1. The coastal states see EPA as the focal point for a network of federal and state agencies with common interests in

preventing further losses in wetlands, principally through exchange of technical data and public information.

- ° EPA could be the clearing house for information on what the federal, state, and local governments are doing to protect wetlands (Massachusetts);
  - ° EPA should make a major effort to develop a national wetlands data base (Pennsylvania);
  - ° EPA should develop a national wetland protection program under the Clean Water Act. There is no current mechanism for coordinating plans (Alabama);
  - ° EPA should take the lead in enunciating the importance of wetlands to support the protection efforts of states, and should advocate adequate and consistent federal funding for wetland protection efforts (Alabama);
  - ° EPA should support funding for federal and state fish and wildlife agencies, in support of wetlands management programs (Pennsylvania); and
  - ° EPA should provide additional policy and scientific information on wetlands (Massachusetts).
2. EPA should coordinate a major effort, by state and federal governments, to provide public education on wetlands functions and values, to gain support for protection efforts.
- ° There is a need for general education of the public and local officials (Massachusetts);
  - ° There is a need for public education regarding zoning and wetland values (Mississippi); and
  - ° There is a need for more education on the importance of wetlands and the benefits of restricting development (North Carolina).
3. EPA should coordinate and sponsor research on wetland mitigation methods and programs.
- ° Studies of salt marsh values are needed for use in developing mitigation portions of state and local regulations and ordinances (Massachusetts); and

- ° EPA should sponsor research on mitigation, with emphasis on the practical, i.e., what plants to use in establishing a new wetland (Pennsylvania).
4. EPA should support and assist in a number of specific research and applied management efforts throughout the nation.
- ° EPA should support additional bay studies. Boston harbor would benefit from such an effort (Massachusetts);
  - ° EPA should develop models and technical guidance manuals for state use (New York);
  - ° EPA should develop an assessment methodology for cumulative impacts of metropolitan development (New York);
  - ° EPA, in cooperation with the state, should develop a methodology to assess losses and gains in wetlands (New York);
  - ° EPA should support research on wetlands and water quality (Connecticut);
  - ° EPA should place greater focus on nontidal wetlands, including better definitions of functions and values (Virginia).
5. EPA should take the lead in addressing dredge spoil disposal issues, and work with state managers on this issue.
- ° EPA should help solve the spoils disposal problem, because wetlands are the most available disposal sites (Alabama);
  - ° EPA should provide input into Corps dredging projects to assure proper spoil disposal (Connecticut).

#### EXAMPLES OF SUCCESSFUL PROGRAMS

##### Connecticut

The Connecticut Tidal Wetlands Act lays claim to reducing the net fill of coastal wetlands to near zero over the last fifteen

years, primarily due to strong public support for strict regulation. In addition, the program has required restoration of wetlands by the removal of tidegates and vegetative enhancement for permitted pier, dock, or highway work.

All wetlands have been mapped at a scale of 1"=200', and field surveyed. The state program has been delegated to some 41 communities. In communities with delegation, the state provides technical assistance. The state or local authority reviews permit applications for wetland considerations, which include habitat and aesthetics. Most activities, with a few minor exceptions, are regulated in tidal wetlands and tidally influenced areas at or below one foot above the local high water mark. Relatively few permits are actually granted, and courts have upheld challenged denials. Activities in the area of jurisdiction are viewed by department staff on their initiative or upon complaint by local officials or citizens. If violations are discovered, the most common remedy is restoration or removal.

### Massachusetts

The oldest state wetland program in the nation is the Massachusetts Wetland Protection Act (MWPA). Now a combined coastal and freshwater wetlands program, it covers all wetlands except some isolated, minimally inundated wetlands. The program is administered by local conservation commissions with state-developed regulations, under state approved programs (320 out of 351 communities). Only limited exemptions from regulated activities exist.

MWPA is generally acknowledged to be a model program. Deficiencies do exist, however. Wildlife habitat has only recently been added as a protected wetland value, and appropriate regulations will not be adopted until approximately November 1987. Funding for program administration is quite limited, restricting enforce-



ment, research, and educational efforts. Also, with local implementation can come a periodic lack of uniform decision making, and training for 2,500 volunteer commission members (with a 10-15% turnover rate), is a prodigious effort. On the other hand, local implementation produces a large number of individuals throughout the state with an interest in wetland protection.

## INLAND WETLAND PROGRAMS

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### INTRODUCTION

Inland wetlands nationwide generally receive less protection than coastal wetlands. There are a wide range of programs providing protection to inland wetlands from specific state wetland acts to a variety of other programs providing incidental protection.

Specific state wetland acts include Maine's and Rhode Island's Freshwater Wetland Acts. There are 13 states that administer specific wetland protection laws (Connecticut, Florida, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Wisconsin). Of these states, eight operate combined programs with jurisdiction over both the coastal and inland wetlands of their states (Florida, Massachusetts, Michigan, Minnesota, New Hampshire, Oregon, Pennsylvania, Wisconsin). Some inland wetland programs are delegable to local governments (e.g., Connecticut, Florida, New York), or are implemented through district environmental commissions (e.g., Vermont) or by local government (as in Massachusetts, where some 2,500 conservation commissioners involved in permitting wetlands can become advocates of wetland protection).

States have also used other inland laws to have an affect on wetland protection, including development permitting and water quality standards. Alaska's Habitat Protection Permit Program, Maine's Great Ponds Act, and Florida's Outstanding Florida Waters nondegradation program are examples of such programs. Vermont's Protection of Wetlands of State Significance legislation was passed as a 1986 amendment to the state's Land Use and Development Law (Act 250). This addition requires consideration of specific development impacts on wetlands. The Massachusetts

Wetland Restriction Act<sup>4</sup> places conservation restrictions on privately owned wetlands statewide. In contrast, Maryland's Resource Enhancement program is nonregulatory and emphasizes education on inland wetland values and management as a means to accomplish protection. The Maryland Department of Natural Resources assists local governments in developing inland wetland protection programs. Kentucky has also developed a nonregulatory educational program. The Kentucky Division of Water has created a public participatory program called "Water Watch." It is designed to educate, monitor, and clean-up chosen water or wetland sites.

#### NUMBER OF PROGRAMS

Information was collected on 21 specific inland wetland programs and 29 other programs affecting inland wetlands.

#### JURISDICTION

The boundaries of inland wetlands can be difficult to discern. Most states use both soil and vegetative criteria in their definition of freshwater wetland boundaries (Connecticut, Florida, Maine, Pennsylvania, Vermont). Inland wetland boundaries are also elusive due to seasonal changes. Permit decisions are often deferred due to winter conditions in Maine.

Small, isolated wetlands nationwide are generally the least protected wetlands. Many such wetlands do not fall under state jurisdiction due to size limitations (Maine, New York, Rhode Island).

Some inland wetlands are covered under coastal programs where coastal jurisdiction extends inland, sometimes because of the

buffer zone (Maryland, New Jersey). Inland and coastal wetlands are protected under a single law in at least five states (Florida, Massachusetts, New Hampshire, Pennsylvania, Wisconsin). Inland wetlands are also afforded protection where entire states are designated as "coastal zone" (Delaware, Florida).

#### INVENTORY/CLASSIFICATION

Inventory and mapping of inland wetlands is being undertaken by many inland wetland programs. New York has a major inventory, mapping and classification effort underway. Inland wetlands are evaluated by the Golet method of classification under Rhode Island's Freshwater Act. This method is used for permit decision making and designation of critical areas. Localities designate "prime wetlands" in New Hampshire, and Florida designates critical areas, such as mangroves, or areas meriting special protection under the Outstanding Florida Waters Program.

#### PERMITTING

Some inland wetland programs require permits for activities in wetlands beyond those covered under Section 404. Some states have other inland wetland programs along with their inland wetland permit program. For example, Wisconsin has an inland wetland permit program, a voluntary nonpoint source pollution program, and a lake management program. Maine has an inland wetland permit program, and their Great Ponds legislation.

## PROBLEMS/ISSUES

### 1. **Lack of Funds and Staff** (Kansas, Texas, Washington)

Even though some states have regulatory mechanisms in place to protect wetlands, frequently funds and available staff limit the programs' effectiveness.

### 2. **Lack of Enforcement or Compliance Monitoring** (Kansas, Louisiana, Minnesota, Nevada, Washington, Wisconsin)

As a result of the limited funds and staff, enforcement is frequently lacking in state inland wetland programs.

### 3. **Lack of Comprehensive Inventory** (Kansas, Maine, Oregon)

A beneficial first step in regulating inland wetlands is a comprehensive inventory of wetlands under the programs' jurisdiction. States lacking adequate inventories are handicapped in enforcement and implementation of the programs.

### 4. **Lack of Clear Delineation of Jurisdiction and Authority** (Minnesota, Texas)

Regulating inland wetlands beyond those covered under federal programs can raise numerous legal issues. Inland programs which lack clear definitions of jurisdiction and authority have difficulties with administration.

### 5. **Limitations on Acreage** (Connecticut, Maine, New York, Rhode Island)

Exemptions for small wetlands (e.g., the New York program exempts wetlands less than 12.5 acres in size, unless desig-

nated as being of local significance) can make the state programs less successful.

#### 6. Other Problems:

- ° Few large wetlands remain (Kansas);
- ° Large regulatory program; requires a large, well trained staff at the county level with technical and management expertise (Wisconsin);
- ° Water plan is based on a voluntary approach (Kansas);
- ° Gaps in regulation of certain types of wetlands (Minnesota);
- ° Numerous court cases (Minnesota, Pennsylvania);
- ° Lack of public support (Minnesota, Pennsylvania);
- ° Balancing development and protection interests (Minnesota);
- ° Program does not regulate fill (but fits in well with §404 program)(Texas);
- ° Lack of consistency in local decision making, and inability to provide the desired amount of oversight of local implementation (Connecticut);
- ° Broad forestry and agricultural exemptions (Maine);
- ° Lack of evaluation methods and wetland definition clarification (Maine);
- ° Limited jurisdiction over inland wetlands (Pennsylvania);
- ° Time consuming permitting process (Rhode Island);
- ° Need better coordination within state government (Rhode Island);
- ° Stormwater discharge problem (Rhode Island);
- ° Wetlands near intermittent streams receive inadequate protection (Rhode Island).

## CURRENT EPA ROLE IN PROGRAMS

EPA generally plays a small role in state inland wetland programs (Connecticut, Kansas, Louisiana, Maine, Minnesota, New Hampshire, New York, Oregon, Texas, Wisconsin). However, in Rhode Island EPA conducts joint site visits and analyses of site conditions with the state. Alaska and Kansas note that EPA and the state have a good relationship.

## RECOMMENDATIONS FOR FURTHER ASSISTANCE FROM EPA

Inland wetlands receive little protection in most of the country. They have been identified by both private and public groups as a resource which is being lost at tremendous rates in many parts of the country. Overall, EPA needs to develop a strategy for protecting inland wetlands, and evaluate current programs to determine their impact on these wetlands.

EPA needs to establish a national wetlands policy which gives states a clear signal that wetland protection is a priority. States which have inland programs are frequently operating without EPA input or support. In many cases, states are receiving negative public reaction from implementing these programs without backup from EPA. A clear, definitive policy statement from EPA which outlines specific, obtainable goals will assist the states in developing political and public support for their inland wetland programs.

Several state inland wetland managers did not know what programs EPA had to assist them. EPA should provide more information to states concerning available resources, including funding, educational materials, data bases, and technical publications.

A nationwide data base is needed to facilitate information transfer regarding inland wetland programs. Not all state managers can attend conferences to obtain current information, but most managers could obtain access to a terminal and connect to a computerized information base. Such a data base could contain information such as this report. Information on current state regulatory concerns, needs from EPA, successful inland programs and pending legislation could also be incorporated. In addition, continuous tracking of state programs could help identify regional and nationwide trends in wetland protection efforts.

EPA should become more aware of the large scale efforts some states are making to protect inland wetlands and encourage coordination between state and federal agencies. In a number of states, the Fish and Wildlife Service works closely with state agencies to conduct site investigations and develop technical support for field staff. EPA should coordinate with the Fish and Wildlife Service to assist state inland wetland programs without duplication of effort. In addition, EPA should encourage development of a method to quantify and record inland wetland losses, to determine the relative success of the various inland programs. A method of quantifying the rate of inland wetland loss is also essential for increasing public awareness of the importance of inland wetland legislation.

States could use more guidance on mitigation. Specific questions include: When and what type of mitigation should be required? When can mitigation through development of one type of wetland replace destruction of another type? For example, if there are numerous red maple swamps, should mitigation include creation of a different type of wetland?

The states need a consistent methodology for identifying inland wetlands and delineating jurisdictional boundaries. Such techniques have been developed by EPA and the Corps, and training for state personnel should be offered locally and inexpensively.



Inland wetland programs tend to be visible and controversial programs. States with inland programs need technical assistance from EPA to support their programs, and assistance in distributing this information to the public. States need training manuals, films, videos, and other written materials to assist in their public information efforts. The public information materials should concentrate on the reasons why wetlands are of value to the general public.

Other recommendations for assistance from EPA to state inland wetland programs include:

- ° Development of information on the values of buffer strips around wetlands, and formulas or guidelines to determine the size of buffers needed;
- ° Better methods for evaluating urban wetlands;
- ° Specific criteria for evaluating recreation and visual impacts on inland wetlands;
- ° Evaluation of the effectiveness of §404 in states which have inland wetland programs compared to states which do not;
- ° Development of a nationwide nonpoint source pollution program; and
- ° More research on wetland functions and values.

## EXAMPLES OF SUCCESSFUL PROGRAMS

### Connecticut

Connecticut's Inland Wetlands and Water Courses Act serves as a model of an effective inland wetland program. It is a delegable program, and some 155 of 169 communities have state approval to run the program. The state provides technical assistance and training to local officials. Local program authorities provide reports on their permitting activities, and the state provides

oversight through program audits. The state has rescinded program authority from local communities in the past. The program's jurisdiction is more extensive than the Corps' jurisdiction, with 20-25% of the state covered. Wetlands are defined by soil type, and all inland wetlands are mapped. Exempt activities are limited, although agriculture, an important activity in the state, is generally exempted. The only size limitation applies to farm ponds; ponds less than three acres are not subject to the program.

The major deficiencies appear to be inconsistency in enforcement by local officials, inadequate funding for training of local program administrators, and lack of oversight. State administrators note that a method of quantifying wetland gains and losses needs to be developed.

#### Michigan

Michigan's Goemaere-Anderson Wetland Protection Act combines permit requirements, strong penalties for noncompliance and a well developed education program to yield a very successful inland wetland program. The program covers a broad range of wetlands, including contiguous wetlands, noncontiguous wetlands greater than 5 acres (in counties with populations greater than 100,000) and noncontiguous wetlands less than 5 acres which are designated as essential. Permits are required for dredging, filling, draining, constructing, operating or maintaining any use or development in a wetland. All permitted activities are logged on a computer data base, and state administrators feel wetland loss is negligible.

#### New York

Many aspects of New York's inland wetland program make it one of the potentially most successful programs. The New York program

has nine regional offices, with two staff persons per region, and a highly knowledgeable, energetic, and dedicated headquarters staff. The program is delegable to local government, and generally covers mapped wetlands in excess of 12.4 acres. The mapping effort involves aerial photography, field checking on a county-wide basis, and notifying landowners subject to the legislation. Mapping should be completed by the end of 1986. The acre limitation can be reduced if wetlands are designated "of local significance." While agriculture is generally exempt, clear cutting and filling are not exempt activities. There are a few major drawbacks, including size limitations, exemptions, and the need to complete mapping.

The New York classification system for wetlands could be of use in other states. The system consists of four levels, which are used for permit evaluation. For projects in the highest wetland classification level, "compelling need" for the project, with no alternatives, must be shown for a permit to be issued.

## STATE PROGRAM INTEGRATION

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### INTRODUCTION

States have developed a variety of programs to protect wetlands. The most common are regulation, taxation, and acquisition. Specific efforts to integrate various protection programs are rare. The programs are sometimes based on comprehensive or regional planning, and some degree of coordination may exist as a result. Some state agencies have increased their capability to protect wetlands through arrangements with federal or local governments, or with private organizations. These agreements can promote integration of purposes and efforts. Specific and incidental actions resulting in increased coordination are considered below.

### PLANNING

Intrastate planning and coordination of wetland protection efforts are relatively rare, but do occur in some states. Extensive planning is performed in sub-state regions in Maryland and New Jersey. New York has made comprehensive planning for wetland protection a priority. The New York Department of Environmental Conservation is attempting to administer an integrated protection program, to pull together disparate activities under a common set of objectives. They provide oversight of regulatory programs, a priority weighing system for acquisition, and direction for management and restoration. A Tennessee executive order establishing wetland protection policy and mandating all state and local agencies to consider wetland values during permit evaluations could be considered a type of planning or coordination mechanism.

Regional coordination may be intrastate or interstate. Interstate programs are rarer than intrastate efforts, though several useful examples exist. Regional integration of efforts is highly desirable, since large wetland/aquatic systems often extend into or influence several states or large areas within a single state. Regional coordination has the potential to address the entirety of such systems and to fit protection efforts to a combination of local and national goals. Within states, regional integration can transcend local concerns and approach wetland complexes from the perspective of the 'greater good.'

One of the best examples of successful 'regional' planning is the national Coastal Zone Management Act (CZMA). State plans were approved based upon common national goals and the ability of the states to carry out planning and regulatory mandates. Multiagency approaches to planning and regulation were mandated and have now been institutionalized in many instances. In Florida, a CZMA committee composed of several state agencies and local water management districts documents development impacts and designs management plans. In Alabama and Alaska, state agencies with coastal concerns coordinate under the CZMA office.

Regional acquisition efforts have generally centered on river valleys. Maryland, Massachusetts, New Jersey and Vermont have such efforts. Florida uses a water basin approach in managing acquisitions. Delaware and New Jersey are planning to establish a 'sister reserve' system for waterfowl enhancement that will involve education, registration of private property, and perhaps acquisition.

The Pinelands Comprehensive Management Plan covers one-quarter of the state of New Jersey. Approximately one-quarter of the Pinelands are wetlands. The plan involves local land use plans, and has regulatory and acquisition functions separate from New Jersey's wetland regulatory program. Private landowners are compen-

sated for strict use restrictions on their land, and the program's regionally transferable development rights remain unique in this country.

The Hackensack Meadowlands regional plan in New Jersey is a federal/state/local effort. The plan is administered by the Hackensack Meadowland Development Commission and the townships of the region, with cooperation from EPA, the Fish & Wildlife Service, National Marine Fisheries Service, and the Corps. The plan involves large tract zoning and restoration of wetlands degraded by previous development. Local governments are compensated for land use restrictions by tax sharing. Acquisition is carried out in conjunction with New Jersey's Green Acres Program. Enforcement is performed by the federal government.

Maryland's Chesapeake Bay Critical Area Protection Act is the strongest protection effort directed at that estuary. The act provides each locality in the region with the option to assume authority for the program. All eligible counties and some municipalities have opted to adopt ordinances within the state's criteria, which include mandated enhancement programs directed at water quality and habitat improvement. The state provides technical assistance. Some small localities are considering drafting joint ordinances which would also be implemented jointly.

In sum, planning can provide a framework for integration of wetland protection programs, either by tailoring the programs to fit existing plan-generated goals, or by undertaking planning specifically to gain efficiencies in protection programs with compatible goals. Unfortunately, such planning is not universally employed.

## WETLAND PROTECTION PROGRAMS

Section 401 Water Quality Certification applications are processed jointly with Corps permit applications in some states. This creates a de facto review of §401 applications by a broader spectrum of state and federal resource agencies. Wetland impacts are generally reviewed by the various state fish and game departments. Many states use the National Wetland Inventory System developed by the Fish & Wildlife Service in their §401 considerations (Alabama, Florida, Kentucky, Illinois, Indiana, Maryland, Massachusetts, Michigan, Mississippi, Nebraska, New Jersey, Oklahoma, Rhode Island, Tennessee, Vermont). States generally rely heavily on the Corps for compliance/enforcement related to §401.

Broader interagency notification has been institutionalized in several other ways. Several states have water quality acts in addition to §401 certification (Alabama, Georgia, Kansas, New Mexico, Ohio, South Carolina, Tennessee, West Virginia), and several of those process and issue their state certifications simultaneously with the §401 certifications. A number of other states (Connecticut, Illinois, Maine, New Jersey, New York, North Carolina, Pennsylvania) process §401 certifications in conjunction with state wetland regulatory programs. In Massachusetts, there is formal interagency notification despite separate §401 and wetland permitting processes. Illinois has established a joint permit process which integrates requirements of the Corps, Department of Conservation, and Department of Transportation.

Other regulatory programs and resource agencies can mandate integration and coordination. Maine's new antidegradation water quality classification applies to all state regulatory programs. New Jersey's Division of Coastal Resources administers three programs: the Wetlands Act; the Waterfront Development Act; and the Coastal Area Facility Review Act.

**State Environmental Policy Acts (SEPA's)** can be broad environmental impact assessment and reporting programs where they exist and are aggressively exercised. They represent the potential to integrate large numbers of resource-oriented and other regulatory programs within several layers of government into a single review framework. They can create coordination among agencies and citizen review opportunities. Unfortunately, most states do not have SEPA's, and of those that do, most do not have significant programs nor do they utilize them frequently.

New York has a strong SEPA program incorporated in their wetland regulatory program. Most wetland development proposals trigger a State Environmental Quality Review (SEQR) to determine whether the state policy act applies. State and local governments are open to citizen suits regarding SEQR accountability.

Michigan also has a powerful SEPA called the Michigan Environmental Protection Act (MEPA) which provides for governmental and citizen suits for injunctions to prevent pollution, impairment, or destruction of air, water, and other natural resources. It has been used for protection of wetlands, including manmade wetlands. State and local governments, persons, corporations, and associations are open to suits under MEPA.

**Taxation** programs are generally directed toward acquisition or limitations on development rights. As such, they require coordination between the resource agencies that create the inventory of lands to be acquired or over which conservation easements are desirable, and the agencies implementing the tax structure. Certain tax programs, such as non-game checkoffs and conservation easements, create opportunities for public education about wetlands and other sensitive lands. This can indirectly benefit regulatory programs. New Hampshire is a good example of public outreach. Each year their tax incentive program is widely advertised and public hearings are held in each of three regions to



determine the scope and application of the law. Missouri's sales tax program provides a consistent, dependable level of funding compared to unstable nongame checkoff funds and is associated with an extensive public education program, including primary and secondary school programs. Much of the money goes toward land acquisition.

**Acquisition** programs are very widespread. There are now over 40 states with Natural Heritage programs, most initiated by the Nature Conservancy. The programs can pull together government agencies, elected officials, private citizens and private organizations for the purpose of setting goals, raising funds for acquisition, and managing the acquired lands. Arkansas's Natural Heritage Program protects wetlands through parcel acquisition, and through cooperative arrangements with state and federal agencies to maintain water quality. Often, the state's Natural Heritage inventory is used in other state programs, such as Virginia's Scenic Rivers Program.

North Carolina's National Estuarine Sanctuary Program, Florida's Save Our Rivers and Save Our Coast programs, Michigan's Natural Resource Trust Fund, and Vermont's Land Acquisition Review Committee are all examples of multi-government or multi-agency coordination centered on acquisition. Often, funds for acquisition are raised through taxation programs such as documentary stamp taxes or severance taxes. Priority selection is the responsibility of one or more entities, and management is performed by separate entities. Michigan has an acquisition program based on funds acquired through oil and gas lease revenues. A news release initiates the acquisition process, informing the public that the state is beginning its annual search for land to acquire. Nominations are received from state, local, and private entities for specific parcels of property. Parcels are evaluated by a board of state managers, and an acquisition package passed on to the legislature for approval.

Ohio's Natural Areas and Preserves Program integrates the income tax checkoff program, dedication program (in which compensation consists of a total real estate exemption), and capital improvement funds. The state searches for the most critical areas and prioritizes the areas based on the level of diversity and degree of threat. The cost of the parcel is estimated, a budget is established, and the landowner is approached to determine if he is a willing seller. This process funnels available funds into a coordinated effort to protect critical areas. Missouri has long range plans for acquisition of 12 different types of land, including wetland areas, community lakes, stream access, and stream frontage. After a parcel of property is offered to the state for purchase, a four-person multi-disciplinary team of reviewers examine the properties' potential in terms of fish, wildlife, forestry, and natural history benefits. A public education effort includes programs in primary and secondary schools and a program directed toward the general public.

In some instances, the state program is administered in major part at the local level (Virginia). These divided responsibilities mandate communication among the agencies involved. Acquisition is sometimes considered as a result of state regulatory programs (New Jersey), or additional regulatory protection is specifically afforded to areas that have been acquired or designated for acquisition (Massachusetts).

**Research** can link various wetland programs by a common need. Planning, regulation and acquisition all depend upon, or are served by, research programs. However, programs which integrate federal, state, local, and private research efforts and needs are lacking. Many state wetland research studies are geared toward specific fish and wildlife habitat questions. The questions are generally not asked within the context of an integrated approach to larger questions about wetland functions, cumulative impacts, and other such topics. Ohio is unique among the states, provid-

ing a statewide clearinghouse which monitors and approves research projects.

Research that serves other wetland protection programs includes inventories (Alabama, Wisconsin), habitat functions (Alabama, Delaware, Maine, Massachusetts, New Jersey, South Carolina), wetland boundary determination (Rhode Island), and assessment of the impacts of development activities as diverse as wastewater treatment, mining, and agricultural runoff (Delaware, Georgia, Kentucky, North Carolina). Research can also include public education, as in Delaware, Florida, North Carolina and South Carolina.

### CONCLUSIONS

Coordination of wetland protection efforts is desirable for a number of reasons related to efficiency and efficacy. Nonetheless, specific efforts to integrate state or multistate programs are rare, and superlative examples that can serve as a model for others are rarer still.

This void presents the federal government with an outstanding opportunity to provide sorely needed technical assistance to the states. The maximization of protection with limited financial resources is a goal that has universal appeal, and assistance directed toward that end should be well received. The variety of bureaucratic structures that are directed toward wetland protection within the states will require that the initial coordination be general and flexible. This will likely enhance their acceptability to the states. Initial successes could provide the driving force for further assistance efforts.

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PRIVATE ORGANIZATION PROGRAMS

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## INTRODUCTION

There are a large number of national private organizations for which government efforts in wetland regulation, acquisition, or research constitute a primary focus of concern. These organizations spend considerable time, effort, and resources attempting to inform their members of the variety of government activities and their consequences with regard to wetlands. By and large, these groups focus on wetland efforts at all levels of government, although interest in any one level tends to vary among organizations.

From the wide array of organizations, a manageable number of representative public and private organizations were contacted concerning their view of state wetland programs, and state needs from EPA. Participating organizations included American Paper Institute/Forest Products (API/FP), Environmental Defense Fund (EDF), International Association of Fish and Wildlife Agencies (IAFWA), Land Trust Exchange (LTE), National Wildlife Federation (NWF), the National Association of Home Builders (NAHB), and the Nature Conservancy (NC).

Each of the participating groups provided information on: their view of EPA's role in assisting state efforts; their knowledge of any specific exemplary state programs; and their interaction with EPA. While speaking from experiences and knowledge within the context of their organization's policies, participants advised that their responses did not constitute official responses to a federal agency. Each participant was willing to speak candidly and authoritatively, and each expressed interest in follow-up conversations with EPA officials.

Many generalizations can be drawn from this sampling of public and private organizations' views. The recommendations are summarized below, followed by a more detailed presentation of organization interviews.

## INVOLVEMENT IN STATE OR LOCAL WETLAND PROGRAMS

Each of the organizations identified some organization activity at the state or local level, and each identified substantial membership interest in state or local activities. Activities included work with state legislatures on freshwater wetlands legislation (NAHB), extensive inventories and acquisitions (LTE, NC), and substantial membership involvement in permitting (API/FP, EDF, NAHB, NWF). Some of the organizations had activities limited to a few states, while several had extensive involvement in most states and several communities (LTE, NC, NWF).

## RECOMMENDATIONS FOR FURTHER ASSISTANCE FROM EPA

Each organization provided input regarding methods by which EPA could assist state and local wetland protection efforts. NAHB and API/FP expressed a marked preference for regulation by state or local government, while others clearly identified specific efforts EPA should undertake to improve wetland programs overall. The comments fell into the following categories:

1. EPA should assist in developing clearer definitions of wetlands and wetland boundaries, as well as specific activities that are or should be covered or exempted. For instance, most participants noted that agricultural conversion is not exempt from regulation, but that some agricultural and sub-agricultural activities are exempt, and that the distinctions tend to be blurred.
2. Most participants identified the need for EPA to provide greater applied research related to management decisions, and to maintain greater technical capacity within its own staff to assist state and local programs. Specific research needs identified included development of methods for

assessing the appropriateness of water quality standards, development of appropriate mitigation measures, development of means of assessing cumulative impacts and alternatives, and development of means of determining jurisdiction.

3. Most participants identified a need for EPA to provide better training and evaluation for their own staff as well as state and local program people. Further, EPA needs to communicate better with the public and with other federal agencies regarding wetland values and functions, particularly freshwater.
4. Most participants identified a need to inventory federal activities that have impacts on wetlands and to coordinate or mediate conflicting federal programs and policies.

#### SUCCESSFUL PROGRAMS

Some participants were unable to identify specific successful state programs, while others were able to name some in each state program category. Some of the programs identified as successful by private organizations were regarded as failures by program managers.

Section 401 - With the exception of Wisconsin, no exemplary §401 programs were noted. Participants considered them generally neither strong nor effective.

SEPA - Generally SEPA programs were considered ineffective, with the exception of the New York program (SEQR).

Taxation - Exemplary programs noted were: Oregon (riparian tax), Florida (documentary stamp tax), Nantucket Island and a few Long

Island townships (land transfer tax), and New York (which generates more non-game check-off funds than all others combined).

Acquisition - Generally there is too little money available, but Florida's CARL and other programs, and New York's and Minnesota's programs were cited as beneficial.

Research - Research is fragmented and not always identified as "wetlands" research.

Coastal - Connecticut is considered the model for state coastal programs, followed by Massachusetts. All others are generally acceptable because of the public perception of the importance of coastal wetlands.

Inland - Generally, these programs need much more focus. Good staff efforts were noted in California, Connecticut, Massachusetts, Michigan, and New York. The combined program in Florida is too new to evaluate, especially concerning its approach to mitigation and agriculture.

#### ORGANIZATION'S INTERACTION WITH EPA

A few organizations acknowledged substantial interaction with EPA (EDF, NWF), while others had limited contact with EPA. NAHB and API/FP both expressed great interest in further contact with EPA, with NAHB pointing to a successful meeting last year in which agency personnel spent time with NAHB officials to discuss priorities and directions. API/FP advised that such efforts could be quite useful to both parties in developing a more cooperative working relationship. The IAFWA found it curious that EPA did not meet more with natural ally groups. All organizations thought more substantial contact to be appropriate and helpful.



## SUMMARY OF ORGANIZATION INTERVIEWS

### National Wildlife Federation (NWF)

NWF is the largest environmental group in the country, consisting of a national office with field staff, five regional offices and state affiliate groups. Wetlands are a priority issue with NWF. NWF is generally pleased with its relationship with EPA, and appreciative of assistance it has received from EPA in the past, especially joint efforts on workshops and seminars, and access for programmatic comments. NWF is generally complimentary of EPA staff, specifically in Regions I, IV, and IX.

NWF provided the following comments:

1. Take a more assertive role with the Corps, especially where the Corps is wrong or inactive.
  - ° Consistent interpretations are needed in multi-district states; more §404(c) actions are needed where the assertive role does not produce change.
  - ° Provide better assistance and support to the states; EPA lets states take on the Corps when EPA should.
2. Pay more attention to little projects with less spectacular wetlands or isolated wetlands.
3. Muster general support for wetland protection.
4. Assist the states in developing wetland/habitat-related water quality standards. Better habitat consideration under §401 and §404 is needed.
5. Inventory and disseminate information on intra-EPA wetland activities, including research.

6. Develop greater interaction with other federal agencies having programs impacting wetlands.
7. Educate program administrators and the public on jurisdictional questions including:
  - ° Agricultural conversion exemptions.
  - ° Definitions and descriptions of covered areas and wetland boundaries.
8. Make greater enforcement efforts.
9. Designate sites such as prairie potholes and hardwood bottomland inappropriate for disposal of dredged soils.
10. Develop an overall policy and strategy based on problems identified by §404 coordinators. Establish priorities at the headquarters level, then implement them through the §404 coordinators.

National Association of Home Builders (NAHB)

NAHB has 145,000 members, one-third of which are contractors. The remainder are in support or service-related industries. Wetlands are a major concern for contractor-members, and NAHB has worked at the state and national levels on wetland legislation. NAHB has had limited contact with EPA and would welcome more, to inform EPA of home builders' problems and learn of EPA program direction.

NAHB provided the following comments:

1. Develop a clear, scientifically sound wetland definition. NAHB believes that an impartial investigation using soils, moisture, and vegetation criteria would result in less area considered "wetlands." This would minimize conflicts over

"marginal" wetlands; such as prairie potholes and moist areas a distance from flowing water.

2. Develop better wetland inventories.
3. Develop a better understanding of, and scientific assessment method for, cumulative impacts. This issue is not adequately addressed by the Corps.
4. Develop and foster a better understanding of the economics of development at all levels of government. NAHB believes that EPA and the environment would benefit from an easing of outdated zoning requirements. With greater residential density, there will be more money for pollution control.
5. Develop a more business-like approach, including:
  - ° A better understanding of NAHB member problems;
  - ° A more efficient permit system (prompt decisions, reduced conflicts among agencies);
  - ° More and better applied research for decisions (lack of information means delays);
  - ° Preferably one agency, probably the Corps, for §404 implementation.
6. Develop a real delegation program, stop second-guessing the states at each turn.

#### International Association of Fish and Wildlife Agencies (IAFWA)

The IAFWA is composed of each of the state fish and game agencies, and declares habitat protection its priority, and wetland protection as its number one habitat concern. IAFWA has a strong working relationship with the Fish and Wildlife Service, and views EPA's current wetland role as limited to §404 and

drainage activities. They believe that role is determined by the Regional Administrators, because they set priorities and policies. The IAFWA urges a more activist role for EPA in wetland protection and encourages EPA to adopt a strong working relationship with them.

IAFWA provided the following comments. EPA should:

1. Analyze the effectiveness of state wetland protection efforts and the §404 program by habitat type and species. Determine the amount and cause of wetlands loss. Assess the number of permits issued and resulting wetlands lost. Assess how wetlands are identified and whether there is ground truthing.
2. Act to resolve conflict among agencies.
  - ° Assert leadership to identify conflict areas. Develop an information list of inconsistent policies and programs. Develop strategies jointly with other agencies.
  - ° Mediate conflicts of major policy at the federal level.
  - ° Communicate, coordinate, and strategize with other states and federal agencies and IAFWA wetland efforts.
3. Develop uniform mitigation policies. Press for mitigation in water appropriation bills.
4. Identify and help coordinate research at the federal and state level.
5. Identify and disseminate information on nonhabitat values for wetlands. Permit decisions should not rely on duck habitat alone; there should be a stronger focus on groundwater, floodplain, stormwater, and other functions.
6. Identify major systems and their values, and assist with research in those areas.

### Land Trust Exchange (LTE)

Based in Maine, LTE serves as the national clearinghouse for local land trusts. LTE has published a directory of land trusts in the U.S., identifying regional and local contacts, land types, and methods of protection. LTE has frequent contact with states and the Interior Department but infrequent contact with EPA. It would welcome more contact to keep EPA informed of regional and local activities.

LTE provided the following comments. EPA should:

1. Be better informed on federal acquisition efforts and disseminate the information to §404 coordinators and the states. The information should be incorporated into EPA programs and policies.
  - ° The President's Commission on Outdoor Recreation will place major focus on a greenway program to provide stream, river, and headwater protection. EPA could coordinate local efforts and private-public partnership.
2. Be better informed on local, state, regional and private efforts. Disseminate the information and incorporate it into EPA programs and policies.

### Environmental Defense Fund (EDF)

An active, non-profit environmental group, EDF has played a major role in the development of national wetland policy. EDF has a good working knowledge of and relationship with EPA, and is complimentary of EPA's increased efforts in wetland protection.

EDF provided the following comments. EPA should:

1. Focus the wetlands debate through applied research and increased technical capabilities, including staff training.

- Also, provide: overall program evaluations; methods for assessment of wetland resources, especially small, isolated urban wetlands; jurisdictional determinations; water quality standards applicable to wetland protection; methods for assessing cumulative impacts; methods for assessing mitigation, with a focus on restoration; and methods of assessing acceptable alternatives.
2. Define activities covered by wetland protection programs. Clarify the agricultural exemption.
  3. Provide assistance to the states.
    - ° Perform applied research on cumulative impacts, mitigation, and alternative analyses.
    - ° Assign EPA staff to important problem areas. This approach helps the states be anticipatory rather than reactive and provides a more programmatic approach for EPA staff. Less time is needed to react to the Corps on a permit by permit basis.
  4. Focus public attention on the importance of freshwater and isolated wetlands. Coastal wetlands are generally getting decent protection.

#### American Paper Institute/Forest Products (API/FP)

As the national association for the forestry industry, API/FP has a keen interest in EPA's wetland efforts. While there has been infrequent contact in the past, API/FP encourages closer contact so that EPA can understand the forestry industry. API/FP works closely with the State Forestry Association, and prefers state regulations to federal efforts. API/FP encourages a cooperative, incentive-based, market-oriented wetland program geared more toward acquisition (the Nature Conservatory approach) to avoid "taking" concerns.

API/FP provided the following comments. EPA should:

1. Develop a better definition of wetlands to be protected. Too often areas of little real value are included as "wetlands" for protection purposes.
2. Conduct applied research on the effects of wetlands management, and develop a methodology to evaluate wetland gains and losses. Corps projects have created wetlands without an assessment of net gains or losses. Have we really lost, and lost too much? How much development value must we forego to protect areas with questionable wetlands value?
3. Provide better education, field training, and hands-on experience for EPA staff. They need a better understanding of local problems.
4. Act as coordinator/facilitator for local, state, and federal reviews. EPA should encourage local decisions, because of better understanding of resources and local concerns. EPA should also encourage better communication between industry, environmental, and scientific communities, to evaluate projects in a coordinated manner. More talk, less regulation, and less §404(c) actions are needed.
5. Develop greater contact with API/FP and other industry groups. It would help to get companies involved in protecting valuable wetlands, and to develop a better attitude on the part of the private sector. The possible payoff is protection through innovative approaches such as transferred development rights.

#### Nature Conservancy (NC)

A private, not for profit organization, NC conducts an aggressive acquisition and land management program in most states through

private donations of cash and land. NC works with state and local governments to identify and purchase valuable properties (often wetlands), frequently providing up-front interim funding.

NC provided the following comments. EPA should:

1. Maintain a strong, consistent regulatory effort.
2. Coordinate or assist in coordinating inconsistent, conflicting federal policies.
  - ° Focus on agricultural policies that encourage wetland destruction versus the good efforts of the Soil Conservation Service, and the swampbuster provisions.
  - ° Coordinate with the Fish and Wildlife Service to develop a more supportive administrative position on pending legislation.
  - ° Develop a mitigation implementation policy, and get the Fish and Wildlife Service into an enforcement role in mitigation.
  - ° Encourage federal policies like the Garrison Diversion Wetlands Trust or the Platt River Trust. Funding for mitigation was included in the original project appropriations, so funds are there when needed to implement mitigation.
  - ° Assist in getting more acquisition funds.
3. Assist in developing appropriate inventories, and identification methods for wetlands. The Heritage Programs need a uniform classification methodology to assure that the best areas are getting protected.



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## GENERAL RECOMMENDATIONS

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Specific recommendations on how EPA could assist states follow the descriptions of the program types (acquisition, taxation, coastal, etc.). However, during the study process, it became apparent there were some overriding concerns expressed by many states, regardless of the program being discussed. We have compiled the following general recommendations for EPA to consider along with the specific recommendations in the previous chapters.

1. Currently federal wetland management nationwide is a patchwork of varied and separate protection efforts with significant gaps. There is no single agency overseeing all state and federal programs, no one agency monitoring and evaluating the overall successes and failures of all the programs or the quantity and quality of existing and threatened wetland acreage. States have identified the following priority needs from EPA: access to centralized information regarding wetland education, research and management; financial and technical assistance in wetland program development and administration; and a mechanism for joint federal/state/local planning. Recommendations from the states on how EPA could meet these needs are outlined below.

- ° EPA should assume the role of "federal wetlands protection coordinator." In undertaking this position EPA should design a long-term, comprehensive wetlands protection strategy that includes substantive federal oversight of state programs and federal efforts, public education, and research on topics with broad applications. EPA should be available to provide technical assistance and information to state and local planning efforts when requested.

- ° EPA should accommodate the need for coordination and information transfer among federal agencies by serving the function of information clearinghouse/coordinator/public affairs office for federal agencies with programs that affect wetlands (such as the Corps, Fish and Wildlife Service, Office of Ocean and Coastal Resource Management, National Marine Fisheries Service, Sea Grant and the Bureau of Land Management.)

Coordination will bring the many federal efforts into a more coherent framework and make more efficient use of limited funds and staff. Information transfer within the federal government will encourage new efforts to build on previous work and will provide federal, state, and local wetland protection workers with a more complete knowledge of existing sources of information and experience. Information transfer outside the federal government will encourage federal/nonfederal interaction on wetland protection by dispensing information on previous and existing programs, and increasing the coherence and accessibility of the numerous federal programs.

- ° EPA should focus on policy, oversight, and intergovernmental communication to supplement and strengthen state wetland protection efforts. EPA should encourage and assist the states by:

- Providing a wetlands data bank in which current information on existing and proposed state, local, and federal wetland efforts is maintained. This should be available on computer for access by state and local wetland program managers.
- Developing a standardized method of analyzing the efficiency of state and local wetland programs. Sub-

stantial concern exists at the federal level that state and local local programs will be more susceptible to development pressures. Rather than resist efforts at state or local implementation, EPA should analyze the effectiveness of existing programs and identify how they can be improved.

- Providing financial and technical assistance to state and local governments attempting to establish wetland programs (sample ordinances, guidance documents, permit programs).

2. States depend on public support for enacting and implementing wetland protection programs. States have difficulty protecting inland wetlands, which continue to be seen by much of the public as "wastelands." Public support could be increased with a general understanding of the wetland ecological functions which benefit society, such as water quality enhancement, flood and erosion control, wildlife and fisheries habitat, and aesthetic and recreational values. The message from the federal government that wetland protection is an important matter of national interest could arouse the public commitment necessary to the success of local, state and federal programs. Recommendations on how EPA could meet these state needs are outlined below.

- ° EPA should enunciate the policy that wetlands are a priority. In the short-term, the message needs to continue to come from the highest levels of the agency in Washington, D.C., in the regions, and in the states, that EPA is emphasizing wetland protection.
- ° EPA should provide public information assistance to shorten the gap between wetlands protection program implementation and broader knowledge and acceptance of

the program by the public and other governmental entities. In the era of Gramm-Rudman, this will require:

- Better coordination of public education efforts with other federal and state efforts on wetlands to avoid duplication.
- Better technical assistance and information transfer to private groups and government agencies developing educational materials.
- Better coordination with broadcast media and school curricula development. Local or regional workshops to produce informational materials and television and radio public service announcements could be useful.

It should be noted that a considerable amount of informational material is being produced by private conservation organizations. These organizations would be necessary and useful participants in a coordinated public relations program. EPA regional §404 coordinators should have, as part of their work assignments, responsibility to act as regional information clearinghouses.

- ° EPA should increase the amount of public education on the importance of non-tidal wetlands, isolated wetlands, prairie potholes and other less-understood wetland areas. Most likely, such efforts will need to be "targeted." EPA could emphasize such public education efforts by:

- Making the regional coordinators accountable for a specific amount of public information and public education work with state and local governments, and private organizations.

- Leading the national philosophical discussion on environmental protection, on such topics as societal benefits from wetland protection versus limits on private property rights. Past EPA efforts were useful to those who were aware of them. Public forums to consider these sorts of questions exist and, especially in the case of wetlands, EPA is the appropriate leader of the discussion.
3. Better coordination of all phases of wetland protection needs to occur on a regional basis as well as within states. Regional planning for wetland protection is essential because even isolated wetlands function within larger hydrologic systems. The effects of activities in one place are carried elsewhere through water systems. In addition, wetland values are determined not only by their functions in one locality, but their rarity in occurrence and their role in the functioning of large ecosystems. Some wetland areas cover several states (for example, the bottomland hardwoods of the Lower Mississippi Valley). Generally, the far reaching and cumulative impacts of development are not tracked, and therefore not considered in permitting. Furthermore, the value of a threatened wetland is rarely assessed in light of the entirety of the wetlands of a region. The classification of critical areas would be best done by a combined local/state/national perspective.

In order to meet these needs:

- ° EPA should provide a framework for comprehensive wetland protection. The interagency meetings in the states that currently conduct §404 permit processing are a potential vehicle for approaching wetlands protection on a regional or hydrological basis. Several state and federal agencies with the peripheral role of commenting on permits

could participate in a wetland planning capacity. EPA regional §404 coordinators and regional Fish and Wildlife Service personnel could jointly direct these meetings. The potential here is not only to encourage coordination of different levels of government, but to further involve the administrators of nonregulatory wetland programs (such as acquisition, taxation, education and research) in discussions. This should institute a means for comprehensive wetland protection on a regional level.

- ° EPA should develop a wetlands strategy in conjunction with state and local wetland officials. What are the priority problems? Who can best deal with each problem? Through internal meetings and in-depth discussions with state and local program managers, lists could be established of wetland protection efforts best accomplished by EPA or other federal agencies and those best accomplished at the state and local levels.
- ° EPA should work with the Fish and Wildlife Service on wetland classification. An assessment of the nation's wetlands will make it possible to give protection to sensitive wetlands or those wetlands which provide especially valued functions. EPA should support and work closely with the Fish and Wildlife Service as they initiate the National Priority Plan for wetland assessment under the 1986 Emergency Wetland Resources Act. This program will be used to direct both federal and state spending of federal Land and Water Conservation Fund money for wetland acquisition in the near future.
- ° EPA should hold meetings throughout the year, through the regional §404 coordinators, with state program managers for information exchange. One session could be dedicated to an update on each state's efforts; other sessions

could focus on priority problems within wetland protection programs. At least one workshop a year should be held at the regional (or subregional) level for local wetland program participation.

- ° EPA should establish greater field presence to avoid the "ivory tower" syndrome, and to understand the difficulties of program implementation "in the trenches." Exchanges of EPA personnel between headquarters and the field, interagency personnel agreements assigning EPA personnel to state and local programs, and exchanges between state programs should be encouraged to create empathy for others' tasks and problems and to provide cross-pollination of ideas.
4. Beyond the jurisdictional and resource limitations of state regulatory programs, federal actions under the Clean Water Act are crucial to the protection of wetlands nationwide. In some states, state and federal permit review under the Clean Water Act essentially provide the only regulatory wetland protection. Many wetlands are lost due to inadequate development impact assessments, inaccurate boundary interpretations, inconsistency of permit reviews, and lack of monitoring and enforcement under the Corps' §404 permitting program. Many states would like to see EPA increase its presence in the dredge and fill permitting process.

In order to meet these state needs:

- ° EPA should increase its oversight functions, particularly as they relate to the Corps permitting program. This is perceived as one of the most valuable functions that EPA performs relative to wetland protection. The function should maintain a high profile and be substantive in its execution. A good deal of support exists for greater EPA



involvement in the dredge and fill permit program, by greater involvement in policy and regulation reviews prior to promulgation, by more frequently invoking the Administrator's prerogative to ban filling in specific areas, and the like.

- ° EPA should enunciate as policy, and then attempt to incorporate in wetland permitting efforts, as many of the following as possible:

- Study the benefits of designating one Corps district as the §404 permitting authority in multi-district states. States where this has been accomplished (North Carolina, Virginia) seem favorable to the concept. States without this arrangement (Kentucky, Missouri, Tennessee) cite manpower problems and problems with consistency as reasons for serious consideration of the idea.
- Share of all relevant environmental data available with local, state and federal agencies involved in wetland permitting, §401 certification and CZM consistency determinations.
- Coordinate site visits; all agencies visit sites at one time, or one or two agencies inspect a site for all interested agencies.
- Encourage preapplication meetings between state, local, and federal agencies and permittees.
- Encourage joint public notices, public hearings, and permit processing (to the extent regulations permit; EPA should review regulations to determine if changes are necessary to accomplish these policies).

- Coordinate among state, local, and federal agencies to develop comprehensive monitoring of compliance with wetland protection laws.
  - Develop comprehensive enforcement in conjunction with state and local program managers and law enforcement officials.
  - Coordinate geographic jurisdiction methodology within regions. Awareness of the extent of jurisdiction can be enhanced through training offered to federal, state, and local wetland management personnel.
5. Wetland research receives limited funding and emphasis in most states. In addition, it takes special effort and communication to bridge management and science. However, studies that investigate data needed for wetland definitions, classification and permit evaluation are essential to wetland protection. Wetland administrators and scientists need to collaborate to create and support research programs aimed at addressing current technical problems such as stormwater runoff, sedimentation and restoration methods. Some states had great praise for EPA's efforts to assist them through the EPA regional labs.

In order to meet these state needs:

- ° EPA should target significant monies within its research budget at wetland protection issues.

EPA should be involved to a greater degree in research that solves recurring regional or national wetland protection problems. Specific examples of such research include cumulative impacts of wetland losses, innovative mitigation techniques, and real, preferably quantitative, wetland function assessment techniques.

Another research opportunity involves "mitigation banking." Some state and local program people expressed concerns over mitigation banking. Often developers incorporate mitigation banking in their initial application as a de facto "application fee." Too little is known about the length of time necessary to establish a functioning wetland, number and extent of areas necessary to provide an equivalent of the wetlands proposed for fill, and whether all the functions of an existing wetland can be duplicated in the mitigation wetland. These are ripe areas for additional substantial research efforts.

Other suggestions relating to research include:

- Consult with state and local programs, through the EPA regional coordinators, to develop wetland research priorities.
  - Employ state and local experts in universities or state research centers to perform research under the direction of EPA's research people. EPA should continue to make the scientific and analytical capabilities of the EPA regional laboratories available to state and local program managers. There should be increased efforts to build teams of EPA scientists, coupled with state and local experts.
  - Coordinate with other federal agencies conducting wetland-related research to avoid duplication and assure priority needs for research are being met.
- ° EPA should act as "wetlands research coordinator" to gather, maintain, and disseminate materials on completed and ongoing research. This information should be avail-

able to state and local wetland program managers through a computer data base.

6. Significant wetlands of the U.S. are inadequately protected. The degree and type of protection afforded to wetlands varies even within states. This is due to the varying extent of regulatory program jurisdiction, the different use restrictions for different wetlands, variation in enforcement, and voluntary participation under tax and natural area registry programs. In addition, several state and federal laws act as disincentives to wetland protection.

In order to meet the state needs:

- ° EPA should catalogue the federal and state laws, programs and policies which act as disincentives to wetland protection (e.g., state drainage laws). EPA should develop and promote wetland protection efforts within other federal and state agencies. Strategies should be developed to correct the federal disincentives; and monitoring should be conducted to assure corrective measures are implemented. Good examples of federal policies which protect wetlands are the federal agricultural legislation passed in 1985, which incorporated strong wetland conservation measures (sodbuster, swampbuster).
- ° EPA should work with the Fish and Wildlife Service and states to identify major gaps in wetland protection. This report provides much of the data required to conduct a more comprehensive analysis of the coverage and gaps in wetland protection under state programs. One important task is to promote completion of the National Wetland Inventory System mapping, to assure a comprehensive data base. A comparison of wetland maps (in progress in most states) with the area covered by state and federal wet-

land protection programs should reveal a rough geographical picture of the extent to which these programs have jurisdiction over the nation's wetlands. This kind of jurisdictional overlay on wetland maps should be contemplated. Eventually it could be used for insight into the scope of wetland protection nationwide.

- ° EPA should clarify the link between wetlands and groundwater when framing issues for dialogue. Wetlands may function to recharge and purify groundwater in some instances, although the data appear to be contradictory. Groundwater is receiving increasing attention as more is learned about this critical and threatened resource. If links exist between wetlands and groundwater in some instances, additional public information could encourage more public support for both. It could also influence regional water basin planning.
- ° EPA should examine wetland protection on Indian reservations. It is unknown how much of the 50 million trust acres held by the federal government for the Indian people are wetlands. Reservation lands are not adequately integrated in the regulatory framework of state and federal programs that affect reservation wetlands. This is a major gap in the national data base on wetland management. A catalogue, similar to the one in this report for state programs, should be done for tribal, state and federal programs that protect reservation wetlands. In addition, an effort should be made to inform tribes of state and federal management resources.