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Series: Sununu, John, Files
Subseries: Issues Files

OA/ID Number: 29174
Folder ID Number: 29174-008

Folder Title:
Wetlands 1991 [3]

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Withdrawal/Redaction Sheet

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Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01. Note	From Ed Rogers to John Sununu Re: Attached Bill (1 pp.)	4/25/91	P5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
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Open on Expiration of PRA
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 By JP (NLGB) on 10/28/05

Date Closed:	1/5/2005	OA/ID Number:	29174-008
FOIA/SYS Case #:	1998-0004-F[2]	Appeal Case #:	
Re-review Case #:	2005-0426-S	Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
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 P-3 Release would violate a Federal statute [(a)(3) of the PRA]
 P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
 P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
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THE WHITE HOUSE
WASHINGTON

DATE: April 25, 1991

let's
TO: GOVERNOR SUNUNU/ROGER PORTER

FROM: ED ROGERS

FYI - this bill really seems to be gathering steam.



National Association of Home Builders

15th and M Streets, N.W., Washington, D.C. 20005

(202) 822-0401 Fax No: (202) 822-0374

Kent W. Colton, Ph.D.
Executive Vice President &
Chief Executive Officer

April 25, 1991

The Honorable Edward M. Rogers, Jr.
Executive Assistant
to the Chief of Staff
The White House

Dear Ed:

As I am sure you know, one of the major environmental issues for our industry is wetlands. Over the last several months we feel that we have made some progress working with the media and with Congress on this issue.

Please find attached a Wall Street Journal editorial on wetlands, wetlands articles which appeared in the New York Times and Reason Magazine, and a series of case studies which illustrate the problems property owners are experiencing with federal wetlands regulations. As the editorial articles and case studies point out, excessive wetlands regulations are imposing undue hardships on the housing and other industries.

In light of the growing recognition of the need to reform federal wetlands regulations, we urge the White House to continue to seek revisions to the Federal Manual for Identifying and Delineating Jurisdictional Wetlands that would eliminate federal jurisdiction over areas that are too dry to meet any common-sense definition of the word "wetland." Specifically, NAHB believes the following revisions are needed:

- Independent documentation of the existence of all three wetland parameters (i.e., hydric soils, hydrophytic vegetation and wetlands hydrology);
- A wetland hydrology criterion requiring soil saturation to the ground surface as opposed to 12 inches below the ground surface; and
- A requirement that soil saturation occur at least 21 days during the growing season.

We also urge the Administration to support H.R. 1330, "The Comprehensive Wetlands Conservation and Management Act of 1991." This bill seeks to provide a concise and structured program for the identification and delineation of wetlands based upon their functions and values for regulatory purposes and to balance the

The Honorable Edward M. Rogers, Jr.
April 25, 1991
Page Two

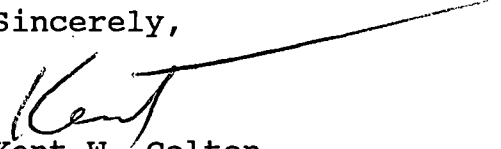
need for the effective and complete protection of the nation's important wetlands with the needs for essential community growth and the constitutional rights of landowners.

To accomplish these goals, the bill would

- narrow the definition of wetlands by raising the water requirement to the surface and increasing the saturation requirement to 21 days;
- expand the categories of regulated activities in wetlands to include dredging, channelling, and excavation of wetlands. Currently, 80 percent of all wetlands lost in this country result from activities that fall outside the scope of Section 404 of the Clean Water Act.
- classify wetlands into three categories based on the values and functions;
- compensate the owner of any wetlands designated as high value under a "taking" claim;
- reduce administrative burdens and double responsibilities by placing all permit authority with the Army Corps of Engineers; and
- establish mitigation banking as a major element of federal wetlands law.

The growing support for this bill is reflected in the fact that there were 95 sponsors as of April 13, and the number is growing. Support for this bill is growing because it addresses the full range of problems permit applicants are experiencing with wetlands regulatory standards.

Sincerely,



Kent W. Colton

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Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
02. Memo	From Teresa Gorman to Roger Porter Re: Strategy Piece on Wetlands (11 pp.)	3/22/91	P-5	

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THE WHITE HOUSE

WASHINGTON

March 22, 1991

THE CHIEF OF STAFF
HAS SEEN

MEMORANDUM FOR ROGER B. PORTER

FROM: TERESA GORMAN
ED GOLDSTEIN

SUBJECT: Strategy Piece on Wetlands

THE WETLANDS POLICY CHALLENGE

The Senate and House Committees with jurisdiction over the Clean Water Act have begun to ask the Administration for its views on legislation, including wetlands. If the Administration is to have maximum impact, it is important to begin now to mold our views on legislation and administrative changes to the 404 program. Furthermore, it is been over two years since the President charged the DPC Task Force on Wetlands to address the campaign pledge of no net loss of wetlands. Given that we are still 18 months before the next election, it may be wise to culminate the work of the Task Force and issue a policy statement on no net loss of wetlands in the next few months.

The challenge for the Administration is to address two potentially conflicting goals: (1) the President's campaign pledge and his public commitment to protect the environment; and (2) the steadily mounting criticism over the Administration's implementation of the 404 program and the 1989 Delineation Manual. One proposal is to issue a broad policy statement that combines a series of positive nonregulatory measures to protect wetlands with a series of proposed regulatory changes to the 404 program and the Federal Manual.

REGULATORY CHANGES TO THE 404 PROGRAM

Criticism of the 404 program falls into five general areas: (1) the expanded coverage of the revised Delineation Manual; (2) time delays and bureaucratic confusion in seeking permit approvals; (3) the sequencing requirements and the reverse burden of proof; (4) takings; and (5) the coverage of unintended man-made wetlands. We have also received significant and appropriate pressure to increase the state role in wetlands protection, and to address the unique problems posed by wetlands protection programs in Alaska.

Over the past month, the Task Force has considered a number of administrative and legislative options to address each of these issues. What follows is a brief discussion of each of the problems cited above and the recommended options. Because of the uncertainty in enacting legislation, the Administration could pursue a two-pronged approach of implementing as many of the agreed upon changes administratively, while seeking legislation in areas which cannot be addressed administratively.

(1) **Delineation Manual:** The expanded scope of the 1989 Manual is by far the most common criticism of the Administration's wetlands program. Many who were "caught" by the new Manual realize that the purest form of relief means narrowing the scope of the Manual. The two most commonly cited fixes are:

- Put the "wet" back into wetlands by requiring inundation or surface saturation for at least 14 days, (although some recommend as long as 30 days). Under the current Manual, an area can be listed if the soil shows signs of water saturation at depths of 12 to 18 inches below the surface. **Holdouts: EPA & Corps**
- Require all three criteria in undisturbed areas -- hydric soils, wetlands vegetation and hydrology -- to be present before defining an area as a wetland. Under the Manual, one criteria, such as soils or vegetation, can be used to presume the third.
- Require all changes to the Manual to go through public rulemaking. **Holdouts: EPA & Corps?**

(2) **Time Delays and Bureaucratic Overload:** Despite the Corps' belief that the permit program generally operates efficiently, stories of delayed and unreasonable permit decisions abound. Currently, FWS, EPA, and NMFS can consult on each permit, and thereby slow the permitting process down. Because of personnel shortages, the permittee is often asked to negotiate with each agency separately. If agencies disagree, there is a lengthy appeal process to headquarters for a decision. Finally, if EPA continues to disagree with the Corps' decision, it has the authority under the Clean Water Act to veto the decision. Due to these problems, many groups are now pleading for "one stop permit shopping." While some streamlining changes can be done administratively, amendments to the Clean Water Act and Fish and Wildlife Coordinating Act would be required to make the Corps the sole decisionmaker on permits.

Proposed Administrative Changes:

- Issue guidance requiring pre-application meetings nationally to be attended by all consulting agencies. **Opposed: EPA, Corps & USDA.** Further allow the Corps to disregard comments from consulting agencies which lack site specific data to support arguments on wetlands impairment or the existence of a practical alternative. **Opposed: EPA & Commerce**
- Provide the Corps with clear responsibility to meet with the permittee, consult with other agencies, and determine the final permit conditions. Prevent consulting agencies from requiring meetings with the permittee. **Opposed: EPA**
- Give the Corps clear authority to make decisions on the conditions of individual permits. Replace the 404(q) appeal process for consulting agencies on individual permit conditions with a process that allows appeal only of more generic policy issues. **Opposed: EPA, Interior, Commerce & CEQ**
- Limit the grounds on which EPA can veto a permit to assessment of adverse environmental impacts. Preclude EPA from second guessing the Corps judgement on the adequacy of the practical alternatives test. **Opposed: EPA, Corps, Commerce & CEQ**
- Implement a training program to certify professionals to conduct wetlands delineation for landowners. **Accepted**

Legislative Options:

- Amend the Clean Water Act to eliminate EPA veto authority of individual permits and to replace individual agency consultations with general guidelines. **Opposed: EPA, Corps, Commerce, Transportation & CEQ**

(3) **Sequencing and Burden of Proof:** Under the recently signed MOA, permittees are required to first avoid, minimize, and then compensate for any wetlands destroyed. (These requirements are outlined in the 404(b)(1) guidelines and the EPA/Corps MOA.) To meet the avoidance step, a permittee must show that the site is the "least damaging practical alternative" to develop. To determine the least damaging practical alternative, the Corps

considers the availability of other alternative sites in existence at the time the site was purchased versus the time the application is submitted. In making this determination, the Corps will often ignore state and local zoning restrictions that preclude development on certain lands for other reasons. Furthermore, in deciding whether an alternative is practical, the Corps and EPA must second guess the economic feasibility of alternatives, and will often recast the purpose of the applicant's project to expand the range of practical alternatives. Throughout the process, the permittee has the burden of proof to show why the project is the least damaging alternative.

In addition, while section 404 includes a public interest test, it can never be used to exempt a project from compliance with the 404(b)(1) guidelines. In other words, the 404(b)(1) guidelines, as interpreted in the MOA, must be met for each and every project, despite the potential public benefits of a proposed project. In practice, the public interest has become a lesser used weapon against the issuance of permits.

Administrative Options:

- Make an affirmative decision to establish categories of wetlands based on function and value for regulation. Convene a Federal panel to develop within one year wetland classes based on function and value. **Opposed: EPA, Corps & Commerce**
- Modify sequencing requirements based on the category of wetlands. In moderate and lower class wetlands, suspend sequencing if the applicant's proposal will yield a net increase in function and value. **Opposed: EPA, Corps, Commerce & CEQ**
- Issue guidance to direct the Corps to: (1) comply with state and local requirements in determining the "availability" of other sites for development; **Opposed: EPA & Corps** (2) use the date of application submittal in determining the existence of alternatives; **Opposed: EPA, Corps, Commerce, CEQ, and Interior** and (3) create a rebuttable presumption in favor of the applicant's project purpose. **Opposed: EPA, Corps, Commerce and CEQ.**
- In all categories of wetlands, issue guidance allowing the Corps to (1) suspend sequencing (including practical alternatives analysis) if public interest is clearly served by allowing the project to go forward; **Opposed: EPA, Corps, Commerce & CEQ and**

(2) give greater consideration to the value of other ecosystems in determining sequencing requirements.

Acceptable

- Create a national mitigation banking program that allows mitigation credits to be banked, sold, or traded. Require the Corps and EPA to issue guidance to: (1) eliminate the preference for on-site mitigation in all but the highest class of wetlands; **Opposed: EPA/Corps/CEQ/Commerce** (2) presume satisfaction of compensation requirements if wetlands are in same category; **Opposed: EPA, Corps, Commerce, HUD & CEQ** (3) encourage Federal agencies, states, local governments, and private entities to run mitigation banks. **Acceptable**

(4) **Takings:** Regardless of the modifications made to the 404 program, the basic premise of the program continues to entail what many view as a "takings" of personal property without compensation. The government continues to circumvent takings judgements by relying on the nuisance exception. Under current law, a takings occurs unless the action constitutes a nuisance. Overtime, the Supreme Court has expanded the nuisance exception to include things such as porno shops, brothels, and any legitimate business that creates the nuisance of pollution. In wetlands, the nuisance of pollution is filling a wetlands. The government argues that no compensation is due when the government stops someone from creating a nuisance by filling a wetlands.

Justice is now appealing two lower court decisions that found a takings occurred. Proponents of private property rights contend that the nuisance exception has been too broadly construed by the Courts. (See Rehnquist dissenting view.) In contrast, fiscal conservatives believe that a narrow reading of the nuisance exception would greatly increase the federal government's financial exposure to takings claims. They would also argue for following the court precedent, regardless of the policy implications. Some in Justice, however, are now questioning whether the Administration should continue to appeal takings cases on nuisance grounds. This question has not been explicitly addressed by the Task Force.

While there are no clear cut remedies to the takings problem without eliminating the program or providing direct government compensation, second order remedies include the following options:

- Insist that agencies following the current E.O. which requires each agency to publish general procedures on

conducting takings assessments and to do takings assessments on individual rules. **Acceptable**

- Further insist that agencies follow the current E.O. and report to OMB on the takings judgements against them. **Opposed: EPA, Corps, Transportation**
- Support the new Symms amendment. Like the E.O., the Symms amendment would require agencies to issue general procedures for completing takings assessments. Unlike the E.O., these procedures would have to receive the Attorney General's approval before the Agency could issue new regulations. The Symms amendment would also allow the regulated community to challenge a rule if a takings assessment was not done or if the takings assessment did not comply with current law. The regulated community, however, would not be able to challenge the results of such assessment. **Opposed: EPA, Corps & CEQ**
- Amend the judgement fund so that agencies would pay takings assessments from their own appropriated budgets instead of using the current revolving judgement fund. **Unclear**

(5) **Exempt Coverage from 404 Program for Certain Man-Made Wetlands:** In implementing the 404 program, we are hearing increasing complaints from landowners who state that EPA is enforcing the program on unintended man-made wetlands, such as drainage ditches for irrigation, cement lined drainage ditches for roads, and even manure overflow ponds for farmers. In some cases, the mistake is made by relying on aerial photography. In other cases, the field personnel believe that covering such sources is appropriate. Growing concerns over conservation of western water has brought even greater attention to this issue since wetland protection may inhibit water conservation efforts.

The ad-hoc coverage of such man-made wetlands inflame landowners and state and local governments. Furthermore, the inclusion of man-made wetlands provides a powerful disincentive to people who would like to create wetlands but not come under government regulation permanently.

- Clarify that certain man-made wetlands are excluded from the 404 program if they are not used to comply with mitigation requirements or whose creation is not subsidized. **Opposed: EPA, Corps & Commerce**

(6) **Increasing State Involvement:** Wetlands regulation is perceived by many to be a land use issue, properly regulated through local zoning or state regulation. Most believe that State and local governments should play a greater role in wetlands protection since wetlands degradation is linked to factors traditionally controlled at the State or local level. Furthermore, because states are continuing to enhance their wetland protection programs, there is growing concerns over increased duplication of effort between the Federal 404 program and state efforts.

Currently, only one state has assumed primacy under the Clean Water Act. Reasons for the lack of state interest in assuming program delegation include: (1) limited federal or state funding; (2) continued EPA oversight of individual permit decisions; and (3) lack of flexibility to implement the program in different ways. While there are some limited opportunities to increase state participation administratively, most believe that legislative changes would be required to encourage more states to adopt wetlands protection programs to replace the federal program. Below are a number of administrative and legislative options considered by the Task Force.

Administrative Options:

- Issue guidance to reduce to a statutory minimum the requirements for states to assume the 404 permit program, and increase the use of State Program General Permits. **Acceptable**

Legislative Options:

- Amend the Clean Water Act to allow states to assume permitting authority for waters adjacent to, but not including, Section 10 Rivers and Harbors Act "navigable" waters. **Opposed: Corps** Further amend the Act to allow states to assume delegation for part of the state. **Opposed: Corps and Justice**
- Eliminate EPA veto permit review for states which assume the program. **Opposed: EPA, Corps, Agriculture, Justice, Transportation & CEQ**
- Design performance based criteria for states to develop plans which achieve equivalent levels of environmental protection to the 404 program. **Opposed: Corps**
- Amend the Clean Water Act to allow states to assume responsibility for regulation of lower-value wetlands under a categorization scheme of wetlands protection.

Eliminate EPA veto authority over State decisions on permitting these wetlands. **Opposed: Corps, EPA, Agriculture & CEQ**

- Amend the Clean Water Act to transfer regulatory control to states. **Opposed: EPA, Corps, Agriculture, Commerce & CEQ**

(7) **Alaska Concerns in Wetlands Protection:** Because 70 percent of Alaska is wetlands, implementing the mitigation requirements of the 404 program has proved more problematic than usual. Similarly, Alaska would be at a severe disadvantage if the concept of no net loss is implemented on a state-by-state basis.

Any policy statement from the Administration must address the severe constraints posed by wetlands in Alaska on urban development and oil and gas exploration. One general solution would be to develop a classification system that would provide less constraints on activities impacting major portions of the tundra and lower-value wetlands in Alaska. A second approach would allow Alaska direct compensation for the fact that over 99 percent of its wetlands are still intact.

NO NET LOSS OF WETLANDS

As mentioned earlier, the challenge for the Administration is to pursue regulatory reform of the Delineation Manual and the 404 program while continuing to move forward on the President's goal of no net loss of wetlands. When it was formed, the Task Force's original mandate was to define no net loss, and establish regulatory and nonregulatory programs to achieve that goal. In short, most expected the product of the Task Force to be a series of measures to strengthen wetlands protection and to reduce the annual loss of wetlands now estimated to be 300,000 acres per year.

Defining No Net Loss: When the President uttered the words "no net loss" of wetlands, many expected the Administration to produce a detailed monitoring and accounting program of the nation's wetlands. To many, the term implied more micro-management of the resource by federal, state and local entities, with performance measures of progress towards the goal. For instance, many internally advocated that each agency be required to meet a no net loss goal and to evaluate the impact of each regulatory action on progress towards that goal. They also advocated state no net loss plans.

Many of these programs would result in stricter wetlands management, less flexibility, and greater micro-management of the resource. This would argue against attempts to define no net loss. Unfortunately, ambiguity over what is meant by no net loss has also caused problems. Many wetland experts in and outside the government have taken it upon themselves to define no net loss. In fact, many attribute the recent changes in the 404 program and the vigor behind EPA and Corps enforcement to this fact. Thus, there may be benefits to the government of articulating what is meant, and more importantly, not meant by no net loss of wetlands. Several recommendations for defining no net loss include the following:

- The no net loss goal is a national goal.
- It does not mean a prohibition on wetlands development.
- It applies to wetland functions, and is not measured strictly by acreage.
- It is a goal that balances environmental progress with economic development.

A more flexible definition of no net loss and regulatory reform of the 404 program and the Manual would go far in addressing the concerns of the regulated community. It would do little, however, to demonstrate the President's commitment to wetlands and the concept of no net loss. At a minimum, many in the Administration believe we will need a set of measures to counter future campaign attacks that the President has not delivered on his promise to protect wetlands.

In response to this potential criticism, the Task Force has reviewed one regulatory change and a number of nonregulatory programs to encourage greater wetlands conservation and to highlight the President's commitment to wetlands.

(1) **Activities Covered Under 404 Program** Currently, the 404 program covers only wetlands destroyed by the addition of fill material, and does not address wetlands destroyed by drainage, excavation, or vegetation removal unless it is accompanied by the addition of fill material. EPA has claimed that the impact of this limitation means that the 404 program addresses only 20 percent of the wetlands destroyed in the country. Many, however, believe the actual program covers much more than 20 percent due to creative Corps guidance that links many activities to the addition of fill material.

(2) **Nonregulatory Measures to Increase Wetlands Protection:** The FY'92 budget included a 48 percent increase in funding for

wetland protection programs. These programs, if packaged correctly, could be highlighted to show their contribution to the President's no net loss goal.

- Create a national wetlands restoration and creation program on federal lands. There are many separate activities within the government aimed at increasing our knowledge base on restoring and creating wetlands. This initiative would aggregate these efforts and develop agency-wide guidelines for restoring and creating wetlands.
- Highlight new programs in DOE and DOD for wetlands restoration and protection. Both DOD and DOE could contribute significantly to Federal efforts to protect wetlands. The policy statement could encourage and highlight their new efforts to protect wetlands.
- Create a national program for excellence in research on wetlands. Several agencies are now conducting their own research on wetlands. This initiative would aggregate some existing programs, require increased coordination of other existing programs, and would call for the establishment of agency-wide priorities on wetlands research.
- Create a goal of a net increase in wetlands for the Federal government as a whole on federal lands. Our best estimates to date suggest that the Federal government as a whole produces more wetlands than it destroys. By creating this goal, the President could take more explicit credit for the existing ongoing wetlands protection efforts.

The Task Force also evaluated other nonregulatory measures which could contribute to net loss of wetlands.

- Require states to conduct no net loss planning. One approach would be to require states to develop no net loss plans. These plans could be incorporated with more flexible state programs to replace the Federal 404 program. The plans would have to show some progress towards reducing the state's net loss of wetlands.
- Earmark more Land and Water Conservation Funds for Wetlands Conservation.

Depending on how much attention the Administration wants to dedicate to wetlands protection, the Administration could also offer programs which would require new government spending. The following is a list of these programs.

- Fully fund the Wetlands Reserve Program in the 1990 Farm Bill. The 1990 Farm bill authorized the purchase of up to 1 million acres of wetlands. The FY'92 budget submitted by the President requested funding for only 600,000 acres. This is a very visible retreat in wetlands protection that could be corrected.
- Increase efforts to acquire valuable wetlands. While acquisition programs are expensive, they result in the permanent protection of valuable wetlands. Although the west views attempts to purchase land with increasing skepticism, acquisition efforts in the east are still popular and could address important wetlands, such as the Everglades.
- Develop a wetlands challenge grant program and expand current cost-sharing programs involving the FWS and other agencies.
- Develop a cost-share program to protect wetlands patterned after the water quality incentive program. This would capitalize on the movement to place marginal farm land in to wetland easements.

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CHALLENGE:

- Announce a balanced package of wetlands initiatives that: (1) fix the Manual; (2) reform the 404 program; and (3) include positive nonregulatory steps to protect wetlands. We believe the Reilly plan falls short in several areas.

REILLY'S SEVEN-POINT PLAN

1. Issue the revised Delineation Manual.

- Still have not received the revised Manual from EPA.
- Several questions remain:

Should DPC Task Force, OIRA, or the Competitiveness Council review Manual?

Should the Manual be issued as a proposal or interim final? If revised Manual is treated as a proposal, should the Corps and EPA continue to enforce 1989 Manual?

Should we provide amnesty for landowners covered by 1989 Manual, but exempted under the EPA/Corps revisions?

2. Issue the FWS Trends Report on Wetland Losses.

- Report will show reduction in annual wetland losses from 400,000 acres per year (1950s - 1970s) to an average of 290,000 acres lost per year (1975 - 1983).
- Report, as well as results, are expected. May have slight packaging benefits.

3. Issue an E.O. requiring Federal Agencies to implement policies to achieve no net loss.

- Could result in very stringent accounting of agency actions.
- Existing E.O. already very prescriptive.

4. Issue guidance clarifying exemption status of farming activities under the 404 program.
 - Should be done regardless. Corps' regulatory guidances have confused the applicability of the current exemption.
 - Unlikely to be viewed as major benefit for regulated community.
5. Issue a policy exempting man-made wetlands.
 - Good idea. Industry is very upset because the Corps and EPA are regulating manure ponds, and road and irrigation ditches under the 404 program.
6. Make wetlands conservation a priority in the Conservation Program.
 - Good idea.
7. Presidential Speech on No Net Loss.
 - Good idea, but where's the beef?

WHAT'S MISSING IN REILLY'S PLAN

1. Reform of the 404 Program and the MOA.
 - Reform of the 404 program will require very specific instructions to guide Corps and EPA decisionmaking during permitting. The DPC options paper includes (see attached list) many specific recommendations on: (1) streamlining the program; (2) easing the landowner's burden of proof in permitting process; (3) implementing a classification system; and (4) tailoring sequencing requirements based on classification.
 - Options paper also includes a proposal to expand the coverage of the 404 program to include other activities, such as vegetation destruction, excavation, and drainage, that destroy wetlands. While court cases make this expansion likely overtime, this proposal should only be considered if Manual and existing program is significantly changed.

- More radical changes to the 404 program to increase state and local control, or consolidate permitting decisions in one agency will require legislation.
- Reilly has publicly opposed legislation in testimony before the House. (See attached article.)

2. Measures to address takings.

- Implement the E.O. and continue to support Symms amendment.
- Amend the judgement fund so that agencies pay takings assessments from their own appropriated budgets instead of the current revolving judgement fund.

3. A Program to Develop Mitigation Banking

- DPC Options paper includes proposals to: (1) initiate public and private sector mitigation banks; (2) explicitly allow mitigation credits to be banked, sold, or traded; and (3) eliminate on-site preference for mitigation in MOA.

4. A Policy Defining No Net Loss.

- Should be clearly stated as a national goal versus a local, regional, or state goal.
- Should be defined in terms of function and value, and not in terms of acreage.

5. Fix for Alaska

- Should include a special fix for Alaska. One possibility is to ensure that classification system provides greater flexibility for Alaska.

6. Increased public participation.

- Require all subsequent EPA and Corps guidance that affects wetlands, include MOAs and RGLs, to go through rulemaking.

OTHER ISSUES

1. Wetlands Enforcement Initiative

- EPA and the Corps have announced an enforcement initiative on wetlands. LaFalce is asking that it be suspended. Justice is recommending that we proceed with understanding that Justice will actively review cases.

2. Enforcement Policy on Takings and Wetlands Jurisdiction

- EPA and the Corps continue to expand the scope of the 404 program by making new arguments to include isolated wetlands. Justice is then required to defend EPA's position before ALJs. Recent example is EPA case on use of hypothetical bird to trigger interstate commerce clause.
- Justice continues to defend a broad interpretation of the nuisance exemption that allows pollution to be exempt from being considered a takings. Some are now questioning this policy.

3. Should we propose or endorse specific aspects of current legislative proposals?

- Many correctly argue that 404 program's primary purpose was to protect waters of the U.S. from pollution, i.e. the addition of fill material. As a result, some recommend that we propose a new wetlands conservation title to replace the 404 program.
- While much can be accomplished administratively, increasing state and local control over wetlands will require legislation.
- Bills in the House would: (1) redefine wetlands; (2) employ a classification system; and (3) provide government compensation for highest-value wetlands.

NAVIGABLE WATERS = ALL WETLANDS IN U.S.

STEP 1: Court ruled that coverage extended to all waters that could be navigable.

STEP 2: The Corps and EPA extended through rulemaking to all intrastate waters, the use of which could affect interstate commerce.

STEP 3: EPA is now arguing that a wetland is covered if a hypothetical bird could live on the wetland and travel to other wetlands.

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03b. News Letter	Inside EPA (1 pp.)	4/19/91	P-5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Wetlands 1991 [3]

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 By JP (NLGB) on 10/28/05

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RESTRICTION CODES

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An exclusive report on the U.S. Environmental Protection Agency - providing weekly coverage of federal environmental programs and policies.

Vol. 12 No. 16 - April 19, 1991

REILLY: CONGRESS SHOULD NOT ADDRESS WETLANDS IN CWA REAUTHORIZATION

EPA administrator William Reilly told a House panel this week that he opposes reopening wetlands issues in the reauthorization of the Clean Water Act, saying the agency is attempting to address concerns about over-regulation administratively. EPA and the Army Corps of Engineers have been widely criticized by industry groups and members of Congress for creating an overly burdensome regulatory system which they say is interfering with farming and development nationwide. Legislation has been introduced that would end EPA oversight of permits to drain or plow wetlands (*Inside EPA*, Sept. 28, 1990, p1), and congressional staff say the issue may be a major focus of clean water reauthorization discussions (*Inside EPA*, Dec. 7, 1990, p10). But Reilly reminded an April 16 Appropriations subcommittee that the agency is revising its controversial manual for determining what constitutes a wetland, and said reopening the wetlands provisions of section 404 of the Clean Water Act would not be "in EPA's interest." Several House staffers say the federal wetlands protection program is under such fire that it is imperative to reexamine the issues.

Reilly told an April 16 meeting of the House Appropriations VA, HUD & independent agencies subcommittee that it is "in our interest and everybody's interest not to reopen 404 in the Clean Water Act debate." Reilly acknowledged that there are problems with the EPA/Corps "delineation manual" but pointed out that the manual is being revised and some of the problems may have been overstated. Reilly also noted that he supports efforts to develop a wetlands ranking scheme that would recognize that some wetlands are not as ecologically important as others. But he told the subcommittee that EPA can address these problems administratively, without having to amend the Clean Water Act. Reilly also argued that removing EPA authority from wetlands permits "sends a very worrisome signal" to those concerned about wetlands conservation, adding that the agency has only used its right to veto wetlands permits 11 times. Section 404 has not been modified since 1977.

Several House Democrats say Reilly's comment implies that the public will not get a chance to have input on a program that is widely discredited in the public eye. The wetlands program "is flat out broken and needs total repair," says one House source. This source argues that EPA cannot just tinker with the program to redress concerns, but that major overhauls may be necessary. This source also worries that EPA may be trying to avoid a Clean Water Act debate to skirt public input on the wetlands program. Another House staffer agrees, and suggests that the changes should be hashed out in a public forum. "They know they have a program in real jeopardy," this source says, but if the agency wants to maintain its authority, it should justify its program to Congress. Both sources also argue that while EPA has only officially vetoed 11 permits, it has been extremely involved in any number of permit cases, pressuring other agencies to be tougher on applicants and scaring many applicants away from the process altogether. Another House source suggests that outside of EPA, other Administration officials may not be so sanguine about EPA's ability to fix the program, noting that there is not yet any official Administration position on Clean Water Act reauthorization.

EPA staff say Reilly recognizes that changes to the program are necessary, but fears that Congress would use a 404 debate to yank EPA's authority over the program. Reilly "is looking over his shoulder" at several hostile committees, says one agency source, but is not "shying away from broad discussions" of the program. Another agency staffer cautions that a 404 debate could turn into a bitter battle that would stall the rest of the clean water bill. EPA staff unanimously support Reilly's contention that changes that need to be made can be made by the agency under current authorities, but that in no way precludes public input. Several agency source say Reilly's comment was surprising, however, because agency staff had considered asking that 404 be reopened to increase EPA's authority over wetlands permits.

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03c. Paper	Positive Non-Regulatory Measures to Protect Wetlands (2 pp.)	n.d.	P/5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Wetlands 1991 [3]

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 By JP (NLGB) on 10/28/05

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POSITIVE NON-REGULATORY MEASURES TO PROTECT WETLANDS

The FY'92 budget included a 48 percent increase in funding for wetland protection programs. These programs, if packaged correctly, could be highlighted to show their contribution to the President's no net loss goal.

- Create a national wetlands restoration and creation program on federal lands. There are many separate activities within the government aimed at increasing our knowledge base on restoring and creating wetlands. This initiative would aggregate these efforts and develop agency-wide guidelines for restoring and creating wetlands.
- Highlight new programs in DOE and DOD for wetlands restoration and protection. Both DOD and DOE could contribute significantly to Federal efforts to protect wetlands. The policy statement could encourage and highlight their new efforts to protect wetlands.
- Create a national program for excellence in research on wetlands. Several agencies are now conducting their own research on wetlands. This initiative would aggregate some existing programs, require increased coordination of other existing programs, and would call for the establishment of agency-wide priorities on wetlands research.
- Create a goal of a net increase in wetlands for the Federal government as a whole on federal lands. Our best estimates to date suggest that the Federal government as a whole produces more wetlands than it destroys. By creating this goal, the President could take more explicit credit for the existing ongoing wetlands protection efforts.

The Task Force also evaluated other nonregulatory measures which could contribute to net loss of wetlands.

- Encourage states to conduct no net loss planning. One approach would be to encourage states to develop no net loss plans. These plans could be incorporated with more flexible state programs to replace the Federal 404 program. The plans would have to show some progress towards reducing the state's net loss of wetlands.
- Earmark more Land and Water Conservation Funds for Wetlands Conservation.

Depending on how much attention the Administration wants to dedicate to wetlands protection, the Administration could also offer programs which would require new government spending. The following is a list of these programs.

- Fully fund the Wetlands Reserve Program in the 1990 Farm Bill. The 1990 Farm bill authorized the purchase of up to 1 million acres of wetlands. The FY'92 budget submitted by the President requested funding for only 600,000 acres. This is a very visible retreat in wetlands protection that could be corrected.
- Increase efforts to acquire valuable wetlands. While acquisition programs are expensive, they result in the permanent protection of valuable wetlands. Although the west views attempts to purchase land with increasing skepticism, acquisition efforts in the east are still popular and could address important wetlands, such as the Everglades.
- Develop a wetlands challenge grant program and expand current cost-sharing programs involving the FWS and other agencies.
- Develop a cost-share program to protect wetlands patterned after the water quality incentive program. This would capitalize on the movement to place marginal farm land into wetland easements.

Withdrawal/Redaction Sheet

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Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03d. Paper	Specific 404 Regulatory Reform options (2 pp.)	n.d.	P 5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
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SPECIFIC 404 REGULATORY REFORM OPTIONS

(1) Streamlining the Program:

Proposed Administrative Changes:

- Issue guidance requiring pre-application meetings nationally to be attended by all consulting agencies. **Opposed: EPA, Corps & USDA.** Further allow the Corps to disregard comments from consulting agencies which lack site specific data to support arguments on wetlands impairment or the existence of a practical alternative. **Opposed: EPA & Commerce**
- Provide the Corps with clear responsibility to meet with the permittee, consult with other agencies, and determine the final permit conditions. Prevent consulting agencies from requiring meetings with the permittee. **Opposed: EPA**
- Give the Corps clear authority to make decisions on the conditions of individual permits. Replace the 404(q) appeal process for consulting agencies on individual permit conditions with a process that allows appeal only of more generic policy issues. **Opposed: EPA, Interior, Commerce & CEQ**
- Limit the grounds on which EPA can veto a permit to assessment of adverse environmental impacts. Preclude EPA from second guessing the Corps judgement on the adequacy of the practical alternatives test. **Opposed: EPA, Corps, Commerce & CEQ**
- Implement a training program to certify professionals to conduct wetlands delineation for landowners. **Accepted**

Legislative Options:

- Amend the Clean Water Act to eliminate EPA veto authority of individual permits and to replace individual agency consultations with general guidelines. **Opposed: EPA, Corps, Commerce, Transportation & CEQ**

(2) **Changes to Ease Sequencing and the Burden of Proof**

Administrative Options:

- Make an affirmative decision to establish categories of wetlands based on function and value for regulation. Convene a Federal panel to develop within one year wetland classes based on function and value. **Opposed: EPA, Corps & Commerce**
- Modify sequencing requirements based on the category of wetlands. In moderate and lower class wetlands, suspend sequencing if the applicant's proposal will yield a net increase in function and value. **Opposed: EPA, Corps, Commerce & CEQ**
- Issue guidance to direct the Corps to: (1) comply with state and local requirements in determining the "availability" of other sites for development; **Opposed: EPA & Corps** (2) use the date of application submittal in determining the existence of alternatives; **Opposed: EPA, Corps, Commerce, CEQ, and** **Opposed** and (3) create a rebuttable presumption in favor of the applicant's project purpose. **Opposed: EPA, Corps, Commerce and CEQ.**
- In all categories of wetlands, issue guidance allowing the Corps to (1) suspend sequencing (including practical alternatives analysis) if public interest is clearly served by allowing the project to go forward; **Opposed: EPA, Corps, Commerce & CEQ** and (2) give greater consideration to the value of other ecosystems in determining sequencing requirements. **Acceptable**
- Create a national mitigation banking program that allows mitigation credits to be banked, sold, or traded. Require the Corps and EPA to issue guidance to: (1) eliminate the preference for on-site mitigation in all but the highest class of wetlands; **Opposed: EPA/Corps/CEQ/Commerce** (2) presume satisfaction of compensation requirements if wetlands are in same category; **Opposed: EPA, Corps, Commerce, HUD & CEQ** (3) encourage Federal agencies, states, local governments, and private entities to run mitigation banks. **Acceptable**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 23 1991

OFFICE OF WATER

MEMORANDUM FOR: Teresa Gorman
Special Assistant to the President
for Policy Development

SUBJECT: Interagency Wetlands Delineation Manual

I am pleased to provide you with a copy of the revised version of the Interagency Wetlands Delineation Manual that we hope to propose for public review and comment. These revisions reflect careful consideration of comments provided by the public, agency field staff and the Interagency Technical Committee, which is comprised of members of the four signatory agencies. Although additional fine-tuning is required, this version incorporates changes that will make the Manual easier to understand and implement, and, as a result, will minimize opportunities for erroneous wetlands determinations. This manual represents our best thinking. I hope to provide the remainder of Part II on procedures for identifying difficult-to-identify wetlands within the next few days.

Recognizing our mutual goal of proposing a revised version for public review and comment, we hope to make the Manual available to the public within the next week through a notice in the Federal Register. If you have any questions, please do not hesitate to contact us.

LaJuana S. Wilcher

LaJuana S. Wilcher
Assistant Administrator

Attachment

DRAFT

*REVISED FEDERAL MANUAL FOR
IDENTIFYING AND DELINEATING
VEGETATED WETLANDS*

DRAFT

AN INTERAGENCY COOPERATIVE PUBLICATION

Department of the Army

Environmental Protection Agency

Fish and Wildlife Service

Soil Conservation Service

MAY 1991

4/22/91

Part I.

Introduction

Purpose

The purposes of this manual are: (1) to provide mandatory technical criteria for wetlands, (2) to provide recommended methods for vegetated wetlands identification and upper boundary delineation, and (3) to provide sources of information to aid in their identification. The document can be used to identify jurisdictional wetlands subject to Section 404 of the Clean Water Act and to the "Swampbuster" provision of the Food Security Act of 1985, as amended, or to identify vegetated wetlands in general for the National Wetlands Inventory and other purposes. Wetland jurisdictional determinations for regulatory purposes are based on criteria in addition to technical criteria, so consult the appropriate regulatory agency for its interpretation. The term "wetland" as used throughout this manual refers to vegetated wetlands. This includes wetlands with natural vegetation and wetlands where natural vegetation has been temporarily disturbed. This manual provides a single, consistent approach for identifying and delineating these wetlands from a multi-agency Federal perspective.

Organization of the Manual

This manual is divided into three major parts: Part I - Introduction; Part II - Mandatory Technical Criteria for Vegetated Wetland Identification; and Part III - Methods for Identification and Delineation of Vegetated Wetlands. References, a glossary of technical terms, and appendices are also included.

Use of the Manual

This manual should be used for identification and delineation of vegetated wetlands in the United States. Emphasis for delineation is on the upper boundary of wetlands (i.e., wetland-upland boundary) and not on the lower boundary between wetlands and other aquatic habitats. The technical criteria for wetland identification presented in Part II are mandatory, while the methods presented in Part III are recommended approaches. Alternative methods are offered to provide users with a selection of methods that range from office determinations to detailed field determinations. If the user departs from these methods, the reasons for doing so should be documented.

Background

At the Federal level, four agencies are principally involved with wetland identification and delineation: Army Corps of Engineers (CE), Environmental Protection Agency (EPA), Fish and Wildlife Service (FWS), and Soil Conservation Service (SCS). The CE and EPA are responsible for making jurisdictional determinations of wetlands regulated under Section 404 of the Clean Water Act (formerly known as the Federal Water Pollution Control Act, 33 U.S.C. 1344). The CE also makes jurisdictional determinations under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). Under Section 404, the Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits for the discharge of dredged or fill material into the waters of the United States, including wetlands. EPA has an important role in developing the Section 404(b)(1) Guidelines and defining the geographic extent of waters of the United States, including wetlands. The CE also issues permits for filling, dredging, and other construction in certain wetlands under Section 10. Under authority of the Fish and Wildlife Coordination Act, the FWS and the National Marine Fisheries Service review applications for these Federal permits and provide comments to the CE on the environmental impacts of proposed work. In addition, the FWS is conducting an inventory of the Nation's wetlands and is producing a series of National Wetlands Inventory maps for the entire country. While the SCS has been involved in wetland identification since 1956, it has recently become more deeply involved in wetland determinations through the "Swampbuster" provision of the Food Security Act of 1985, and the 1990 amendments.

Prior to the adoption of the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" by the four agencies in 1989, each agency had its own procedures for identifying and delineating wetlands. The CE and EPA developed technical manuals for identifying and delineating wetlands subject to Section 404 (Environmental Laboratory 1987 and Sipple 1988, respectively), yet neither manual was a nationally-implemented standard even within the agencies. Consequently, wetland identification and delineation remained inconsistent. The SCS developed procedures for identifying wetlands for compliance with "Swampbuster" which were adopted by the agency for national use in 1987 (7 CFR Part 12). While it has no formal method for delineating wetland boundaries, the FWS has established guidelines for identifying wetlands in the form of its official wetland classification system report (Cowardin, et al. 1979). These varied agency approaches and lack of standardized methods resulted in inconsistent determinations of wetland boundaries for the same type of area. This created confusion and identified the need for a single, consistent approach for wetland determinations and boundary delineations.

In early 1988, the CE and EPA resumed previous discussions on the possibilities of merging their manuals into a single document and establishing it as a national standard within the agencies, since both manuals were produced in support of Section 404 of the Clean Water Act. The FWS and SCS were invited to participate, thereby creating the Federal Interagency Committee for Wetland Delineation (Committee) with each of the four agencies (CE, EPA, FWS, and SCS) represented.

The four agencies reached agreement on the technical criteria for identifying and delineating wetlands and merged their methods into a single wetland delineation manual, which was published on January 10, 1989 as the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands". This established a national standard for wetland identification and delineation, and terminated previous locally implemented approaches that were not, in some cases, scientifically based nor consistent. Further, adoption of the manual in 1989 resulted in some changes in the scope of regulatory jurisdiction in some agency field offices.

During the following two years, the 1989 manual was used by the agencies for wetland delineation, chiefly for identifying and delineating wetlands subject to federal regulations under the Clean Water Act. Unfortunately, during this time many misconceptions about the intent of the 1989 manual, misapplication of the 1989 manual (e.g., classifying any area mapped as hydric soil as wetland without considering other criteria), and other factors created an obvious need to review the 1989 manual and revise it accordingly. From the outset, the Committee recognized that additional clarification and/or changes would be required.

Accordingly, in May 1990, the Committee initiated an evaluation of the 1989 manual, which consisted of several steps:

1. Formal field testing was conducted by the Environmental Protection Agency to evaluate the sampling protocols of the 1989 manual (Sipple and DaVia 1990);
2. Reviews by agency field staff using the 1989 manual;
3. To afford the public the opportunity to comment on the technical aspects of the 1989 manual, public meetings were held in Baton Rouge, Louisiana, Sacramento, California, St. Paul, Minnesota, and Baltimore, Maryland; and
4. Written comments on the technical aspects of the 1989 manual were also accepted subsequent to the meetings to give the public ample opportunity to express any concerns.

The technical comments were reviewed by the Committee and considered for incorporation into a revised manual. The Agencies concluded that while the manual represented a substantial improvement over pre-existing approaches, several key issues needed to be re-examined and clarified. Some of the key technical issues needing re-examination were: (1) the wetland hydrology criterion, (2) the use of hydric soil for delineating the wetland boundary, (3) the assumption that facultative vegetation indicated wetland hydrology, and (4) the open-ended nature of the determination process which created opportunities for misuse.

The wetland hydrology criterion in the 1989 manual included a series of requirements related to specific soil types (soil drainage classes). Looking for water tables at various depths depending on soil drainage class was confusing, especially since properties associated with soil drainage classes are not standardized across the country. The National Technical Committee for Hydric Soils (NTCHS) criteria for defining hydric soils were adopted in the 1989 manual. The hydric soil criterion included wetland hydrology requirements to identify those soils wet enough to be hydric. In adopting the NTCHS hydric soil criteria, the 1989 manual retained the hydrology requirements under its hydric soil criterion and also in effect, repeated them as the wetland hydrology criterion. This clearly gave the impression of a less than three criteria approach to wetland identification.

Perhaps the issue that engendered the most concern over potential misuse of the 1989 manual involved the use of hydric soils for wetland identification and delineation. Since the 1989 manual included wetland hydrology requirements within the hydric soil criterion, and the delineation methods relied on hydric soil properties to delineate the wetland boundary, some users got the impression that the 1989 manual was not based on three mandatory criteria, but rather based solely on one criterion - the hydric soil criterion (since it, in fact, embodied the wetland hydrology criterion). This, by itself, was not a significant problem, since hydrology was still considered. Some users then erroneously translated this to mean that any area mapped as a hydric soil series was a wetland. However, it was the clear intent of the agencies that specific soil properties derived directly from wetland hydrology (e.g., significant soil saturation) would be used to separate those members of hydric soil series that were associated with wetlands from those that were not. Hydric soil mapping units include significant acreage of phases of these soils that were never wetland or no longer meet the wetland hydrology requirements of the hydric soil criterion (i.e., dry phases and drained phases, respectively) as well as inclusions of nonhydric soils.

By considering any mapped hydric soil area as wetland, millions of former wetlands (now effectively drained) could be

misidentified as wetland. This grossly exaggerated the extent of "jurisdictional wetlands" present in the United States. While the presence of certain plants were required to separate vegetated wetlands from nonvegetated wetlands, they were not used to help identify the upper boundaries, although they can be very useful indicators in certain cases where hydrology has been altered or where soil properties themselves are difficult to interpret. Consequently, by ignoring plant composition on the upper end of the wetland/upland gradient and by erroneously using mapped boundaries of hydric soil units to delineate wetland boundaries, errors in judgment were possible.

The 1989 manual specified three mandatory criteria, but did not require the use of various indicators to verify these criteria, although the interrelationships were presented. This allowed individuals to develop their own indicators or ignore strong indicators in determining whether a particular criterion was met. Clearly, the criteria needed to be intricately linked to a limited set of field indicators to prevent their misuse.

A series of meetings of the Committee were held during the period of October 1990 through April 1991. Major revisions to the 1989 manual were made to correct the technically-based shortcomings addressed above, reduce misinterpretations and the possibility of erroneous wetland determinations, and better explain the manual's usage.

Federal Wetland Definitions

Several definitions have been formulated at the Federal level to define "wetland" for various laws, regulations, and programs. These definitions are cited below with reference to their guiding document along with a few comments on their key elements.
Section 404 of the Clean Water Act

The following definition of wetland is the regulatory definition used by the EPA and CE for administering the Section 404 permit program:

Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (EPA, 40 CFR 230.3, December 24, 1980; and CE, 33 CFR 328.3, November 13, 1986).

This definition emphasizes hydrology, vegetation, and saturated soils. The Section 404 regulations also deal with other "waters of the United States" such as open water areas, mud flats, coral reefs, riffle and pool complexes, vegetated shallows, and other

aquatic habitats. Both EPA and CE regulations (cited above) implementing this definition were subject to formal rulemaking public notice and comment procedures in accordance with the Administrative Procedures Act (5 USC 553).

Food Security Act of 1985 (as amended)

The following wetland definition is used by the SCS for identifying wetlands on agricultural land in assessing farmer eligibility for U.S. Department of Agriculture program benefits under the "Swampbuster" provision of this Act:

Wetlands are defined as areas that have a predominance of hydric soils and that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions, except lands in Alaska identified as having a high potential for agricultural development and a predominance of permafrost soils.* (National Food Security Act Manual, 1988 and revised editions)

*Special Note: The Emergency Wetlands Resources Act of 1986 also contains this definition, but without the exception for Alaska.

This definition specifies hydrology, hydrophytic vegetation, and hydric soils. Any area that meets the hydric soil criteria (defined by the National Technical Committee for Hydric Soils) is considered to have a predominance of hydric soils. The definition also makes a geographic exclusion for Alaska, so that wetlands in Alaska with a high potential for agricultural development and a predominance of permafrost soils are exempt from the requirements of the Food Security Act.

Fish and Wildlife Service's Wetland Classification System

The FWS in cooperation with other Federal agencies, State agencies, and private organizations and individuals developed a wetland definition for conducting an inventory of the Nation's wetlands. This definition was published in the FWS's publication "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin, et al. 1979):

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time

during the growing season of each year.

This definition includes both vegetated and nonvegetated wetlands, recognizing that some types of wetlands lack vegetation (e.g., mud flats, sand flats, rocky shores, gravel beaches, and sand bars). The classification system also defines "deepwater habitats" as "permanently flooded lands lying below the deepwater boundary of wetlands." Deepwater habitats include estuarine and marine aquatic beds (similar to "vegetated shallows" of Section 404), although aquatic beds in shallow fresh water are considered wetlands. Open waters below extreme low water at spring tides in salt and brackish tidal areas and usually below 6.6 feet in inland areas and freshwater tidal areas are also included in deepwater habitats.

Relationship of Wetlands Identified by this Manual to "Waters of the United States"

This manual is used to identify and delineate vegetated wetlands. Figure 1 presents a generalized landscape continuum from upland to open water (deepwater habitat) showing the relationship of the various Federal wetland definitions. Vegetated wetlands as used herein means areas that, under normal circumstances, usually have hydrophytic vegetation, hydric soil, and wetland hydrology. Further, this manual applies to areas that are vegetated by erect, self-supporting vegetation (e.g., vegetation extending above the water's surface in aquatic areas or free-standing on soil).

Vegetated wetlands are a subset of areas regulated as "Waters of the United States" under section 404 of the Clean Water Act, and one of the areas regulated as "special aquatic sites" under the section 404(b)(1) guidelines promulgated by the Environmental Protection Agency. Other "special aquatic sites" include mudflats, vegetated shallows, coral reefs, riffle and pool complexes, and sanctuaries and refuges. Open water areas are also part of the "Waters of the United States."

Vegetated wetlands are also a subset of those areas designated as wetlands under the FWS's "Classification of Wetlands and Deepwater Habitats of the United States." The FWS definition of wetland is used for National Wetlands Inventory and is nonregulatory in nature. The only differences between wetlands identified by FWS and this manual are those aquatic areas 2 meters or less in depth that do not contain emergent vegetation, or are unvegetated. Such areas are identified as wetlands under the FWS system, but not under the manual. However, there are few if any areas covered by the FWS classification system that are not covered under section 404. For vegetated wetlands, the FWS classification system and this manual are essentially identical. Ninety-four percent of all FWS-classified wetlands in the

coterminous United States are vegetated.

The emphasis of this manual is on the upper boundary between wetland and nonwetlands, since that is the area most often in question and where determinations and delineations become most difficult. Wetland determinations in lower wetter areas are generally easy to make and seldom in question since most waters are regulated areas. Generally, as one moves up slope, it becomes increasingly more difficult to determine what areas are wetlands. This manual recognizes this fact and requires less rigorous investigation in obvious wetland situations than in areas which may be questionable. In either situation, however, documentation supporting a delineation is required.

This manual does not change the existing definitions of wetlands used for section 404 of the Clean Water Act and the Swampbuster provision of the 1985 Food Security Act, as amended, or the FWS wetland definition. The former two definitions are specific to vegetated wetlands or wetlands that are vegetated under normal circumstances. These are the wetlands to which the manual applies. This manual provides for the consistent identification and delineation of these wetlands in the field. Because this manual was developed to resolve differences in identifying wetlands under these definitions, it is limited to vegetated wetlands and does not address nonvegetated wetlands.

Wetland determinations made through the use of this manual for the purposes of determining Federal wetland jurisdiction at a site are subject to modification in accordance with the legal and policy considerations of the regulatory program. For example, Section 404 regulatory jurisdiction in wetlands is limited to areas that are waters of the United States because they have a connection with interstate or foreign commerce. Another example is the application of Federal wetland jurisdiction on cropland. Under the Clean Water Act and Food Security Act of 1985, as amended, Federal wetland jurisdiction on cropland is subject to agency policy-based interpretations of such matters as the relative permanence of the cropping disturbance and its effect on hydrophytic vegetation and/or wetland hydrology. Such matters generally are not addressed in this manual; rather, the appropriate agency policy should be consulted for wetland determinations in such areas.

Summary of Federal Definitions

The CE, EPA, and SCS wetland definitions include only areas that are vegetated under normal circumstances, while the FWS definition encompasses both vegetated and nonvegetated areas. Except for the FWS inclusion of nonvegetated areas and aquatic beds in shallow water as wetlands and the exemption for Alaska in the SCS definition, all four wetland definitions are conceptually the same; they all include three basic elements - hydrology,

vegetation, and soils - for identifying wetlands.

Part II.

Mandatory Technical Criteria for Vegetated Wetland Identification

Wetland hydrology is the driving force of wetlands. Vegetated wetlands occur in shallow water, on permanently saturated soils, or in areas subject to periodic inundation or saturation where anaerobic conditions usually develop due to excess water. Certain hydrologic conditions called "wetland hydrology" therefore drive the formation of wetlands and continue to maintain them. Permanent or periodic wetness is the fundamental factor that makes wetlands different from uplands (nonwetlands).

Although wetland hydrology is the dominant force creating wetlands, long-term records for hydrology often are not available for identifying the presence of wetlands or for delineating their upper boundaries. Consequently, other indicators sometimes must be used to determine whether an area meets the wetland criteria. It has been long recognized that various plants and their adaptations, certain plant communities (e.g., marshes, swamps, and bogs), specific soil properties, and particular soil types (e.g., peats, mucks, and gleyed soils) can be used to help identify wetlands. In addition, there are a number of hydrologic indicators that can be used to help identify wetlands.

Existing wetland definitions recognize that wetlands are driven by wetland hydrology (permanent or periodic inundation and/or soil saturation) and that characteristic plants (hydrophytic vegetation) and soils (hydric soils) are identifiable components of vegetated wetlands. This manual uses these three components as criteria for vegetated wetland identification. Field staff should examine sites for indicators of hydrophytic vegetation, hydric soils, and wetland hydrology and document the presence or absence of indicators to the extent practicable. At sites where wetlands are obvious due to the overwhelming evidence provided by one indicator (e.g., large stands of undisturbed salt marsh), documentation of the other indicators, while necessary, need not be as intensive as in areas where wetlands are not so obvious. There are, however, many other cases where, as one moves toward the drier portion of the moisture gradient, rigorous examination and documentation of soil, vegetation, and hydrology characteristics is necessary.

Under natural, undisturbed conditions, vegetated wetlands generally possess three characteristics: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. These characteristics and their technical criteria for identification purposes are described in the following sections. The three technical criteria and their verifying characteristics are mandatory. For an area to be identified as a wetland, all three

criteria must be met by positive identification of the presence of one or more of the indicators described below for each criterion, with two noted exceptions: wetlands in disturbed conditions such that indicators of one or more of the criteria are absent; and wetlands that are difficult to identify because natural fluctuations in hydrology or climate or other site-specific or unusual conditions prohibit their identification based on the standard criteria and indicators. Procedures for identifying and delineating the difficult-to-identify wetlands are provided in this manual and their use is mandatory. Representative examples of these wetlands are also discussed. Special procedures for recognizing wetlands in disturbed areas also are included in this manual.

The three mandatory technical criteria are presented below. Background information for each criterion is also provided.

WETLAND HYDROLOGY CRITERION

An area has wetland hydrology when it is:

1. Inundated and/or saturated at the surface by surface water or ground water for more than 14 consecutive days during the growing season in most years, or
2. Periodically flooded by tidal water in most years.

Areas meeting this criterion also are usually inundated or saturated for variable periods during the non-growing season. The term "inundated and/or saturated at the surface" means the soil is inundated or wet enough at the surface to the extent that water reaches the surface in an unlined borehole or can be squeezed or shaken from the soil at the surface. The growing season is the interval between 3 weeks before the average date of the last killing frost in the Spring to 3 weeks after the average date of the first killing frost in the Fall, with exceptions for areas experiencing freezing temperatures throughout the year (e.g., montane, tundra and boreal areas) that nevertheless support hydrophytic vegetation. The term "in most years" means that the condition would occur more than 50 years out of 100 years and, therefore, represents the prevailing long-term hydrologic condition.

While the above criterion must be met, many times field staff will not be present to do wetland determinations at the right time of year or for long enough to directly observe more than two weeks of inundation and/or saturation. Accordingly, field personnel need to use indicators of wetland hydrology as a basis for professional judgment on whether the hydrology criterion is met.

An area meets the wetland hydrology criterion above by direct

measurement of inundation and/or soil saturation or tidal flooding as documented of one or more of the following indicators (also see note on page 13):

1. A minimum of 3 years of hydrologic records (e.g., groundwater well observations following the protocol on page , or tide or stream gauge records) collected during years of normal rainfall (amount and monthly distribution) and correlated with long-term hydrologic records for the specific geographical area that demonstrates the area meets the wetland hydrology criterion; or
2. Examination of aerial photography (preferably early spring or wet part of the growing season) for a minimum of 5 years reveals evidence of inundation and/or saturation in most years (e.g., 3 of 5 years or 6 of 10 years) and correlated with long-term hydrologic records for the specific geographical areas demonstrate that the area meets the wetland hydrology criterion; or
3. One or more primary hydrologic indicators below, which provide evidence that more than 14 consecutive days of inundation and/or saturation at the surface during the growing season has occurred, are materially present:
 - a. Surface water inundation; or
 - b. Observed free water within 6 inches of the soil surface in sandy soils or within 12 inches of the soil surface in other soils; or
 - c. Water that can be squeezed or shaken from a soil sample taken at the soil surface; or
 - d. Oxidized stains along the channels of living roots (Oxidized rhizospheres); or
 - e. Sulfidic material (distinct hydrogen sulfide, rotten egg odor) within 12 inches of the soil surface; or
 - f. Water-stained leaves, trunks or stems that are grayish or blackish in appearance as a result of being underwater for significant periods; or
 - g. Specific plant morphological adaptation/responses to prolonged inundation or saturation: pneumatophores, prop roots, hypertrophied lenticels, aerenchymous tissues, and floating stems and leaves of floating-leaved plants growing in the area (may be observed lying flat on the soil),

and buttressed trunks or stems.

Always consider the frequency and duration of these primary indicators (or of the wetness that created them), and whether significant hydrologic modification (e.g., drainage) has effectively removed wetland hydrology from the site. Inundation for seven consecutive days during the growing season generally results in saturation at the surface for a total of more than 14 consecutive days. However, certain inundated wetlands (e.g., some prairie potholes, playa lakes and vernal pools) exhibit anaerobic conditions at the surface but may not have 7 days of saturation at the surface following 7 days of inundation. These and other exceptions are addressed as difficult-to-identify wetlands.

4. If none of the indicators in items 1, 2, or 3 above is present, one or more of the following secondary hydrologic indicators should be used in conjunction with collateral information (e.g., maps) that supports a wetland hydrology determination:

- a. Silt marks (waterborne silt deposits) that indicate inundation; or
- b. Drift lines; or
- c. Surface-scoured areas; or
- d. Other common plant morphological adaptations/responses to hydrology: shallow root systems and adventitious roots.

These secondary indicators may only be used in conjunction with other collateral information that indicates wetland hydrology (e.g., regional wetland hydrology indicators, hydrologic gauge data, county soil surveys, National Wetlands Inventory maps, aerial photographs, or reliable persons with local knowledge of inundation and/or saturated conditions). This type of information may also can be used to support determinations based on the primary indicators listed above.

NOTE: IN ADDITION, CERTAIN SEASONALLY-SATURATED WETLANDS MAY LACK THE ABOVE HYDROLOGIC INDICATORS DURING A PORTION OF THE GROWING SEASON DUE TO SEASONAL DRYNESS OR OTHER NORMAL HYDROLOGIC FLUCTUATIONS. SUCH AREAS ARE LISTED AS DIFFICULT-TO-IDENTIFY WETLANDS. UNLESS SPECIFICALLY ADDRESSED IN THE DIFFICULT-TO-IDENTIFY OR DISTURBED AREAS SECTIONS OF THE MANUAL, AREAS WITHOUT ANY OF THE ABOVE HYDROLOGIC INDICATORS ARE NONWETLAND.

Wetland Hydrology Background

The driving force creating wetlands is "wetland hydrology," that is, permanent or periodic inundation, or soil saturation for a significant period (two weeks or more) during the growing season. Many wetlands are found along rivers, lakes, and estuaries where flooding is likely to occur, while other wetlands form in isolated depressions surrounded by upland where surface water collects. Still others develop on slopes of varying steepness, in surface water drainageways, or where ground water discharges to the land surface in spring or seepage areas. Thus, landscape position provides much insight into whether an area is likely to be subjected to wetland hydrology.

Permanent or periodic inundation, or soil saturation at the surface, at least seasonally, are the driving forces behind wetland formation. The presence of water in the soil for two weeks or more during the growing season typically creates anaerobic conditions, which affect the types of plants that can grow and the types of soils that develop. These conditions hold true for most wetlands, especially those at the upper end of the soil moisture gradient. Anaerobiosis does not necessarily occur in all wetlands and those where it may not occur include vegetated sand bars, seepage areas, springs, and the upper edges of salt marshes. These exceptions are addressed below as difficult-to-identify wetlands. Wetlands have at least a seasonal or periodic abundance of water. For example, this water may come from direct precipitation, overbank flooding, surface water runoff due to precipitation or snow melt, ground water discharge, tidal flooding, irrigation, or other human-induced activities. The frequency and duration of inundation and soil saturation vary widely from permanent flooding or saturation to irregular flooding or saturation. Of the three technical criteria for wetland identification, wetland hydrology is often the least exact and most difficult to establish in the field, due largely to annual, seasonal, and daily fluctuations.

Numerous factors influence the wetness of an area, including precipitation, stratigraphy, topography, soil permeability, and plant cover. The frequency and duration of inundation or soil saturation are important in separating wetlands from nonwetlands. Areas of lower elevation in a floodplain or marsh usually have longer duration of inundation and saturation and often more frequent periods of these conditions than most areas at higher levels. Floodplain configuration may significantly affect the duration of inundation by facilitating rapid runoff or by causing poor drainage.

Soil permeability related to the texture of the soil also influences the duration of inundation or soil saturation. For example, clayey soils absorb water more slowly than sandy or

loamy soils, and therefore have slower permeability and remain saturated much longer.

Type and amount of plant cover affect both the degree of inundation and the duration of saturated soil conditions. Excess water drains more slowly in areas of abundant plant cover, thereby increasing duration of inundation or soil saturation. On the other hand, transpiration rates are higher in areas of abundant plant cover, which may reduce the duration of soil saturation.

To determine whether the wetland hydrology criterion is met, one should consider recorded data, aerial photographs, and observed field conditions that provide direct or indirect evidence of inundation or soil saturation. Prolonged saturation often leaves evidence of such wetness in the soil (e.g., sulfur odor) and these properties are useful for verifying wetland hydrology provided the area's hydrology has not been significantly modified on-site or upstream in the watershed. If the hydrology has significantly disturbed, particular care must be taken in assessing the wetland hydrology criterion; refer to disturbed area procedures (p.) to determine whether wetland hydrology still exists.

Measuring Wetland Hydrology

In certain instances, especially disturbed situations, it may be necessary to determine an area's hydrology by actively collecting on-site hydrologic data from direct measurements or observations. The duration and frequency of inundation by flooding may be established by evaluating long-term stream or tide gauge data or by examining aerial photos covering at least a 5-year period and comparing results with the wetland hydrology criterion. Saturation at the surface may be determined by making observations in an unlined borehole and establishing whether or not the soil is saturated at the surface for more than 14 days during the growing season. A procedure for this is presented in the Disturbed Areas section of the manual (p.). In general, if soil saturation is observed at the surface for more than 14 days during the growing season wetland hydrology probably exists. Also, if water fills an unlined bore hole to within 6 inches of the surface in coarse sandy soils or to within 12 inches of the surface in other soils for more than 14 days during the growing season, wetland hydrology is likely to exist. Interpretation of the above observations, however, must always be done with consideration of recent rainfall conditions (e.g., within the past few weeks) as well as the long-term rainfall patterns (e.g., abnormally wet or dry periods) preceding and during the time the hydrologic data were recorded.

Historical Recorded Hydrologic Data

Historical recorded hydrologic data usually provide both short- and long-term information on the frequency and duration of flooding, but little or no information on soil saturation periods. Historical recorded data include stream gauge data, lake gauge data, tide gauge data, flood predictions, and historical flood records. Use of these data is commonly limited to areas adjacent to streams and other similar areas. Recorded data may be available from the following sources: (1) CE district offices (data for major waterbodies and for site-specific areas from planning and design documents), (2) U.S. Geological Survey (stream and tidal gauge data), (3) National Oceanic and Atmospheric Administration (tidal gauge data), (4) State, county and local agencies (flood data), (5) SCS state offices (small watershed projects and water table study data), and (6) private developers or landowners (site-specific hydrologic data, which may include water table or groundwater well data).

Aerial Photographs

Aerial photographs may provide direct evidence of inundation or soil saturation at the surface in an area. Inundation (flooding or ponding) is best observed during the early spring in temperate and boreal regions when snow and ice are gone and leaves of deciduous trees and shrubs are not yet fully developed. This allows detection of wet soil conditions that would be obscured by the tree or shrub canopy at full leaf-out. For marshes, this season of photography is also desirable, except in regions characterized by distinct dry and rainy seasons, such as southern Florida and California. Wetland hydrology would be best observed during the wet season in these latter areas.

It is most desirable to examine several consecutive years of early spring or wet season aerial photographs to document evidence of wetland inundation or soil saturation. In this way, the effects of abnormally dry or wet springs, for example, may be minimized. In interpreting aerial photographs, it is important to know the antecedent weather conditions. This will help eliminate potential misinterpretations caused by abnormally wet or dry periods. Contact the U.S. Weather Service for historical weather records or the U.S. Geological Survey for hydrologic records. Aerial photographs for agricultural regions of the country are often available at county offices of the Agricultural Stabilization and Conservation Service.

Field Observations

Direct Evidence of Water

At certain times of the year in wetlands, and in certain types of wetlands at most times, wetland hydrology is quite evident, since surface water or saturated soils (e.g., soggy or wetter underfoot) may be observed. The most obvious and revealing hydrologic indicator may be simply observing the areal extent of inundation. However, both seasonal conditions and recent weather conditions must be considered when observing an area because they can affect the presence of surface water on wetland and nonwetland sites. In many cases, soils saturated at the surface are obvious, since the ground surface is soggy or mucky under foot.

To observe free water within 6 or 12 inches of the soil surface, depending upon the type of soil, it may be necessary to dig a hole to a depth greater than 6 or 12 inches or to the top of the restrictive layer if shallower and observe the level at which water stands in the hole after sufficient time has been allowed for water to drain into the hole. In some cases, the upper level at which water is flowing into the hole can be observed by examining the walls of the hole. This level may represent the depth to the water table. The depth to upper limit of the saturated zone will always be nearer the surface. In some heavy clay soils, water may not rapidly accumulate in the hole even when the soil is saturated because the water is held under tension. If water is observed at the bottom of the hole but has not filled to the 12-inch depth, examine the sides of the hole for obvious wetness that indicates soil saturation (e.g., a shining wetness on the sides of the hole) and determine the shallowest depth at which this condition is observed.

Soil saturation at the surface may be detected by a "squeeze test" or "shake test" which involve taking a surface soil sample and squeezing or shaking the sample. If water can be extracted, the soil is considered saturated at the surface.

When evaluating soil saturation, both the season of the year and the preceding weather conditions must be considered, since excess water may not be present during parts of the growing season in some wetlands due to high evaporation and plant transpiration rates which effectively lower the water table. At such times, other indicators of wetland hydrology may be present.

Other Signs of Wetland Hydrology

It is not necessary to observe inundation or saturation at the time of field inspection to identify wetland hydrology so long as indicators are sufficient to demonstrate to field personnel that

the wetland hydrology criterion on page __ is met. Other signs of wetland hydrology may be observed, e.g., oxidized rhizospheres (root channels) and water-stained leaves or stems.

Some plants are able to survive saturated soil conditions (i.e., a reducing environment) because they can transport oxygen to their root zone. Iron oxide concretions (orangish or reddish brown in color) may form along the channels of living roots and rhizomes creating oxidized rhizospheres that provide evidence of soil saturation (anaerobic conditions) for a significant period during the growing season. Ephemeral or temporary oxidized rhizospheres may develop after abnormally heavy rainfall periods. Consequently, oxidized rhizospheres are most meaningful when observed with other wetland indicators especially in undrained soils displaying diagnostic hydric soil properties.

Forested wetlands that are inundated earlier in the year will frequently have trees and shrubs with water-stained trunks or stems if flooded for long periods, or water-stained leaves in depressions on the forest floor. The stems are usually black-colored to the normal high water mark. The leaves are generally grayish or blackish in appearance, darkened from being underwater for significant periods.

Other signs that may reflect wetland hydrology include water marks, drift lines, water-borne deposits, surface-scoured areas, wetland drainage patterns, and certain plant morphological adaptations.

(1) Water marks are found most commonly on woody vegetation or fixed objects (e.g., bridge pillars, buildings, and fences) but may also be observed on other vegetation. They often occur as dark stains on bark or other fixed objects.

(2) Drift lines are typically found adjacent to streams or other sources of water flow in wetlands and often occur in tidal marshes. Evidence consists of deposition of debris in a line on the wetland surface or debris entangled in aboveground vegetation or other fixed objects. Debris usually consists of remnants of vegetation (branches, stems, and leaves), litter, and other water-borne materials often deposited more or less parallel to the direction of water flow. Drift lines provide an indication of the minimum portion of the area inundated during a flooding event; the maximum level of inundation is generally at a higher elevation than indicated by a drift line. The drift lines in tidal wetlands are often referred to as "wrack lines."

(3) Water-borne deposits of mineral or organic matter may be observed on plants and other objects after inundation. This evidence may remain for a considerable period before it is

removed by precipitation or subsequent inundation. Silt deposition on vegetation and other objects provides an indication of the minimum inundation level. When the deposits are primarily organic (e.g., fine organic material and algae), the detritus may become encrusted on or slightly above the soil surface after dewatering occurs. Sediment deposits (e.g., sandy material) along streams provide evidence of recent overbank flooding.

(4) Surface scouring occurs along floodplains where overbank flooding erodes sediments (e.g., at the bases of trees). The absence of leaf litter from the soil surface is also sometimes an indication of surface scouring. Forested wetlands that contain standing waters for relatively long duration will occasionally have areas of bare or essentially bare soil, sometimes associated with local depressions.

(5) Many plants growing in wetlands have developed morphological features in response to inundation or soil saturation. Examples include pneumatophores (e.g., cypress knees), prop roots, floating stems and leaves, hypertrophied lenticels (oversized stem pore), aerenchyma (air-filled) tissue in roots and stems, buttressed tree trunks, multiple trunks, adventitious roots, shallow root systems, polymorphic leaves, inflated leaves, stems or roots (see Table 1 for examples). Pneumatophores, prop roots, floating stems and leaves, hypertrophied lenticels, aerenchyma tissue, and buttressed tree trunks develop virtually only in wetland or aquatic environments and therefore are listed as primary hydrologic indicators in the wetland hydrology criterion. When these features are observed in young plants, they provide good evidence that wetland hydrology exists. Multiple trunks, adventitious roots, shallow root systems, polymorphic leaves, inflated leaves, stems or roots are commonly found in many wetland plants, yet not exclusive to them, and therefore are listed as secondary hydrologic indicators in the wetland hydrology criterion and indicate wetlands only when accompanied by other collateral information that indicates wetland hydrology.

[Table 1]

HYDROPHYTIC VEGETATION CRITERION

An area has the hydrophytic vegetation criterion when, under normal circumstances:

(1) more than 50 percent of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC) species, or

(2) a frequency analysis of all species within the community yields a prevalence index value of less than 3.0 (where OBL = 1.0, FACW = 2.0, FAC = 3.0, FACU = 4.0, and UPL = 5.0).

CAUTION: Wetland types that may have vegetation that does not meet this criterion are listed as difficult-to-identify wetlands. Areas where the vegetation has been removed will generally meet the hydrophytic vegetation criterion if they are capable of supporting such vegetation. (See disturbed areas section, page 85)

For each stratum (e.g., tree, shrub, and herb) in the plant community, dominant species are determined by ranking all species in descending order of dominance (e.g., areal cover or basal area) and cumulatively totaling species until they exceed 50 percent of the total dominance measure (e.g., total areal coverage or total basal area for a sample plot). All species that contribute to exceeding the 50 percent level are considered dominant species. Any additional species comprising 20 percent or more of the total dominance measure for the stratum is also considered a dominant species. All dominants, regardless of stratum, are treated equally in determining the presence of hydrophytic vegetation. A valid stratum for identifying dominants in the plant community must have at least 5 percent areal cover within the observation area (e.g., plot).

Hydrophytic Vegetation Background

The term "hydrophytic vegetation" describes plants that live in conditions of excess wetness. For purposes of this manual, hydrophytes are defined as macrophytic plant life growing in water or on submerged substrates, or in soil or on a substrate that is at least periodically anaerobic (deficient in oxygen) as a result of excessive water content. All plants growing in wetlands have adapted in one way or another to life in permanently or periodically inundated or saturated soils. Some plants have developed structural or morphological adaptations to inundation or saturation, while others have broad ecological tolerances (Tiner, 1991). Some of these features are used as indicators of wetland hydrology in this manual (see hydrology criterion above), since they are a response to inundation and/or soil saturation. Probably all plants growing in wetlands possess physiological mechanisms to cope with periodic anaerobic soil conditions or life in water. Because they are not observable in the field, physiological and reproductive adaptations are not included in this manual.

Persons making wetland determinations should be able to identify at least the dominant wetland plants in each stratum (layer of vegetation) of a plant community. Plant identification requires the use of field guides or more technical taxonomic manuals (see

Appendix for sample list). When necessary, seek help in identifying difficult species. Once a plant is identified to genus and species, consult the appropriate Federal list of plants that occur in wetlands to determine the "wetland indicator status" of the plant (see explanation below). This information will be used to help determine whether the hydrophytic vegetation criterion is met.

One should also become familiar with the technical literature on wetlands, especially for one's geographic region. Sources of available literature include: taxonomic plant manuals and field guides; scientific journals dealing with botany, ecology, and wetlands in particular; technical government reports on wetlands; proceedings of wetland workshops, conferences, and symposia; and the FWS's national wetland plant database, which contains habitat information on about 7,000 plant species. Appendix presents examples of the first four sources of information. In addition, the FWS's National Wetlands Inventory (NWI) maps provide information on locations of hydrophytic plant communities that can be studied in the field to improve one's knowledge of such communities in particular regions.

If all wetland plant species grew only in wetlands, plants alone could be used to identify and delineate wetlands. However, of the nearly 7,000 vascular plant species have been found growing in U.S. wetlands (Reed 1988), only about 27 percent are "obligate wetland" species that nearly always occur in wetlands under natural conditions. This means that the majority of plant species growing in wetlands also grow in nonwetlands to varying degrees. These plants may or may not be hydrophytes depending on where they are growing. This variability in habitat occurrence causes certain difficulties in identifying wetlands from a purely botanical standpoint in many cases. This is a major reason for evaluating soils and hydrology when identifying wetlands.

National List of Wetland Plant Species

The FWS in cooperation with CE, EPA, and SCS has published the "National List of Plant Species That Occur in Wetlands" from a review of the scientific literature and review by selected wetland experts and botanists (Reed 1988). The list separates vascular plants into four basic groups, commonly called "wetland indicator status," based on a plant species' frequency of occurrence in wetlands: (1) obligate wetland plants (OBL) that occur almost always (estimated probability >99%) in wetlands under natural conditions; (2) facultative wetland plants (FACW) that usually occur in wetlands (estimated probability 67-99%), but occasionally are found in nonwetlands; (3) facultative plants (FAC) that are nearly equally likely to occur in wetlands or nonwetlands (estimated probability 34-66%); and (4) facultative upland plants (FACU) that usually occur in nonwetlands (estimated probability 67-99%), but occasionally are found in wetlands

(estimated probability 1-33%). If a species occurs almost always (estimated probability >99%) in nonwetlands under natural conditions, it is considered an obligate upland plant (UPL). These latter plants do not usually appear on the wetland plant list; they are listed only in some regions of the country. If a species is not on the list, it is presumed to be an obligate upland plant, yet be advised that the list intentionally does not include nonvascular plant species (e.g., algae and mosses) or epiphytic plants. These omitted plants should not be considered in determining whether the hydrophytic vegetation criterion is met, unless one has particular knowledge of their frequency of occurrence in wetlands. Also be sure to check for synonyms in plant scientific names, since the nomenclature used in the list varies for some species from that used in regional taxonomic manuals or commonly used plant identification field guides.

The "National List of Plant Species That Occur in Wetlands" has been subdivided into regional and state lists. There is a formal procedure to petition the interagency plant review committee for making additions, deletions, and changes in indicator status. Since the lists are periodically updated, the U.S. Fish and Wildlife Service should be consulted to be sure that the most current version is being used for wetland determinations. The appropriate plant list for a specific geographic region should be used when making a wetland determination and evaluating whether the following hydrophytic vegetation criterion is satisfied.

(Note: The "National List of Plant Species that Occur in Wetlands" uses a plus (+) sign or a minus (-) sign to signify a higher or lower portion of a particular wetland indicator frequency for the three facultative-type indicators; for purposes of identifying hydrophytic vegetation according to this manual, however, FACW+, FACW-, FAC+, and FAC- are included as FACW and FAC, respectively, in the hydrophytic vegetation criterion.)

Dominant Vegetation

Dominance as used in this manual refers strictly to the spatial extent of a species that is directly discernable or measurable in the field. When identifying dominant vegetation within a given plant community, one should consider dominance within each valid stratum. All dominants are treated equally in characterizing the plant community to determine whether the hydrophytic vegetation criterion is met. For each stratum (e.g., tree, shrub, and herb) in the plant community, dominant species are determined by ranking all species in descending order of dominance (e.g., areal cover or basal area) and cumulatively totaling species until they exceed 50 percent of the total dominance measure (e.g., total areal coverage or total basal area for a sample plot). All species that contribute to exceeding the 50 percent level are considered dominant species, along with any additional species comprising 20 percent or more of the total dominance measure for the stratum.

Vegetative strata for which dominants should be determined may include: (1) tree (≥ 5.0 inches diameter at breast height (dbh) and 20 feet or taller); (2) sapling (0.4 to < 5.0 inches dbh and 20 feet or taller); (3) shrub (usually 3 to 20 feet tall including multi-stemmed, bushy shrubs and small trees below 20 feet tall); (4) woody vine; and (5) herb (herbaceous plants including graminoids, forbs, ferns, fern allies, herbaceous vines, and tree seedlings). Bryophytes (mosses, horned liverworts, and true liverworts) should be sampled as a separate stratum in certain wetlands, including shrub bogs, moss-lichen wetlands, and wooded swamps where bryophytes are abundant and represent an important component of the community. In most other wetlands, bryophytes should be included within the herb stratum due to their scarcity. In order to be counted as a valid stratum, a stratum must have at least 5 percent areal cover for the area under evaluation, e.g., 5-foot radius plot for herbs and 30-foot radius plot for woody plants. This minimum does not apply to woody vines; use professional judgment to determine whether they are abundant enough to count as a stratum. Always document the omission of any such stratum from the final evaluation regarding the hydrophytic vegetation criterion.

There are many ways to estimate or quantify dominance measures. Dominant species for each stratum can be determined by estimating one or more of the following, as appropriate: (1) relative basal area (trees); (2) areal cover (all strata); or (3) stem density (all strata). Direct measurement of tree diameters at breast height provides data for calculating basal area for determining dominant tree species. Alternatively, one may wish to perform a frequency analysis of all species within a given plant community. These are accepted methods for evaluating plant communities. Part III of this manual provides recommended approaches for sampling or analyzing the plant community.

HYDRIC SOIL CRITERION

An area has hydric soil when it has either:

1. Soils listed by series in "Hydric Soils of the United States" (1987 and amendments), or
2. Organic soils (Histosols, except Folists), or
3. Mineral soils classifying as Sulfaquents, Hydraquents, or Histic subgroups of Aquic suborders, or
4. Other soils that meet the National Technical Committee for Hydric Soil's criteria for hydric soil.

An area meets the hydric soil criterion when it has one or more of the following:

1. Where soil survey maps are available, the subject area is within:
 - a. a hydric soil map unit identified on the county list of hydric soil map units that is verified by landscape position and soil morphology against the series description of the hydric soil, or
 - b. a soil map unit with hydric soil inclusions identified on the county list of hydric soil map units, and the landscape position of the inclusion and the soil morphology for the identified as a hydric soil inclusion are verified, or, if no series is designated, then either:
 - 1) the soil classified to the series level is on the national list of hydric soils, or
 - 2) the soil classified according to "Soil Taxonomy" as a Histosol (except Folists), Sulfaquents, Hydraquents, or Histic Subgroups of Aquic Suborders, or
 - 3) regional indicators of significant soil saturation are materially present, or
2. Where soil maps are not available, and the landscape position is likely to contain hydric soil (e.g., floodplain, depression, or seepage slope), subject area has either:
 - a. soil classified to the series level that is on the national list of hydric soils, or
 - b. soil that is classified according to "Soil Taxonomy" as a Histosol (except Folists), Sulfaquents, Hydraquents, or Histic Subgroups of Aquic Suborders, or
 - c. regional indicators of significant soil saturation are materially present.

Hydric Soil Background

Wetland typically possess hydric soils, but all hydric soil series are not wetlands (e.g., dry phases that were never wetlands and drained phases that represent former wetlands). Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (U.S.D.A. Soil Conservation Service 1987). These soils usually support hydrophytic vegetation under

natural (unaltered) conditions. The National Technical Committee for Hydric Soils has developed criteria for hydric soils to prepare a list of the Nation's hydric soils (U.S.D.A. Soil Conservation Service 1987).

National and State Hydric Soils Lists

The SCS in cooperation with the National Technical Committee for Hydric Soils (NTCHS) has prepared a list of the Nation's hydric soils. State lists have also been prepared for statewide use. The national and state lists identify those soil series that typically meet the NTCHS hydric soil criteria according to available soil interpretation records in SCS's soils database. These lists are periodically updated, so make sure the list being used is the current one. The list, while extensive, does not include all series that may have hydric members; these soils may be determined as hydric when they have evidence of wetland hydrology and hydrophytic vegetation. The lists facilitate use of SCS county soil surveys for identifying potential wetlands. One must be careful, however, in using the soil survey, because a soil map unit of a nonhydric soil may have inclusions of hydric soil that were not delineated on the map or vice versa. Also, some map units (e.g., alluvial land, swamp, tidal marsh, muck and peat) may be hydric soil areas, but are not on the hydric soils lists because they were not given a series name at the time of mapping. These soils meet the NTCHS criteria for hydric soils.

County Hydric Soil Map Unit Lists

Because of the limitations of the national and state hydric soil lists, the SCS prepared lists of hydric soil map units for each county in the United States. These lists may be obtained from local SCS district offices and are the preferred lists to be used when using soil survey maps. The hydric soil map unit lists identify all map units that are either named by a hydric soil or that have a potential of having hydric soil inclusions. The lists provide the map unit symbol, the name of the hydric soil part or parts of the map unit, information on the hydric soil composition of the map unit, and probable landscape position of hydric soils in the map unit delineation. The county lists also include map units named by miscellaneous land types or higher levels in "Soil Taxonomy" that meet NTCHS hydric soil criteria.

Soil Surveys

The SCS publishes soil surveys for areas where soil mapping is completed. Soil surveys that meet standards of the National Cooperative Soil Survey (NCSS) are used to identify areas of hydric soils. These soil surveys may be published (completed) or unpublished (on file at local SCS field offices). Published soil surveys of an area may be obtained from the local SCS field office or the Agricultural Extension Service office. Unpublished

maps may be obtained from the local SCS district office.

The NCSS maps contain four kinds of map units: (1) consociations, (2) complexes, (3) associations, and (4) undifferentiated groups. (Note: Inclusions of unnamed soils may be contained within any map unit; the inclusions are listed in the description of the soil map unit in the soil survey report.) Consociations are soil map units named for a single kind of soil (taxon) or miscellaneous area. Seventy-five percent or more of the area is composed of the taxon for which the map unit is named (and similar taxa). When named by a hydric soil, the map unit is considered a hydric soil map unit for wetland determinations. However, small areas within these map units generally too small to be mapped separately (some areas are identified by "wet spot" symbols) may not be hydric and should be excluded in delineating wetlands.

Complexes and associations are soil map units named by two or more kinds of soils (taxa) or miscellaneous areas. If all taxa for which these map units are named are hydric, the soil map unit may be considered a hydric soil map unit for wetland determinations. If only part of the map unit is made up of hydric soils, only those portions of the map unit that are hydric are considered in wetland determinations.

Undifferentiated groups are soil map units named by two or more kinds of soils or miscellaneous areas. The soils in these map units do not always occur together in the same map unit but are included together because some common feature such as steepness or flooding determines use and management. These map units are distinguished from the others in that "and" is used as a conjunction in the name, while dashes are used for complexes and associations. If all components are hydric, the map unit may be considered a hydric soil map unit. If one or more of the soils for which the unit is named are nonhydric, each area must be examined for the presence of hydric soils.

Use of County Hydric Soils Map Unit Lists and Soil Surveys

The county hydric soils map unit list and soil surveys should be used to help determine if the hydric soil criterion is met in a given area. When making a wetland determination, one should first locate the area of concern on a soil survey map and identify the soil map units for the area. The county list of hydric soil map units should be consulted to determine whether the soil map units are hydric or potentially hydric. If hydric soil map units or map units with hydric soil inclusions are noted, then one should examine the soil in the field and compare its morphology with the corresponding hydric soil description in the soil survey report. If the soil's characteristics match those described for hydric soil, then the hydric soil criterion is met, unless the soil has been effectively drained. If soils have been significantly

disturbed, either mechanically or hydrologically, refer to the disturbed areas section on page 85. In the absence of site-specific information, hydric soils also may be recognized by certain soil properties caused by wetland hydrology conditions that make soil meet the NTCHS criteria for hydric soils.

General Characteristics of Hydric Soils

Due to their wetness during the growing season, hydric soils usually develop certain morphological properties that can be readily observed in the field. Anaerobic soil conditions usually occur due to excessive wetness and they typically lower the soil redox potential causing a chemical reduction of some soil components, mainly iron oxides and manganese oxides. This reduction affects solubility, movement, and aggregation of these oxides which is reflected in the soil color and other physical characteristics that are usually indicative of hydric soils.

Soils are separated into two major types on the basis of material composition: organic soil and mineral soil. In general, soils with at least 16 inches of organic material in the upper part of the soil profile and soils with organic material resting on bedrock are considered organic soils (Histosols). Soils largely composed of sand, silt, and/or clay are mineral soils. For technical definitions, see "Soil Taxonomy", U.S.D.A. Soil Survey Staff 1975.

Organic Soils

Accumulation of organic matter in most organic soils results from anaerobic soil conditions associated with long periods of submergence or soil saturation during the growing season. These saturated conditions impede aerobic decomposition (oxidation) of the bulk organic materials such as leaves, stems, and roots, and encourage their accumulation over time as peat or muck. Consequently, most organic soils are characterized as very poorly drained soils. Organic soils typically form in waterlogged depressions, and peat or muck deposits may range from about 1.5 feet to more than 30 feet deep. Organic soils also develop in low-lying areas along coastal waters where tidal flooding is frequent.

Hydric organic soils are subdivided into three groups based on the presence of identifiable plant material: (1) muck (Saprists) in which two-thirds or more of the material is decomposed and less than one-third of the plant fibers are identifiable; (2) peat (Fibrists) in which less than one-third of the material is decomposed and more than two-thirds of the plant fibers are still identifiable; and (3) mucky peat or peaty muck (Hemists) in which the ratio of decomposed to identifiable plant matter is more nearly even (U.S.D.A. Soil Survey Staff 1975). A fourth group of organic soils (Folists) exists in tropical and boreal mountainous

areas where precipitation exceeds the evapotranspiration rate, but these soils are never saturated for more than a few days after heavy rains and thus do not develop under hydric conditions. All organic soils, with the exception of the Folists, are hydric soils.

Hydric organic soils can be easily recognized as black-colored muck to dark brown-colored peat. Distinguishing mucks from peats based on the relative degree of decomposition is fairly simple. In mucks (Saprists), almost all of the plant remains have been decomposed beyond recognition. When rubbed, mucks feel greasy and leave hands dirty. In contrast, the plant remains in peats (Fibrists) show little decomposition and the original constituent plants can be recognized fairly easily. When the organic matter is rubbed between the fingers, most plants fibers will remain identifiable, leaving hands relatively clean. Between the extremes of mucks and peats, organic soils with partially decomposed plant fibers (Hemists) can be recognized. In peaty mucks up to two-thirds of the plant fibers can be destroyed by rubbing the materials between the fingers, while in mucky peats up to two-thirds of the plant remains are still recognizable after rubbing.

Hydric Mineral Soils

When less organic material accumulates in soil, the soil is classified as mineral soil. Some mineral soils may have thick organic surface layers (histic epipedons) due to heavy seasonal rainfall or a high water table, yet these soils are still composed largely of mineral matter (Ponnamperuma 1972). Mineral soils that are covered with moving (flooded) or standing (ponded) water for significant periods or are saturated for extended periods during the growing season meet the NTCHS criteria for hydric soils and are classified as hydric mineral soils. Soil saturation may result from low-lying topographic position, groundwater seepage, or the presence of a slowly permeable layer (e.g., clay, confining layer, confining bedrock, or hardpan).

The duration and depth of soil saturation are essential criteria for identifying hydric soils and wetlands. Soil morphological features are commonly used to indicate long-term soil moisture regimes (Bouma 1983). Table ___ lists some of the more commonly observed morphological properties associated with hydric mineral soils having a Typic Subgroup and Aquic Suborder.

A thick dark surface layer, grayish subsurface and subsoil colors, the presence of orange or reddish brown (iron) and/or dark reddish brown or black (manganese) mottles or concretions near the surface, and the wet condition of the soil may help identify the hydric character of many mineral soils. The grayish subsurface and subsoil colors and thick, dark surface layers are the best indicators of current wetness, since the yellow- or

orange-colored mottles are very insoluble and once formed may remain indefinitely as relict mottles of former wetness (Diers and Anderson 1984).

A histic epipedon (organic surface layer) is evidence of a soil meeting the NTCHS criteria. It is an 8 to 16 inch organic layer at or near the surface of a hydric mineral soil that is saturated with water for 30 consecutive days or more in most years. It contains a minimum of 20 percent organic matter when no clay is present or a minimum of 30 percent organic matter when clay content is 60 percent or greater. Soils with histic epipedons are inundated or saturated for sufficient periods to greatly retard aerobic decomposition of organic matter, and are considered hydric soils. In general, a histic epipedon is a thin surface layer of peat or muck if the soil has not been plowed (U.S.D.A. Soil Survey Staff 1975). Histic epipedons are typically designated as O-horizons (Oa, Oe, or Oi surface layers, and in some cases the terms "mucky" or "peaty" are used as modifiers to the mineral soil texture term, e.g., mucky loam.

Soil-related Evidence of Significant Saturation

Identification of some wetlands and delineation of the upper boundary in many wetlands is not readily accomplished without a detailed examination of the underlying soil. Colors in the soil are strongly influenced by the frequency and duration of soil saturation which causes reducing conditions. A gleyed layer and a low chroma matrix with high chroma mottles, near the surface are common indicators of hydric soils throughout the county. Other soil markers of significant soil saturation vary regionally. These signs include thick organic surface layers (≥ 8 inches), gleying, and certain types of mottling. If significant drainage or groundwater alteration has taken place, then it is necessary to determine whether the area in question is effectively drained and is now nonwetland or is only partly drained and remains wetland despite some hydrologic modification. Guidance for determining whether an area is effectively drained is presented in the section on disturbed areas (p. 85).

Soils saturated for prolonged periods during the growing season in most years are usually gleyed in the saturated zone. Gleyed layers are predominantly gray in color and occasionally greenish or bluish gray. In gleyed soils, the distinctive colors result from a process known as gleization. Prolonged saturation of mineral soil converts iron from its oxidized (ferric) form to its reduced (ferrous) state. These reduced compounds may be completely removed from the soil, resulting in gleying (Veneman, *et al.* 1976). Mineral soils that are always saturated are typically uniformly gleyed throughout the saturated area. Soils gleyed to the surface layer are evidence of wetland hydrology and anaerobic soil conditions. These soils often show evidence of oxidizing conditions only along root channels. Some nonsaturated

soils have gray layers (E-horizons) immediately below the surface layer that are gray for reasons other than saturation, such as leaching due to organic acids (see Spodosols discussion in difficult-to-identify wetlands section).

Mineral soils that are alternately saturated and oxidized (aerated) during the year are usually mottled in the part of the soil that is seasonally wet. Mottles are spots or blotches of different colors or shades of colors interspersed with the dominant (matrix) color. The abundance, size, and color of the mottles usually reflect the hydrology - the duration of the saturation period, and indicate whether or not the soil is saturated for long periods. Mineral soils that are predominantly grayish with common or many, distinct or prominent brown or yellow mottles are usually saturated for long periods during the growing season and are hydric soils. Soils that are predominantly brown or yellow with gray mottles are saturated for shorter periods and may be hydric depending on the depth to the gray mottles and the color of the overlying layer. Mineral soils that are never saturated are usually bright-colored and are not mottled; they are nonhydric soils (Tiner and Veneman 1987). Realize, however, that in some hydric soils, mottles may not be visible due to masking by organic matter (Parker, et al. 1984).

It is important to note that the gleization and mottle formation processes are strongly influenced by the activity of certain soil microorganisms. These microorganisms reduce iron when the soil environment is anaerobic, that is, when virtually no free oxygen is present, and when the soil contains organic matter. If the soil conditions are such that free oxygen is present, organic matter is absent, or temperatures are too low (below 41 degrees Fahrenheit) to sustain microbial activity, gleization will not proceed and mottles will not form, even though the soil may be saturated for prolonged periods of time (Diers and Anderson 1984).

Soil colors as discussed above often reveal much about a soil's historical wetness over the long term. Scientists and others examining the soil can determine the approximate soil color by comparing the soil sample with a Munsell soil color chart. The standardized Munsell soil colors are identified by three components: hue, value, and chroma. The hue is related to one of the main spectral colors: red, yellow, green, blue, or purple, or various mixtures of these principal colors. The value refers to the degree of lightness, while the chroma notation indicates the color strength or purity. In the Munsell soil color book, each individual hue has its own page (Figure ____), each of which is further subdivided into units for value (on the vertical axis) and chroma (horizontal axis). Although theoretically each soil color represents a unique combination of hues, values, and chromas, the number of combinations common in the soil environment usually is limited. Because of this situation and

the fact that accurate reproduction of each soil color is expensive, the Munsell soil color book contains a limited number of combinations of hues, values, and chromas. The color of the soil matrix or a mottle is determined by comparing a soil sample with the individual color chips in the soil color book. The appropriate Munsell color name can be read from the facing page in the "Munsell Soil Color Charts" (Kollmorgen Corporation 1975). Chromas of 2 or less are considered low chromas and are often diagnostic of hydric soils. Low chroma colors include black, various shades of gray, and the darker shades of brown and red.

Gleying (bluish, greenish, or grayish colors) in or immediately below the A-horizon is an indication of a markedly reduced hydric soil and an area that should meet wetland hydrology in the absence of significant hydrologic modification. Gleying can occur in both mottled and unmottled soils. Gleyed soil conditions can be determined by using the gley page of the "Munsell Soil Color Charts" (Kollmorgen Corporation 1975). (CAUTION: Gleyed conditions normally extend throughout saturated soils. Beware of soils with gray subsoils due to parent materials, soils with gray E-horizons or albic horizons due to leaching and not to saturation; these latter soils can often be recognized by bright-colored layers below the E-horizon. See discussion in difficult-to-identify wetlands section.)

Mineral soils that are saturated for substantial periods of the growing season, but are unsaturated for some time, commonly develop mottles. Soils that have brightly colored mottles and a low chroma matrix are indicative of a fluctuating water table. The following color features in the horizon immediately below the A-horizon (or E-horizon, albic horizon) provide evidence of soil saturation sufficient to be hydric soils and should also meet the wetland hydrology criterion:

- (1) Matrix chroma of 2 or less in mottled soils, or
- (2) Matrix chroma of 1 or less in unmottled soils.

(Note: Mollisols have value requirements of 4 or more as well as chroma requirements for Aquic suborders; see difficult-to-identify hydric soils p. for other exceptions.)

The chroma requirements above are for soils in a moistened condition. Colors noted for dry (unmoistened) soils should be clearly stated as such. The colors of the topsoil (A-horizon) are often not indicative of the hydrologic situation because cultivation and soil enrichment affect the original soil color. Hence, the soil colors below the A-horizon (and E-horizon, if present) usually must be examined. (CAUTION: Beware of hydric

soils that have colors other than those described above; see difficult-to-identify wetlands below).

During the oxidation-reduction process, the iron and manganese in solution in saturated soils are sometimes precipitated as oxides into concretions or soft masses upon exposure to air as the soil dries. Concretions are local concentrations of chemical compounds (e.g., iron oxide) in the form of a grain or nodule of varying size, shape, hardness, and color (Buckman and Brady 1969). Manganese concretions are usually black or dark brown, while iron concretions are usually yellow, orange or reddish brown. In wetlands, these concretions are also usually accompanied by soil colors as described above.

Part III.

Standard Methods for Identification and Delineation of Wetlands

Four basic approaches for identifying and delineating wetlands have been developed to cover situations ranging from desk-top or office determinations to highly complex field determinations for regulatory purposes. These methods are the recommended approaches that have been successfully used to delineate wetlands by the four Federal agencies. If situations require different approaches, the reasons for departing from recommended approaches should be documented. Remember, however, that any method for making a wetland determination must consider the three technical criteria (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) listed in Part II of this manual. These criteria must be met in order to identify a wetland. Moreover, procedures for determining the wetland boundary must be consistent with those used in this manual. In applying all methods, relevant available information on wetlands in the area of concern should be collected and reviewed. Table 2 lists primary data sources.

Selection of a Method

The wetland delineation methods presented in this manual can be grouped into two general types: (1) offsite preliminary procedures and (2) onsite procedures. The offsite procedures are designed for use in the office for preliminary wetland determinations, while onsite procedures are developed for use in the field for definitive wetland determinations. When an onsite inspection is unnecessary or cannot be undertaken for various reasons, available information can be reviewed in the office to make a preliminary wetland determination. If available information is insufficient to make a preliminary wetland determination or if a definitive wetland determination or wetland boundary must be established, (e.g., for determining whether or not there is jurisdiction or the boundaries of jurisdiction under a Federal wetland regulatory program), an onsite inspection should be conducted. For determining whether or not an area is subject to Clean Water Act jurisdiction, an onsite inspection is

usually necessary. Depending on the field information needed or the complexity of the area, one of three basic onsite methods may be employed: (1) routine, (2) intermediate-level, or (3) comprehensive. Table 3 presents some examples of when to use each method.

The routine method is designed for areas equal to or less than five acres in size or larger areas with homogeneous vegetation. For areas greater than five acres in size or other areas of any size that are highly diverse in vegetation, the intermediate-level method or the comprehensive method should be applied, as necessary. The comprehensive method is applied to situations requiring detailed documentation of vegetation, soils, and hydrology. Assessments of significantly disturbed sites will often require intermediate-level or comprehensive determinations as well as some special procedures. In other cases where natural conditions make wetland identification difficult, special procedures for difficult-to-identify wetland determinations have been developed. These procedures are subroutines of the three onsite determination methods. Wetland delineators should become well acquainted with these types of situations (e.g., disturbed and difficult-to-identify wetlands) and the appropriate procedures. In making wetland determinations, one should select the appropriate method for each individual unit within the area of concern and not necessarily employ one method for the entire site. Thus, a combination of determination methods may be used for a given site.

Regardless of the method used, the desired outcome or final product is a wetland/nonwetland determination. Depending on one's expertise, available information, and individual or agency preference, there are two basic approaches to delineating wetland boundaries. The first approach involves characterizing plant communities in the area, identifying plant communities meeting the hydrophytic vegetation criterion, examining the soils in these areas to confirm that the hydric soil criterion is met, and finally looking for evidence of wetland hydrology to verify this criterion. This approach has been widely used by the CE and EPA and to a large extent by the FWS. A second approach involves first delineating the approximate boundary of potential hydric soils, and then verifying the presence of likely hydrophytic vegetation and looking for signs of wetland hydrology. This type of approach has been employed by the SCS and to a limited extent by the FWS. Since these approaches yield the same result, this manual incorporates both approaches into most of the methods presented.

Table 2. Primary sources of information that may be helpful
in making a wetland determination.

Data Name	Source
Topographic Maps (mostly 1:24,000; Survey (USGS) 1:63,350 for Alaska) 1-800-USA-MAPS)	U.S. Geological (Call
National Wetlands Inventory Maps Wildlife Service (mostly 1:24,000; 1:63,350 1-800-USA-MAPS) for Alaska)	U.S. Fish and (FWS) (Call
County Soil Survey Reports Conservation Service Offices reports--local district	U.S.D.A. Soil (SCS) District (Unpublished offices)
National Hydric Soils List	SCS National Office
State Hydric Soils List	SCS State Offices
County Hydric Soil Map Unit List	SCS District Offices
National Insurance Agency Management Flood Maps Agency	Federal Emergency
Local Wetland Maps agencies	State and local
Land Use and Land Cover Maps (1-800-USA-MAPS)	USGS
Aerial Photographs sources--USGS, other Federal and private sources	Various State agencies, and
ASCS Compliance Slides Agricultural Stabilization and Conservation Service	U.S.D.A.
Satellite Imagery	EOSAT Corporation, SPOT Corporation, and others
<u>National List of Plant Species</u>	Government Printing

Office
That Occur in Wetlands
Documents
(Stock No. 024-010-00682-0)

Regional Lists of Plants that
Information Occur in Wetlands

22161

National Wetland Plant Database

Stream Gauge Data
and USGS

Soil Drainage Guides

Data Name

Environmental Impact Statements
State agencies
and Assessments

Published Reports

Local Expertise
consultants, and others

Site-specific Plans and
Engineering Designs

Superintendent of
Washington, DC 20402

National Technical
Service
5285 Port Royal Head
Springfield, VA

(703) 487-4650

FWS

CE District Offices

SCS District Offices

Source

Various Federal and

Federal and States
agencies,
universities, and
others

Universities,

Private developers

Description of Methods

Offsite Preliminary Determinations

When an onsite inspection is not necessary because information on hydrology, hydric soils, and hydrophytic vegetation is known or an inspection is not possible due to time constraints or other reasons, a preliminary wetland determination can be made in the office. This approach provides an approximation of the presence of wetland and its boundaries based on available information. The accuracy of the determination depends on the quality of the information used and on one's ability and experience in an area to interpret these data. Where reliable, site-specific data have been previously collected, the wetland determination can be reasonably accurate. Where these data do not exist, more generalized information may be used to make a preliminary wetland determination. In either case, however, if a more accurate delineation is required, then onsite procedures must be employed. For the purposes of determining whether an area is subject to Federal jurisdiction under the Clean Water Act or other Federal wetland regulatory program, onsite determinations are usually necessary.

Offsite Preliminary Determination Method

The following steps are recommended for conducting an offsite wetland determination:

Step 1. Locate the area of interest on a U.S. Geological Survey topographic map and delineate the approximate subject area boundary on the map. Note whether marsh or swamp symbols or lakes, ponds, rivers, and other waterbodies are present within the area. If they are, then there is a good likelihood that wetland is present. Proceed to Step 2.

Step 2. Review appropriate National Wetlands Inventory (NWI) maps, State wetland maps, or local wetland maps, where available. If these maps designate wetlands in the subject area, there is a high probability that wetlands are present unless there is evidence on hand that the wetlands have been effectively drained, filled, excavated, impounded, or otherwise significantly altered since the effective date of the maps. Proceed to Step 3.

Step 3. Review SCS soil survey maps where available. In the area of interest, are there any map units listed on the county list of hydric soil map units or are there any soil map units with significant hydric soil inclusions? If YES, then at least a portion of the project area may be wetland. If this area is also shown as a wetland on NWI or other wetland maps, then there is a very high probability that the area is wetland unless it has been recently altered (check recent aerial photos, Step 4). Areas without hydric soils or hydric soil inclusions should in most cases be eliminated

from further review, but aerial photos still should be examined for small wetlands to be more certain. This is especially true if wetlands have been designated on the National Wetlands Inventory or other wetland maps. Proceed to Step 4.

Step 4. Review recent aerial photos of the project area. Before reviewing aerial photos, evaluate climatological data to determine whether the photo year had normal or abnormal (high or low) precipitation two to three months, for example, prior to the date of the photo. This will help provide a useful perspective or frame-of-reference for doing photo interpretation. In some cases, aerial photos covering a multi-year period (e.g., 5-7 years) should be reviewed, especially where recent climatic conditions have been abnormal.

During photo interpretation, look for one or more signs of wetlands. For example:

- 1) hydrophytic vegetation;
- 2) surface water;
- 3) saturated soils;
- 4) flooded or drowned out crops;
- 5) stressed crops due to wetness;
- 6) greener crops in dry years;
- 7) differences in vegetation patterns due to different planting dates.

If signs of wetland are observed, proceed to Step 5 when site-specific data are available; if site-specific data are not available, proceed to Step 6.

(CAUTION: Accurate photo interpretation of certain wetland types requires considerable expertise. Evergreen forested wetlands, seasonally saturated wetlands, and temporarily flooded wetlands, in general, may present considerable difficulty. If not proficient in wetland photo interpretation, then one can rely more on the findings of other sources, such as NWI maps and soil surveys, or seek help in photo interpretation.)

Step 5. Review available site-specific information. In some cases, information on vegetation, soils, and hydrology for the project area has been collected during previous visits to the area by agency personnel, environmental consultants or others. Moreover, individuals or experts having firsthand knowledge of the project site should be contacted for information whenever possible. Be sure, however, to know the reliability of these sources. After reviewing this information, proceed to Step 6.

Step 6. Determine whether wetlands exist in the subject area. Based on a review of existing information, a preliminary determination can be made that the area is likely to be a wetland if:

1) Wetlands are shown on NWI or other wetland maps, and hydric soil map unit or a soil map unit with hydric soil inclusions is shown on the soil survey; or

2) Hydric soil map unit or soil map unit with hydric soil inclusions is shown on the soil survey (Note: In the latter case, only the hydric inclusion is being evaluated as wetland.), and

A) site-specific information, if available, confirms hydrophytic vegetation, hydric soils, and wetland hydrology, or

B) wetlands are shown in aerial photos.

If, after examining the available reference material one is still unsure whether the area is likely to be wetland, then a field inspection should be conducted, whenever possible. Alternatively, more detailed information on the site's characteristics may be sought, to help make the preliminary determination.

The validity of offsite preliminary determinations are dependent on the availability of information for making a wetland determination, the quality of this information, and one's ability and experience to interpret these data. In most cases, therefore, the offsite procedure yields a preliminary determination. For more accurate results, one must conduct an onsite inspection.

Onsite Determinations

When an onsite inspection is necessary, always be sure to review pertinent background information (e.g., NWI maps, soil surveys, and site plans) before going to the subject site. This information will be helpful in determining what type of field method should be employed. Also, read the sections of this manual that discuss disturbed and difficult-to-identify wetlands before conducting field work (see pp. ____). These situations pose significant problems for the inexperienced wetland delineator, so learn the procedures for evaluating these sites. Recommended equipment and materials for conducting onsite determinations are listed in Table 3.

Figures 1, 2, and 3 show the decision process for making onsite wetland determinations by the various approaches presented in the manual.

Table 3. Recommended equipment and materials for onsite determinations.

<u>Equipment</u>	<u>Materials</u>
Soil auger, probe, or spade	Data sheets and clipboard
Sighting compass	Field notebook
Pen or pencil	Base (topographic) map
Penknife	Aerial photograph
Hand lens	Nation Wetlands Inventory map
Vegetation sampling frame*	Soil survey or other soil map
Camera/Film	Appropriate Federal interagency
wetland Binoculars	plants list
Tape measure	County hydric soil map unit list
Prism or angle gauge	Munsell soil color book
Diameter tape*	Plant identification field
	guides/manuals
Vasculum (for plant collect.)	<u>National List of Scientific Plant</u>
	<u>Names</u>
Calculator*	Flagging tape/wire flags-wooden stakes
Dissecting kit	Plastic bag (for collecting plants and
	soil samples as needed)

*Needed for comprehensive determination

For every upcoming field inspection, the following pre-inspection steps should be undertaken:

Step 1. Locate the project area on a map (e.g., U.S. Geological Survey topographic map or SCS soil survey map) or on an aerial photograph and determine the limits of the area of concern. Proceed to Step 2.

Step 2. Estimate the size of the subject area. Proceed to Step 3.

Step 3. Review existing background information and determine, to the extent possible, the site's geomorphological setting (e.g., floodplain, isolated depression, or ridge and swale complex), its habitat or vegetative complexity (i.e., the range of habitat or vegetation types), and its soils. (Note: Depending on available information, it may not be possible to determine the habitat complexity without going on the site; if necessary, do a field reconnaissance.) Proceed to Step 4.

Step 4. Determine whether a disturbed condition exists. Examine available information and determine whether there is evidence of sufficient natural or human-induced alteration to significantly modify all or a portion of the area's vegetation, soils, and/or hydrology. If such disturbance is noted, identify the limits of affected areas for they should be evaluated separately for wetland determination purposes (usually after evaluating undisturbed areas). The presence of disturbed areas within the subject area should be considered when selecting an onsite determination method. (Note: It may be possible that at any time during this determination, one or more of the three characteristics may be found to be significantly altered. If this happens, follow the disturbed area wetland determination procedures, as necessary, noted on p.85.) Proceed to Step 5.

Step 5. Determine the field determination method to be used. Considering the size and complexity of the area and the need for quantification, determine whether a routine, intermediate-level, or comprehensive field determination method should be used. When the area is equal to or less than five acres in size or is larger and appears to be relatively homogeneous with respect to vegetation, soils, and/or hydrology, use the routine method (see below). When the area is greater than five acres in size, or is smaller but appears to be highly diverse with respect to vegetation, use the intermediate-level method (p. 63). When detailed quantification of plant communities and more extensive documentation of other factors (soils and hydrology) are required, use the comprehensive method regardless of the wetland's size (p. 69). Significantly disturbed sites (e.g., sites that have been filled, hydrologically modified, cleared of vegetation, or had their soils altered) will generally

require intermediate-level or comprehensive methods. In these disturbed areas, it usually will be necessary to follow a set of subroutines to determine whether the altered characteristic met the applicable criterion prior to its modification; in the case of altered wetland hydrology, it may be necessary to determine whether the area is effectively drained. Because a large area may include a diversity of smaller areas ranging from simple wetlands to vegetatively complex areas, one may use a combination of the onsite determination methods, as appropriate.

Routine Onsite Determination Method

For most cases, wetland determinations can be made in the field without rigorous sampling of vegetation and soils. Two approaches for routine determinations are presented: (1) hydric soil assessment procedure, and (2) plant community assessment procedure. In the former approach, areas that meet or may meet the hydric soil criterion are first identified and then dominant vegetation is visually estimated to determine if hydrophytic vegetation is obvious. If so, the area is designated as wetland. If not, then the site must undergo a more rigorous evaluation following one of the other onsite determination methods presented in the manual. The second routine approach requires initial identification of representative plant community types in the subject area and then characterization of vegetation, soils, and hydrology for each type. After identifying wetland and nonwetland communities, the wetland boundary is delineated. All pertinent observations on the three mandatory wetland criteria should be recorded on an appropriate data sheet; this should be done for all inspections to determine regulatory jurisdiction.

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
04. Memo	From Roger Porter to John Sununu Re: Wetlands Delineation Manual (2 pp.)	2/25/91	P5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Wetlands 1991 [3]

Open on Expiration of PRA
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 By *JF* (NLGB) on 10/28/05

Date Closed:	1/5/2005	OA/ID Number:	29174-008
FOIA/SYS Case #:	1998-0004-F[2]	Appeal Case #:	
Re-review Case #:	2005-0426-S	Appeal Disposition:	
P-2/P-5 Review Case #:		Disposition Date:	
AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

Freedom of Information Act - [5 U.S.C. 552(b)]

P-1 National Security Classified Information [(a)(1) of the PRA]
 P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
 P-3 Release would violate a Federal statute [(a)(3) of the PRA]
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 P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Removed as a personal record misfile.

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THE WHITE HOUSE

WASHINGTON

February 25, 1991

THE CHIEF of STAFF
has seen

MEMORANDUM FOR GOVERNOR SUNUNU

FROM: ROGER B. PORTER *RBP*

SUBJECT: Wetlands Delineation Manual

After holding several months of debate and technical review, the four agencies that administer the Federal Manual for Identifying and Delineating Wetlands are now ready to brief the wetlands task force on their proposed revisions to the Manual. The agencies would like to publish the revisions in March, before the full growing season gets underway.

The revisions respond in part to the many concerns we have heard from Congress, state and local government officials, and representatives from agriculture, forest, oil, and development industries. In general, these groups would prefer that the revised Manual include a hydrology criterion that requires an area to be inundated or ponded for at least 14 days before it is declared a wetland. They would also like to see changes in the way the growing season is defined in each region, and changes to the wetland vegetation criteria to eliminate the use of plant species which have a significant chance of being found in an upland as well as a wetland.

While the four agencies propose revisions to the Manual that will address these specific concerns, it is unclear that the revisions will go far enough to satisfy the regulated community. The most significant proposed change would address areas that are saturated, but lack evidence of surface water. Instead of requiring surface water to be present as many have requested, the agencies propose to apply a more rigorous vegetation criterion to these areas. In saturated but not clearly inundated areas, the revised Manual would require a predominance of "wet" species that are found almost exclusively in wetlands.

On other issues, the four agencies propose to restrict the growing season period to reflect new information on air temperatures and old information from seed packages and the Farmers' Almanac. They also propose to form a committee to technically review the plant species list, and the use of regional soil and plant lists.

The Army Corps of Engineers staff believes that the impact of these recommended changes will be sufficient to return the coverage of the Manual to the level that existed prior to the

issuance of the 1989 revisions -- an assertion that will be difficult to test without public input. Despite concern that the changes may not go far enough, the Corps staff recommends that we publish these changes immediately in order to provide some relief to the regulated community. Unresolved concerns would then be addressed by the simultaneous initiation of an APA rule on the changes. This would allow dissatisfied groups to continue to push for greater changes through the rulemaking process without delaying any immediate relief that would result from the technical committee's recommended changes.

One advantage of this process is that it would receive the support of the technical community. At this time, it is doubtful that we can encourage the technical community to make any further changes beyond what is being proposed.

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
05. Memo	From Ede Holiday to John Sununu Re: Status of Wetlands (3 pp.)	1/16/91	P/5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Wetlands 1991 [3]

Open on Expiration of PRA
(Document Follows)

By JP (NLGB) on 10/28/05

Date Closed: 1/5/2005	OA/ID Number: 29174-008
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P-2/P-5 Review Case #:	Disposition Date:
AR Case #:	MR Case #:
AR Disposition:	MR Disposition:
AR Disposition Date:	MR Disposition Date:

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

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PRM. Removed as a personal record misfile.

Freedom of Information Act - [5 U.S.C. 552(b)]

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THE WHITE HOUSE

WASHINGTON

January 16, 1991

AC/ER

MEMORANDUM FOR GOVERNOR SUNUNU

FROM: EDE HOLIDAY *CHAA*
ROGER B. PORTER *RBP*

THE CHIEF of STAFF
has seen

SUBJECT: Status of Wetlands

h
This memorandum is intended to update you on the status of the DPC's deliberations on wetlands. It also contains information on Congressional activity and recent policy statements on wetlands by Bill Reilly.

Activities of the DPC Task Force on Wetlands

During the campaign, the President stated a goal of no net loss of wetlands. In August and September 1990, the DPC Task Force on wetlands conducted six public meetings around the country to receive testimony on potential policies that would work towards this goal. During the hearings, the Task Force received numerous criticisms of the existing regulatory programs. As a result, the Task Force made commitments to review existing regulatory programs, as well as to define new policy initiatives that would move the country closer to the President's stated goal of no net loss.

During the Fall, the Task Force formed five subgroups to review current nonregulatory programs on wetlands: (1) research programs; (2) wetlands inventory and mapping efforts; (3) education and training; (4) wetlands management on federal lands; (5) federal programs that affect wetlands. The shared objective of the subgroups was to identify existing and new programs that could serve as positive nonregulatory measures the President is taking to fulfil his campaign pledge of no net loss of wetlands.

The Task Force has completed this review and is now preparing a paper for the DPC summarizing its findings and recommendations. The President's FY'92 budget is also expected to contain significant new funding levels for wetlands related programs, including a new coastal initiative to protect wetlands; increased research funding; and increased conservation and restoration funding for the Corps, EPA, and Interior.

The Task Force is now turning its attention to regulatory issues, including the operation of the 404 program under the Clean Water Act. The Task Force hopes to reach consensus soon

on six major regulatory policy issues for DPC review. Central to these issues will be a decision of whether to retain the structure of the current 404 program or seek a radically new approach to the regulation of wetlands that will require legislative change.

Several in the Task Force, including representatives from EPA and the Corps, have been resistant to reviewing regulatory issues and believe that this will detract from the positive environmental message the President could make on his commitment to no net loss of wetlands. In fact, Bill Reilly may request that the DPC Task Force not make recommendations on regulatory changes, but rather wait to consider reform when debate begins on reauthorizing the Clean Water Act. Many in Congress and in the private sector, however, are hopeful that the DPC will make recommendations to streamline the program, and reduce what is perceived as over-regulation of low value wetlands.

Recent Policy Statements by Bill Reilly

In recent public statements this past month, Bill Reilly has supported an alternative approach to wetlands regulation that would include categorizing wetlands on the basis of function and value (high value versus lower value wetlands), and scaling regulatory stringency on the basis of these categories. This proposal is unexpected. Environmentalists have traditionally opposed categorization schemes, arguing that all wetlands are valuable and should be preserved. Furthermore, career and political EPA staff involved in wetlands continue to argue that the science is not sufficiently developed to support categorization schemes.

Despite EPA and environmentalists' skepticism on categorization, we believe the approach suggested by Bill is very promising, and we would recommend that the DPC produce options for review in an expedited fashion which include his recommendation.

Congressional Activity on Wetlands

Early indications from the House and Senate Committees with jurisdiction over the Clean Water Act suggest that legislation will pass in the 102nd Congress. Both Committees are expected to begin holding hearings in March or April.

In the House, at least two bills have been introduced to amend the 404 program. Both bills would establish categorization schemes for purposes of regulating wetlands. It is doubtful, however, that these bills reflect the consensus view in Congress. Liberal Democratic and Republican Members

are expected to continue to oppose any change to the 404 program that could be perceived to reduce wetland regulation. It is expected that Congress will seek the Administration's views on these legislative proposals during Congressional hearings.

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
06. Memo	From Ede Holiday to John Sununu Re: Your Questions Regarding Reilly's Statements (1 pp.)	1/18/91	P-5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Wetlands 1991 [3]

Open on Expiration of PRA
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 By 9/2 (NLGB) on 10/28/05

Date Closed: 1/5/2005	OA/ID Number: 29174-008
FOIA/SYS Case #: 1998-0004-F[2]	Appeal Case #:
Re-review Case #: 2005-0426-S	Appeal Disposition:
P-2/P-5 Review Case #:	Disposition Date:
AR Case #:	MR Case #:
AR Disposition:	MR Disposition:
AR Disposition Date:	MR Disposition Date:

RESTRICTION CODES

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 P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
 P-3 Release would violate a Federal statute [(a)(3) of the PRA]
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THE WHITE HOUSE

WASHINGTON

January 18, 1991

THE CHIEF of STAFF
has seen

MEMORANDUM FOR GOVERNOR SUNUNU

FROM:

EDE HOLIDAY *EH*

SUBJECT:

Your Question Regarding Reilly's Wetlands
Statements

We are making every effort to maintain close contact with EPA and Bill Reilly. However, he has shown a tendency to stake out policy positions in off-the-cuff statements to the press. This appears to be the case in his interview on the wetlands issue last month. As it turns out, we like the position he took which was more forthcoming than that of EPA staff.

I talked to Bill today and asked that he work within the DPC process on all these issues. He assured me he would.

Attachment

THE WHITE HOUSE
WASHINGTON

DATE: January 16, 1991

TO: EDE HOLIDAY

FROM: **GOVERNOR JOHN H. SUNUNU**

Is everything under control?

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
07. Memo	From Ede Holiday to Ed Rogers Re: Reilly Interview on Wetlands (1 pp.)	1/11/91	P/5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Wetlands 1991 [3]

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 By JP (NLGB) on 10/28/05

Date Closed: 1/5/2005	OA/ID Number: 29174-008
FOIA/SYS Case #: 1998-0004-F[2]	Appeal Case #:
Re-review Case #: 2005-0426-S	Appeal Disposition:
P-2/P-5 Review Case #:	Disposition Date:
AR Case #:	MR Case #:
AR Disposition:	MR Disposition:
AR Disposition Date:	MR Disposition Date:

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 (b)(9) Release would disclose geological or geophysical information

THE WHITE HOUSE

WASHINGTON

January 11, 1991

THE CHIEF of STAFF
has seen

MEMORANDUM FOR ED ROGERS

FROM: EDE HOLIDAY 

SUBJECT Reilly Interview on Wetlands

According to my staff, it does not appear that Administrator Reilly had advised anyone at the White House of his intention to announce general support for a classification scheme for wetlands in his recent interview with Inside EPA. In fact, reportedly his indication of support for examining this approach to the wetlands issue was a surprise to his own staff at EPA.

The DPC Wetlands Task Force has discussed generally such a classification scheme and will take it up in greater detail as it continues its deliberations over the next few months.

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
08. Memo	From Ed Rogers to John Sununu Re: Attached article (1 pp.)	1/3/91	P/5	

Collection:

Record Group: Bush Presidential Records
Office: Chief of Staff, White House Office of
Series: Sununu, John, Files
Subseries: Issues Files
WHORM Cat.:
File Location: Wetlands 1991 [3]

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By *[Signature]* (NLGB) on 10/28/05

Date Closed: 1/5/2005	OA/ID Number: 29174-008
FOIA/SYS Case #: 1998-0004-F[2]	Appeal Case #:
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THE WHITE HOUSE
WASHINGTON

DATE: January 3, 1991

TO: GOVERNOR SUNUNU
EDE HOLIDAY
FROM: ED ROGERS

This looks good.

Did we know about it?

YES WETLANDS PROTECTION SYSTEM BASED ON RELATIVE ECOLOGICAL VALUE

EPA administrator William Reilly is interested in exploring a "classification" plan which would base the level of protection afforded a wetland on the value of the ecological system in question. The surprise pronouncement came in an exclusive Dec. 14 interview with *Inside EPA*. The classification system, which designates wetlands according to their value, has been endorsed by the National League of Cities (*Inside EPA*, Dec. 14, p11) and some members of Congress, who are concerned by what they see as EPA's indiscriminate prosecution of wetlands violators when certain areas are not as valuable as others. The White House Domestic Policy Council also reportedly is taking an interest in the plan. However, environmentalists and some of Reilly's own staff believe the classification system exceeds the boundaries of the agency's scientific expertise and fear it could result in a "writing off" of some key wetlands. Reilly unabashedly made clear his interest in the plan, however.

Reilly highlighted the wetlands issue as one of his top priorities, calling it a difficult area, because it touches upon the "intimate relationship" between people and their private property. "My personal sense is that we need to find a way of applying a 'duck test' to wetlands," to ensure that the agency holds the line on the most highly productive wetlands, he said. "That probably will result in some kind of a classification system that identifies a hierarchy of wetlands values." Reilly appreciates the concerns of the scientific community and understands the need to avoid "writing off" wetlands. But he says EPA's delineation manual outlining its wetlands policy "involved some overreaching. It was never our intention to subject to our jurisdiction 40% of the Eastern Shore or substantial parts of states that had long been converted to agriculture or considered appropriate for development . . . and which don't look to . . . an ordinary person . . . like wetlands." The administrator said that the agency has not begun a reclassification effort, but he feels it is "something that makes sense." He says that many constituencies concerned about solving the wetlands problem have endorsed a similar type of approach.

Reilly stressed that an acknowledgement of the merits of the classification system in no way implies he is weak on wetlands protection, and pointed out that he strongly backed key EPA vetoes of projects intruding upon wetlands, in particular the Old Cutler Bay project in Florida, the Two Forks dam in Denver, CO and the beginnings of a veto for a Region II case for the Menlo Park wetlands. However, he regards the veto as a last resort and feels that if the regulatory system is working properly, a veto should not be necessary.

An agency source says EPA was recently made aware of the administrator's interest in the issue and points out that classification is not a new idea, carrying both proponents and foes. The practical problem, notes this source, is the state of the science and the ability to come up with a broad scheme to apply to such a diverse universe of wetlands. This source says that EPA has never taken a strong position on the issue, but acknowledges that "there's a lot we don't know" about the value of wetlands. "We've never said it's wrong. We've just said we weren't ready to go with it" with the current scientific limitations. The classification system is one potential response to the criticism being "heaped" on EPA's implementation of the Clean Water Act section 404 program, this source says. Some states have tried the system and "sometimes it works, sometimes it doesn't." An environmentalist says the idea is not new, and explains that it was the focus of much conversation during a wetlands forum where Reilly was a participant. The idea can work, provided there are safeguards, this source says. "That Reilly is thinking about it and wants to have debate on it is never a bad idea."

An EPA official stresses that Reilly is interested in avoiding "going after the little guy" and ensuring that tough actions are taken on premier wetlands. "This is something he's thinking about." One possibility is to refine the delineation manual to protect wetlands that have the most value. "He is open to suggestions to ensure that priority wetlands get priority attention," and that EPA does not surrender resources to give its wetlands program a bad name, this source says. A source with the Water Office says that there have been no in-depth discussions about the classification approach, but sees merit in examining the method.

EPA SCRAMBLES TO AVOID SITE CLEANUP ROLLBACKS IN WAKE OF SUPERFUND CUTS

EPA, preparing to implement Congress' significant paring back of the Administration's Superfund budget request, is grappling with how to avoid cutting the cleanup program. Congress slashed \$160-million from the Administration's \$1.74-billion request for fiscal year 1991, though handing the agency \$1.6-billion, representing Superfund's largest budget. The cutback from the Administration's request is forcing EPA to take a hard look at where it can roll back existing programs. In the past, cuts have been taken in the remedial cleanup program, but with so many projects moving to the cleanup stage, EPA can ill afford to