



GREAT LAKES WETLANDS

Volume 2, Number 3

Summer 1991

Wetland Notes ...

Administration Releases Wetland Policy

On August 9, President Bush released the Administration's plan to change the federal wetland protection program. In addition to modifications of the wetland hydrology criteria in the joint Federal Manual for Identifying and Delineating Jurisdictional Wetlands, the policy changes include measures to acquire wetlands, to increase the role of States in the wetland permit process, and to establish committees to classify wetlands based on functional values and to refine a mitigation banking system.

The proposed modifications to the Manual would require that wetlands be ponded for 15 consecutive days or saturated to the surface for 21 consecutive days. As expressed in the article by Ralph Tiner, there is little technical evidence to support such a change. The proposed modifications to the manual were published Wednesday, August 14, in the Federal Register (V.56, No.157, pages 40446 through 40480). Copies of the proposed changes, as printed in the Federal Register, can be obtained from the Wetlands Protection Hotline: 1-800-832-7828.

You are encouraged to provide comments on the proposed changes to the Manual during the 60 day public comment period. Comments should be submitted, in writing, to:

Wetland Notes continued on Page 8

How Wet is a Wetland?

by Ralph Tiner

Determining a useful definition of wetland hydrology has recently been the focal point of much controversy. This article critically analyzes the use of hydrology as a parameter for identifying wetlands.

Ralph Tiner is a wetland ecologist with over 20 years of experience delineating and identifying wetlands. He has authored over 50 publications on wetlands, including two books: A Field Guide to Coastal Wetland Plants of the Northeastern U.S., and Field Guide to Nontidal Wetland Identification. The comments expressed in this article are his own, and do not necessarily reflect those of any public agency of current or past employment.

Introduction

The name "wetland" implies land having significant "wetness." Significance has traditionally been defined as wet enough to create certain plant communities and/or hydric soils. Just how wet this really is, however, continues to be the ultimate question in wetland identification. Despite years of scientific study of wetlands, scientists still have difficulty defining the minimum threshold of inundation and/or saturation necessary to create and maintain wetlands. The following discussion offers my answer to this question as well as my perspective on how wetland hydrology should be considered for wetland identification purposes.

Background

Our knowledge of plants and soils associated with wetlands is much better than our knowledge of wetland hydrology. In

addition to numerous scientific reports describing wetland plant communities, there are regional and national lists of plant species that grow in wetlands (Reed 1988). These lists designate a "wetland indicator status" (related to the frequency of occurrence of the species in wetlands) for each listed species. Hydric soils associated with wetlands are described and can be identified in the field. National and state lists of these soils exist and are periodically updated (U.S.D.A. Soil Conservation Service 1987).

Considerable scientific study has been devoted to assessing the hydrology of rivers, streams, and forests, yet relatively few studies have examined the hydrology of wetlands. Hydrology is, by its very nature, dynamic. It varies annually, seasonally, and daily, from wetland to wetland (no two are exactly alike), and from region to region. Consequently, hydrologic assessments require long-term studies to document the fluctuations in surface water levels and in the position of the water table. Scientific research has not focused on examining these long-term relationships in wetlands, especially along their upper limits, for several reasons: (1) the interest in this topic is only recent; (2) wetland identification by plants and/or soils was widely accepted as a practical approach to determine wetland limits; and (3) the long-term commitment of resources (dollars and time) required to undertake such a task was unavailable.

The lack of specific hydrologic data to establish wetland limits is undoubtedly the

- Continued on Page 2 -

reason why definitions of "wetland" avoid specificity and merely say that the area is wet enough to support hydrophytic vegetation and/or to form hydric soils. Certain plant and soil indicators have been the main criteria used to identify and delineate wetlands. After all, plants and soils tend to be more readily observed and less variable than the presence of water at a given site, especially during a single site visit. We really do not know very much about the hydrology of all types of wetlands. Thus, to specify the minimum limits of wetland hydrology in terms of consecutive days of saturation for a certain duration and certain frequency for the purpose of delineating wetland boundaries is at best an educated guess. We can, however, specify some conditions that clearly reflect wetland hydrology.

Obvious Wetland Hydrology

There is widespread agreement that the following conditions are wet enough to qualify as wetlands:

- (1) Permanent year-round flooding or saturation at the surface;
- (2) Periodic tidal flooding during the year in most years;
- (3) More than three consecutive weeks of flooding and/or saturation at the surface during the "growing season" (see U.S. House of Representatives Bill No. 1330).

However, these conditions do not cover the universe of areas that are wet enough to create wetland plant communities or form hydric soils and provide the functions of wetlands that benefit society (e.g., flood protection, water quality protection, and wildlife habitat).

Wetlands are complex landscape features that conceptually occur along the soil moisture gradient between permanent deep water and dry land (Figure 1). At the lower end of the gradient, wetlands tend to be clearly defined by plants, soils, and obvious visible evidence of hydrology. In these cases, a single feature like the presence of obligate hydrophytes or organic soils (except Folists) could be used to easily identify wetlands. Unless there is a pronounced change in topography, determining the limits of a wetland usually requires examining and interpreting multiple parameters, including vegetation, soils, and/or signs of hydrology. Along the upper end of this apparent transition between water and dryland, wetland indicators may *appear* less obvious, yet recognizable features exist that can be reliably used in the field to consistently define the upper limits of wetlands in most cases.

Hydrology and Soils

How long should the soil be saturated within the majority of the root zone to qualify as wetland? Is one to two weeks during the "growing season" sufficient to create a wetland plant community? Probably, but we don't know for sure. Is one to two weeks of flooding and/or saturation long enough for a soil to develop hydric soil properties? Probably not, since the formation of low chroma colors characteristic of many hydric mineral soils requires not only anaerobic conditions, but low redox potentials to initiate mobilization of ferrous iron. The process of iron reduction is responsible for the "gleyed" colors characteristic of many hydric mineral soils. A minimal period of 10-21 days of saturation at some frequency may be required for hydric soil properties (such as low chroma mottles) to begin to form. In many hydric soils, microbial activity responsible for iron reduction takes place year-round provided the soil does not freeze and sufficient organic material is available. Thus, hydric soil properties may be formed, in part, during conditions colder than "biological zero" (41° Fahrenheit) at 20 inches below the surface, al-

though at much slower rates. Certain Alaskan soils in the permafrost region never reach this temperature, and still have developed hydric soil properties. It may take more than three weeks of soil saturation over many years to develop the low chroma matrix characteristic of many hydric mineral soils. These soils are wet for prolonged periods during the year, usually in late fall, winter, and early spring, but may not be saturated to the surface for three consecutive weeks during the "growing season." This, too, then brings into question the validity of using "growing season" conditions to define wetland hydrology, since hydric soil indicators may result from year-round processes.

Hydrology and Vegetation

Plants respond to a host of environmental factors. Conditions in the underlying soil are important to plant growth, survival, and reproduction. The presence of water in the soil for prolonged periods typically creates an oxygen-deficient (effectively anaerobic) environment which eliminates most species of plants. The conditions in the root zone of the plants are of vital importance. In large part, what

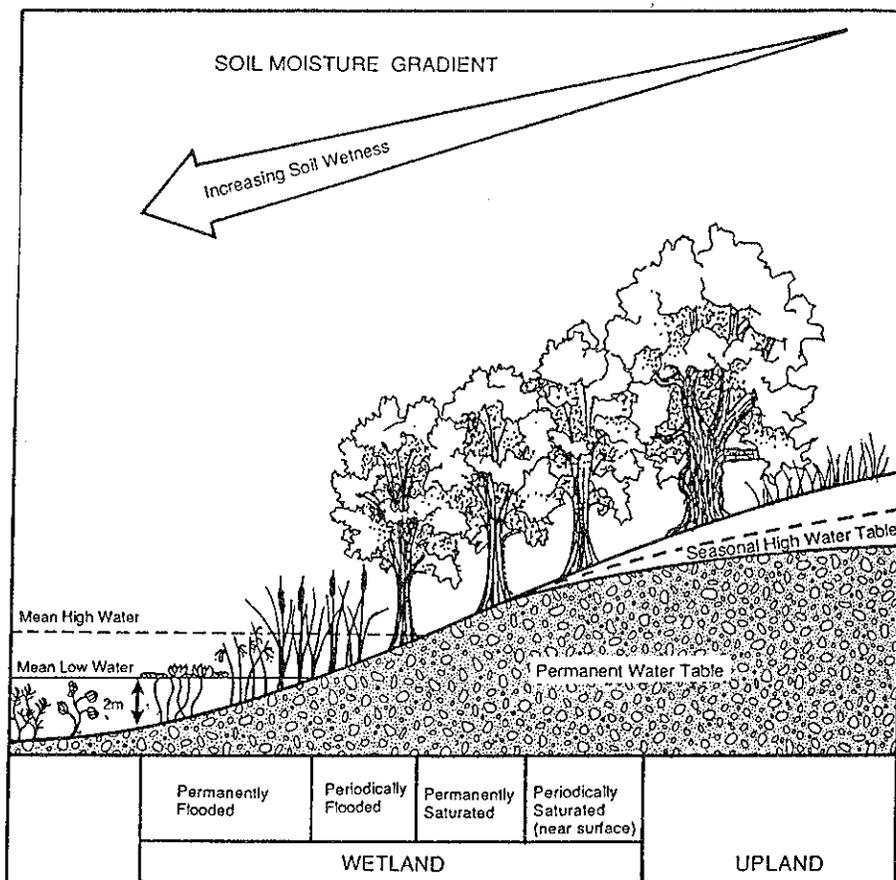


Figure 1. The general location of wetlands along the soil moisture gradient. The seasonal high water table represents the average height of the water table for a significant period during the wet part of the year during most years.

happens in the root zone determines the life or death of the plant. In most wetlands, prolonged saturation and accompanying low oxygen conditions in the root zone control plant growth.

Thus, to say that wetlands should be defined by saturation at the ground surface as opposed to the root zone is not technically sound. It is equivalent to saying that a person will drown only if water is over the person's head, when in fact, drowning occurs when water of any depth prevents oxygen intake for a critical period. It is clear that saturation in the root zone is fundamental for defining wetland hydrology and that a definition focusing on the duration and frequency of the water at the ground surface is scientifically unsound and technically flawed. The bulk of the roots in wetland plants is generally restricted to the upper, partly aerated zone of the soil (Boggie 1972; Montague and Day 1980). This zone should usually be within 6 to 12 inches of the surface, so the concept of wetland hydrology should begin here.

Flooding virtually eliminates gas exchange between the soil and the atmosphere. The supply of dissolved oxygen in the soil is soon exhausted by soil microbes in only hours or days, causing the soil to become anaerobic (Jackson and Drew 1984). This is true even for sandy soils unless flow-through is extremely rapid with highly oxygenated water (Robert Wetzel, University of Alabama, pers. comm.). Many plants are intolerant of flooding and their seedlings perish after only a few hours of inundation. In nature, flood waters also often carry sediments that are deposited in certain areas. Wetlands are widely recognized as depositional land-

scape features and some types require frequent deposition to keep pace with rising water levels or continued erosion. This, too, influences vegetation, and plants tolerant of periodic flooding, deposition, and disturbance have successfully colonized these sites.

Once saturation in the root zone and/or flooding are recognized as the foundation for the concept of wetland hydrology, then the duration and frequency that is sufficient to create wetland plant communities and hydric soils must be considered. Plants growing in water or on a substrate at least periodically deficient in oxygen due to excess water have long been and are still considered "hydrophytes" (Daubenmire 1968; Cowardin, et al. 1979; Environmental Laboratory 1987; Sipple 1988; Tiner 1988, 1991; Federal Interagency Committee for Wetland Delineation 1989). So, when considering hydrology from the standpoint of hydrophytes, it seems clear that permanent water areas (including surface water, or ground water in the majority of the root zone) and alternately wet and dry areas that are periodically wet enough to create low oxygen conditions have wetland hydrology.

We all know what permanent water is, but just how wet is wet enough to periodically create low oxygen conditions? First, what is low oxygen? We do not know for certain, but we do know that oxygen content need not be zero. Flooding a soil for a day has been shown to create anaerobic conditions under certain situations (Turner and Patrick 1968 as reported by Mitsch and Gosselink 1986). The rate of oxygen depletion depends on several factors, including soil temperature, organic

matter content, and chemical oxygen demand from ferrous iron and other reduced elements (Gambrell and Patrick 1978). Low oxygen prevents aerobic root respiration, affects nutrient uptake by plants, and mobilizes reduced forms of elements (iron, manganese, sulfur, and carbon) in the soil that are toxic to most plants. So even a day of flooding during a period of active plant growth can have a limiting effect.

Hydrology and the "Growing Season"

Given the information above, one week or more of flooding during the "growing season" should be enough to significantly affect plant growth. What is the "growing season?" First, it depends on the plant being examined. The "growing season" should never be equated to the frost-free period, since this is an interval used for no-risk agriculture and not native plant growth. Many farmers do not wait until this date to plant, since profitable farming entails getting one's crops on the market first. More importantly, native vegetation is growing well in advance of this frost-free period.

Another approach to defining growing season for wetland hydrology assessments might be to determine average budbreak by the earliest blooming wetland species. Red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), and willows (*Salix* spp.) may be useful for this purpose, but we know that evergreen trees and shrubs, cranberry vines, cool-season grasses, and persistent sedges continue growth year-round or virtually so (Wisconsin State Cranberry Growers Association 1991; David Cooper, Colorado School of Mines, pers. comm.). Given the difficulty of

CONTRIBUTE!

This newsletter reaches a diverse audience of scientists, consultants, environmental organizations, and individuals interested in Great Lakes wetlands. If you would like to contribute an article on Great Lakes wetlands research or policy, please contact the editor.

We are also interested in any announcements of regional conferences or events related to wetlands, or regional news on wetland science or policy issues.

Add Your Name to our Mailing List!

If you received this issue by mail, your name is already on our mailing list. If you did not receive this issue by mail, and would like to have your name added to our mailing list, please fill out and return this form, or just send your name and address to:

Wil Cwikiel, Editor
Great Lakes Wetlands
P.O. Box 300
Conway, Michigan 49722

Name/Title _____
Address _____
City _____
State/Province _____ Mail Code _____
Country _____

establishing the "growing season," and the fact that an area flooded during the "nongrowing season" still provides society with valuable functions, why not simply consider wetland hydrology in a year-round context?

As opposed to considering saturation during the "growing season," looking at a four-week or more period of saturation near the surface (within 6-12 inches) over the *full year* has much merit and should be considered for the following reasons: (1) evergreen plants and persistent grasses and other grasslike plants (e.g., sedges) continue to grow during the "dormant period" for nonevergreens, and saturation at this time should affect these plants and competing species; (2) water conditions during the dormant period (winter) have a profound influence on the hydrologic conditions during the early part of the "growing season" and probably help prevent winter desiccation of some wetland plants; (3) hydric soil properties have developed under conditions that extend beyond the "growing season;" (4) the functions of wetlands do not cease with the "growing season" (e.g., flood storage, shoreline stabilization, and critical wildlife habitat are important throughout the year); and (5) wetness limitations during the "dormant period" also affect the potential uses of the land. This would eliminate the need to arbitrarily define the "growing season" across the country and provide consistency in the concept of wetland hydrology nationwide.

Frequency of Inundation and/or Saturation

The frequency of inundation and/or saturation also needs to be considered. In much of the country, especially from the Mississippi Valley east, precipitation is in excess of evaporation, so water is readily available. Consequently, most of the wetlands in the coterminous U.S. are located here. In this region, precipitation patterns are more predictable, and although they still vary from year to year, droughts are uncommon and generally short-lived. Here looking at wetland hydrology in terms of an "average year" or as conditions that prevail in most years probably has merit and utility. In marked contrast, the arid and semi-arid regions of the country are characterized by annual water-deficits and by frequent long-term droughts. Consequently, "average" conditions seem to have little or no meaning in evaluating wetland hydrology in this context. Perhaps, we should be looking at conditions that prevail more than 25 years out of 100 years in assessing wetland hydrology. Functionally, areas within the "4-year floodplain" undoubtedly provide wetland functions and probably support wetland

plant communities. Regional experts should evaluate the validity of this concept.

Using Hydrology for Identifying Wetlands

When identifying wetlands and their boundaries, it is best to rely on the visible and enduring expressions of their hydrology, that is, by their vegetation and/or soils. Recent U.S. Fish and Wildlife Service studies have further confirmed traditional scientific opinion and observations that there is an excellent correlation between "hydrophytic vegetation" and "hydric soils" for determining the presence of wetlands (Scott, *et al.* 1989, Segelquist, *et al.* 1990). Consequently, these features should be used to identify wetlands, in the absence of significant hydrologic modification. Requiring that undrained areas having such vegetation and soils must be *demonstrably wet* for a specific period makes wetland identification unnecessarily burdensome and puts too much emphasis on a condition that is not documented in the scientific literature. Existing wetland definitions adopted by many states and the four federal agencies involved in wetland regulation reflect this realization.

If the presence of water must be required to identify wetlands, then investigators must limit their work to the "wet season." Local water tables could be monitored annually to determine the appropriate length of the "wet season" for each year, since conditions will vary from year to year. This has been and is still done in many areas of the country for performing "perk" tests to determine site suitability for septic systems. Such monitoring and limiting field work to the "wet season" for purposes of identifying wetland hydrology may, however, be too costly, restrictive, and place heavy seasonal workloads on consultants and regulators alike.

Specific hydrologic conditions should only be used for delineation when an area has been significantly hydrologically modified or when vegetation and soil characteristics provide conflicting evidence. In the former case, the altered hydrology often negates the interpretative value of vegetation and soil properties. Consequently, it is necessary to evaluate whether the area is effectively drained or not. Perhaps the following conditions could be used to identify wetland hydrology in these circumstances:

1. Flooded by flowing water for more than one week during the year in most years; or
2. Saturated near the surface by surface water or ground water usually for more than four to six weeks during the

year in most years; or

3. Periodically flooded by tidal water in most years.

Note: "Near the surface" means within the majority of the root zone of wetland plants (between 6 and 12 inches for sandy and non-sandy soils, respectively). "In most years" generally means more than 50 years out of 100 years and therefore represents the prevailing hydrologic regime; but in arid and semi-arid regions, it means more than 25 years out of 100 years.

References

- Boggie, R. 1972. "Effect of water-table height on root development of *Pinus contorta* on peat in Scotland." *Oikos* 23:304-312.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, Washington, DC. Publ. No. FWS/OBS-79/31.
- Daubenmire, R.F. 1968. Plant Communities: A Textbook of Plant Synecology. Harper and Row, New York.
- Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. Tech. Rpt. Y-87-1.
- Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A, Soil Conservation Service, Washington, DC. Cooperative technical publication.
- Jackson, M.B., and M.C. Drew. 1984. "Effects of flooding on growth and metabolism of herbaceous plants." In: T.T. Kozlowski (editor). Flooding and Plant Growth. Academic Press, Inc., Orlando, FL. pp. 47-128.
- Mitsch, W.J. and J.G. Gosselink. 1986. Wetlands. Van Nostrand Reinhold Co., Inc., New York. 539 pp.
- Montague, K.A., and F. P. Day, Jr. 1980. "Belowground biomass of four plant communities of the Great Dismal Swamp, Virginia." *Am. Midland Nat.* 103:83-87.

- Continued on Page 7 -

Reauthorization of Clean Water Act Opens Door to Section 404 Amendments

by David Siebert and Sharon Ashworth

Section 404 of the Clean Water Act is the backbone of the United State's federal wetland protection program. As the Clean Water Act is up for reauthorization, there are many attempts to amend Section 404. This article discusses several bills that have been introduced, and their potential ramifications.

Dave Siebert is the wetland ecologist for the Wisconsin Department of Natural Resources' Bureau of Water Regulation and Zoning. Sharon Ashworth is a Co-Chairperson of the Wisconsin Wetlands Association.

Introduction

The summer and fall of 1991 was to be a prime time for strengthening the Section 404 program while the Clean Water Act (CWA) is up for re-authorization. While a few bills have been introduced that would improve the federal wetland regulatory programs, a great many initiatives, supported by development, oil and gas, mining, and agricultural interests are monopolizing the headlines.

The 1989 edition of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands is being revised, an action that many say is politically motivated. At the same time, a rider to the "Energy and Water Resources Fiscal Year 1992 Appropriations Bill" (H.R. 2427) has been introduced by Senator Johnston (D-LA) which would prohibit the use of the 1989 Manual. The U.S. Army Corps of Engineers (Corps) is proposing broader nationwide general permits that would allow destruction of wetlands for a greater scope of activities.

Legislation introduced in Congress, such as House bills 1330 and 404, are supported by those that feel that wetlands regulation places undue constraints on economic growth. These bills would result in environmental disaster, opening currently protected wetlands to destructive activities. Several bills in the House and Senate have also focused on the "takings" issue, calling for government compensation for lands regulated by federal law. The following is an analysis of some of the major legislation being considered by Congress.

H.R. 1330

Status: "The Comprehensive Wet-

lands Conservation and Management Act of 1991" was introduced by Representative Hayes (D-LA) and had 168 co-sponsors as of the beginning of August. A similar bill has been introduced into the Senate by Senator Breaux (D-LA). H.R. 1330 is currently in two committees—Public Works and Transportation, and Merchant Marine and Fisheries.

Major Points: H.R. 1330 would replace the 404 guidelines and establish a value-based classification system for wetlands with corresponding protection strategies. "Type A" wetlands, the most valuable, are those considered "of critical significance" and will be protected through government purchase. "Type B" wetlands are those that provide such functions as significant wildlife habitat or significant flood control. Disturbance or destruction of a Type B wetland would require a permit, but such activities may be mitigated through restoration, creation, enhancement or through donations to mitigation banks. "Type C" wetlands are defined as wetlands near developed areas (such as industrial parks) and include those that "serve marginal wetlands functions" but are abundant and therefore are "not necessary for conserving important wetlands values..." This bill offers no protection for this class of wetland. This bill will also:

- Repeal U.S. Environmental Protection Agency (EPA) involvement in the Corps' Section 404 permitting process;
- Expand Corps general permits;
- Place a 20% cap on the number of "Type A" wetlands per county or parish; and
- Arbitrarily extend the saturation criteria for delineation of wetlands from 7 days of saturation near the surface to 21 consecutive days of saturation or inundation at the surface.

Ramifications: Adoption of this bill will result in enormous losses of wetlands. Under the wetland triage policy, "Type A" wetlands will only be protected if there is "no overriding public interest in the use of such wetlands for purposes other than conservation." Therefore, even the high quality wetlands are not assured protection. Purchase of those wetlands to be protected will require a great deal of money; money which the government does not have. This bill fully accepts the concept of mitigation, even in light of the scientific evidence which indicates problems with restoration and creation activities. Activi-

ties in "Type C" wetlands, including prior converted farmlands, will be permitted in all cases. Extending the days of saturation qualification for wetlands will shrink wetland borders and make others disappear with the stroke of a political pen.

H.R. 404

Status: "The Wetlands Protection and Regulatory Reform Act of 1991" was introduced by Representative Hamerschmidt (R-AR) and had 10 co-sponsors in early August. This bill does not have the widespread support that H.R. 1330 has and is currently sitting in the Water Resources sub-committee of the Public Works and Transportation Committee.

Major Points: H.R. 404 also contains a value-based classification system and seeks to substantially change the 404 guidelines. This bill promotes two categories of wetlands—high quality and other. High quality wetlands are those which provide critical wildlife habitat, water supply, flood control, sediment retention or water quality functions. Proposed disturbance to wetlands not classified as high quality must undergo a permit process but will not be subject to an alternatives analysis test if mitigation is provided. This bill will also:

- repeal the EPA's permit veto authority;
- establish demonstration programs for wetlands restoration and creation;
- establish a national demonstration program for mitigation banks;
- arbitrarily extend the saturation criteria for wetlands from 7 days saturation near the surface to 21 consecutive days of saturation or inundation; and
- create a 40% cost sharing program for preparation of State Wetland Conservation Plans (SWCP)

Ramifications: As with H.R. 1330, H.R. 404 will also deal a substantial blow to wetland protection in the nation. This bill accepts and legitimizes mitigation for enormous acreages of wetlands loss. While the bill maintains a role for the EPA in the permitting process, it removes the agency's veto power, effectively reducing another level of protection for the nation's wetlands.

H.R. 251

Status: The "Wetlands No Net Loss Bill of 1991," introduced by Congressman Bennett (D-FL), is the strongest bill to date for improving the level of wetlands protection in the 404 program. The bill has 4 co-sponsors as of early August and has been referred to four committees—Public Works and Transportation, Merchant Marine and Fisheries, Ways and Means, and Interior and Insular Affairs.

Major Points: The bill's primary goal is to codify the President's promise of no net loss. This bill attempts to improve the existing program by providing greater responsibility for all the federal agencies and focusing on activities that are most detrimental to wetlands. Specifically, H.R. 251 will:

- expand the activities regulated under 404 to include draining, flooding, and removal of vegetation;
- expand the involvement of environmental agencies by providing for greater input from the U.S. Fish and Wildlife Service (FWS) and stronger EPA oversight in the Corps 404 program;
- address nationwide permit problems by calling for annual reporting of the impacts associated with the general permits and the consideration of cumulative impacts of the activities allowed under the various permits;
- amend the Internal Revenue Code to include incentives for charitable donations of wetlands and ecologically significant areas;
- provide a funding source for the bill's programs by creating a Preservation Trust established by banking monies retrieved in penalties and permit fees and using seed money from the Land and Water Conservation Fund program;
- establish a grant program for states to develop SWCP's that include no net loss and net gain goals, and provisions for restoration planning; and
- establish advanced identification programs including a national office to oversee the National Wetlands Inventory.

Ramifications: H.R. 251 is extremely comprehensive in its attempt to strengthen the 404 program. This bill does not attempt to rank wetlands based on an arbitrary classification scheme nor does it seek to change the definition of a wetland. The bill is the strongest wetlands protection bill introduced to date.

H.R. 2400

Status: The "Wetlands Stewardship Act of 1991" was introduced by Congressman Thomas (D-GA) and has 9 co-sponsors. This bill appears to be a compromise bill to combat the "anti-wetland" bills by aiming to strengthen the 404 program, while not being as far reaching as H.R. 251. H.R. 2400 is currently in two committees—Merchant Marine and Public Works.

Major Points: H.R. 2400, being a compromise bill, has some aspects that appeal to all interests. For example, the bill includes a definitional change that requires saturation at or near the surface for 14 days during the growing season (halfway between the 7 day criterion in the 1989 manual and the proposed 21 day rule in the version proposed by the administration). The definition also eliminates previously farmed wetlands. Several provisions of this bill are similar to those in H.R. 251 including expanding activities regulated by 404, strengthening the role of FWS and EPA, and establishing advanced identification programs. Some other strong points include:

- provide incentives for preservation of wetlands on private property;
- standardize wetland delineation based on scientific data;
- improve wetlands mapping for use in decision making; and
- require the Corps to respond in writing to concerns raised by FWS if permits are granted over FWS objections.

Ramifications: H.R. 2400 promotes mitigation programs, including banking, but does not adequately address the sequencing of decision-making that would only allow mitigation when attempts to avoid and minimize impacts have been exhausted. Mitigation proposals also recognize creation as a viable source of net wetland gain but do not consider in-kind replacement. Any proposals for mitigation should include these important aspects as well as requirements for performance bonds and long-term monitoring provisions.

In addition to the arbitrary definitional change regarding duration of saturation, H.R. 2400 calls for rulemaking to review and revise the delineation manual. While a scientific review of the manual is important, rulemaking is a political process. As the process becomes more political, the definition of a wetland may lose touch with technical reality.

Regarding SWCP's, this bill is very lax, declaring that states "may" prepare such plans. No apparent funding is offered to the states to conduct the planning.

The bill includes many reporting requirements for assessing the impacts of general permits, mitigation banking, and state programs. These provisions have some merit, but without adequate funding and a centralized entity conducting the reporting, the results may be unproductive.

The bill also attempts to clarify activities that can occur in wetlands without permits, including provisions to allow silviculture, aquaculture, and aggregate clay mining (with reclamation plans). Activities in non-tidal wetlands that have been altered are also exempted, but an agreement with FWS for restoration must be secured.

"Takings" Bills

Several bills are being considered that would codify President Reagan's 1989 Executive Order 12630, which essentially ensures that all government actions comply with the just compensation clause of the Fifth Amendment. The two major takings bills are S. 50 (Symms, R-ID) and H.R. 905 (McEwen, R-OH). Another similar bill, H.R. 1572, has only recently been introduced by Congressman Olin (D-VA) and has 96 co-sponsors as of early August. H.R. 1572 has been referred to the Agriculture and Judiciary committees. On June 19, the Senate passed the Symms bill, as an amendment to the Surface Transportation Efficiency Act (S. 1204). This amendment requires the Attorney General to certify that regulations will not involve taking of private property. In addition to new wetland regulations, this bill is also retroactive, thus affecting past laws such as the new Clean Air Act, National Environmental Protection Act, Resource Conservation and Recovery Act, and many of the Occupational Safety and Health Act regulations. Essentially this bill would stall environmental regulatory efforts until the Attorney General has analyzed each law.

Conclusion

Wetland regulation is under siege. True wetland protection legislation can only be found now in H.R. 251, however the comprehensive nature of the bill may slow its progress. Currently, the federal wetlands protection program authorized by the Clean Water Act provides only limited wetlands protection. The reauthorization process provides an opportunity to make improvements to the program. However, given activities aimed at weakening the Section 404 program, efforts to improve federal protection in the United States may only maintain the status quo.

"Horror Stories"

Guest Commentary by Steve Moyer.....

Congressional hearings held to date this session have been riddled with what can be referred to as "Horror Stories." This short article takes a critical look at one "Horror Story," and provides a positive outlook on how "Horror Stories" may potentially benefit wetland protection.

Steve Moyer is the Legislative Representative with the National Wildlife Federation in Washington D.C. This article is excerpted from testimony presented to the Subcommittee on Environmental Protection of the Senate Environment and Public Works Committee on 6-20-91.

Time and time again we have endured a litany of Horror Stories that speak of delays, inconsistencies, overzealous enforcement, the "Manual From Hell," and routine "over-reaching" by the Corps, EPA, and FWS. Where there may be merit—limited merit—to some of these cases, most of the Horror Stories paraded out to mock the Section 404 program are only half-truths and oftentimes deliberately present an incomplete picture. The now-celebrated John Pozsgai story is a case in point.

According to various press accounts and recent remarks made by members of Congress, the Pozsgai case tells the story of a poor Hungarian immigrant trying to fulfill the American Dream but who falls victim to the web of federal wetlands regulations and devious and conniving federal wetlands regulators. Yet, if one takes the time to examine the Federal District Court's ruling and the Grand Jury's indictment, one soon learns that the Corps warned Mr. Pozsgai of the need to obtain a Section 404 permit requirement before Mr. Pozsgai even purchased the land he then proceeded to illegally fill. The court record also documents that the Corps repeatedly notified Mr. Pozsgai that his dumping activity was illegal and that Mr. Pozsgai flagrantly disregarded these notices, dumping fill into the wetland on over 30 occasions.

The truth is that Mr. Pozsgai simply did not agree with the Corps and EPA that the wetland on his land should not be filled and developed, and he acted in total, willful disregard for the law. As the judge stated in sentencing Mr. Pozsgai,

It is hard to visualize a more stubborn violator of the laws that were designed to protect the environment. I think the sentence has to take into account not only punishment for that high degree of willfulness but also serve as a deterrent to others.... (Court Transcript, at 66 (July 13, 1989))

Of paramount importance is that Congress separate fact from the abundant fiction before taking further action on Section 404. As the debate has evolved it has become readily apparent that those seeking to dismantle Section 404 are resorting to clouding fact with fiction and using convenient and twisted example—such as the Pozsgai Horror Story—to illustrate the "extremism" of the Section 404 program. Although examples of this disinformation campaign have been previously cited, the following illustrates how only part of the story is being told.

The May 11, 1991 Washington Post carried an article, replete with a quarter-page full color photograph, about a developer in Georgia who—according to the story—was being forced by the EPA to destroy and/or move at least two expensive houses—all due to Section 404. The article went on to say that these are the kinds of anecdotes that "land owners and developers revel in telling." And, although this in fact may be the case for the regulated community, it is also the sort of story that the environmental community should relish. Why? Because it provides the classic example of how Section 404 is being turned into the development community's whipping boy and the speciousness of their attacks on the program.

For instance, what the story fails to mention—something typical of many of the Horror Story half truths now being foisted on Congress—was that:

- 1) the developer should have known about, and complied with, the law at the outset of the project,
- 2) the Corps twice warned the developer before building the house that he was in violation of Section 404 for discharging fill material into the valuable cypress swamp on which the site is located, and
- 3) subsequent to the illegal construction of these houses, neighbors with adjoining properties have complained to EPA of recurring flooding as a result of the illegal filling of the wetland.

Thus, contrary to what one may at first believe, this article is newsworthy to environmentalists because it plainly illustrates why Section 404 is such a critical part of the Clean Water Act and why it must be vigorously protected.

- Continued from Page 4 -

References

- Reed, P.B., Jr. 1988. National List of Plant Species that Occur in Wetlands: National Summary. U.S. Fish and Wildlife Service, Washington, DC. Biol. Rpt. 88(24).
- Scott, M.L., W.L. Slauson, C.A. Segelquist, and G.T. Auble. 1989. "Correspondence between vegetation and soils in wetlands and nearby uplands." *Wetlands* 9(1):41-60.
- Segelquist, C.A., W.L. Slauson, M.L. Scott, and G.T. Auble. 1990. Synthesis of Soil-Plant Correspondence Data from Twelve Wetland Studies throughout the United States. U.S. Fish and Wildlife Service, Washington, DC. Biol. Rpt. 90(19) (In press).
- Sipple, W.S. 1988. Wetland Identification and Delineation Manual. Volume I. Rationale, Wetland Parameters, and Overview of Jurisdictional Approach. Volume II. Field Methodology. U.S. Environmental Protection Agency, Office of Wetlands Protection, Washington, DC.
- Tiner, R.W. 1991. "The concept of a hydrophyte for wetland identification." *BioScience* 41(4):236-247.
- Tiner, R.W., Jr. 1988. Field Guide to Nontidal Wetland Identification. U.S. Fish and Wildlife Service, Newton Corner, MA and Maryland Department of Natural Resources, Annapolis, MD. 283 pp. + color plates.
- Turner, F.T., and W.H. Patrick, Jr. 1968. "Chemical changes in waterlogged soils as a result of oxygen depletion." IX International Congress Soil Science (Adelaide, Australia) Trans. 4:53-56.
- U.S.D.A. Soil Conservation Service. 1987. Hydric Soils of the United States 1987. In cooperation with the National Technical Committee for Hydric Soils. Washington DC.
- Wetzel, R.G. 1990. "Land-water interfaces: metabolic and limnological regulators." *Verh. Internat. Verein. Limnol.* 24:6-24.
- Wisconsin State Cranberry Growers Association. 1991. Response to: Draft of St. Paul District Analysis Regarding Section 404 Review of Commercial Cranberry Operations. Wisconsin Rapids, WI. 8 pp.

Wetland Notes ...

Continued from page 1...

Mr. Gregory Peck
Chief of Wetlands/Aquatic Resources
Regulatory Branch (A-104F)
U.S.E.P.A.
401 M-Street SW
Washington, D.C. 20460

In addition, federal agency staff will be conducting field tests to determine if the changes are feasible. Please contact agency staff in your area for more information.

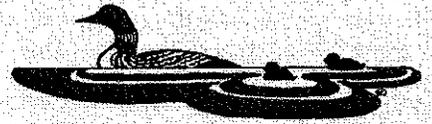
Readership Survey Results

The *Great Lakes Wetlands* Readership Survey Results have been tabulated! A total of 399 surveys were returned, representing 22% of the readers who received a copy of the survey. The responses regarding what topics are most desired, recommended format, willingness to pay, and technical level of articles will help to ensure that the newsletter continues to be a useful publication.

The readership survey results indicated that 94% of the respondents find the publication useful and 90% keep back issues for reference. 81% found the technical level "just right," and 67% desire an expanded 8 page format. In regards to making the transition from a grant-supported publication to a readership-supported publication in 1992, 82% of the respondents would be willing to pay an average of \$14.06. In regards to content, the respondents expressed a desire for more issue updates, and future articles on topics such as wetland classification, ecosystem processes, and cumulative impacts.

As you see with this issue, many of these recommendations are already in the process of being integrated into the newsletter. Thank you for your responses! If you have additional comments, please feel free to contact the editor.

GREAT LAKES WETLANDS



Editor:

Wil Cwikiel
Environmental Policy Specialist

Great Lakes Wetlands is published quarterly by the Tip of the Mitt Watershed Council, P.O. Box 300, Conway, MI 49722. Phone: (616) 347-1181

This publication is made possible by a grant from the Charles Stewart Mott Foundation.

printed on recycled paper

Great Lakes Wetlands
P.O. Box 300
Conway, MI 49722
(616) 347-1181

*Forwarding and address correction requested.
Return postage guaranteed.*



NONPROFIT
ORGANIZATION
U.S. POSTAGE
PAID
Conway, MI
PERMIT NO. 105