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Historic Trends in Wetland Protection in the State of Virginia

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ABSTRACT

Recent Virginia state legislation involving inland non-tidal wetland areas brings greater coordination among federal, state and local jurisdictions. The Chesapeake Bay Preservation Act of 1988, as mandated by state law, compels local planning departments to recognize and identify non-tidal wetland areas as Resource Protection Areas and Resource Management Areas. The Virginia State Water Control Board has recently asserted its certification of authority for discharges exceeding 1 acre in headwater and isolated waters. As a result of an interagency agreement wetland areas can be assessed and delineated to concur with a unified definition. The 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands has brought greater federal regulation to wetland habitats in Virginia. Palustrine, forested, broad leafed, seasonally saturated wetlands have received greater protection as a result of the unified federal definition. The Norfolk district of the Army Corps of Engineers has opened 4 new field offices in Virginia in early 1991. Greater Corps involvement with more field offices will serve to minimize and regulate wetland losses.

Key Words: wetlands, regulation, protection, legislation, marshes

INTRODUCTION

The values of wetland ecosystems have been, and continue to be, documented by a growing body of research and literature. Many authors recognize the significant ecological, economic, recreational, and aesthetic values and functions of wetlands (Teal and Teal, 1969; Gossellink, et al., 1974; Larson, 1982; Tiner, 1984). Because of the many benefits that these wetlands provide, the federal government and the state of Virginia have enacted legislation providing wetland protection through the regulation of activities that have an impact on them. The cornerstone to wetland protection in conjunction with federal and state laws is the availability of a technical wetland definition. This allows regulators a consistent set of criteria for delineating wetland boundaries when making permit or enforcement decisions.

CHRONOLOGY OF EVENTS

The state of Virginia has regulated activities in its tidal wetlands primarily through its Wetlands Act of 1972 (Code of Virginia 62.1 chapter 2.1 1972). The

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1 The views expressed in this paper are the writer's own and do not necessarily represent the views of the U.S. Army Corps of Engineers or any other regulatory agency involved in wetland protection.

historical evolution of Virginia's legal code protecting subaqueous bottoms began with the formation of the Virginia Marine Resources Commission (VMRC). VMRC's jurisdiction is based on the Commonwealth's title. Since the Commonwealth has title unless it has been lawfully conveyed, VMRC should presume that it has jurisdiction over any subaqueous bed in the Commonwealth until someone else shows title to the bed derived from a grant from the King or the Commonwealth. The manner in which such title would have been granted depends on the date at which the grant was made, and whether the waterway is navigable or non-navigable.

The Virginia Wetlands/Virginia Marine Resource Commission (VMRC)/ Code of Virginia, Section 62.1 and Chapter 2.1 placed the Virginia Institute of Marine Science (VIMS) and local wetlands boards for each locality in the review process. VMRC regulates activities (structures, dredging and filling) occurring between mean low water and mean low water, or in other words all tidal subaqueous bottom. With the enactment of Chapter 300 Acts of Assembly, 1982, amendments to existing wetlands protection mechanisms would now include nonvegetated intertidal flats and beaches, as well as interrelated and interdependent functions of the vegetated and nonvegetated wetland ecosystems. Code of Virginia 62.1-13.5 allows counties, cities and towns authority to adopt wetlands zoning ordinances. Local wetlands boards regulate wetland areas which are defined by the Commonwealth of Virginia (Code of Virginia, 1972) as:

Vegetated Wetlands: " include the land lying between and contiguous to mean low water to an elevation above mean low water equal to 1.5 times the mean tide range at the site of the proposed project and upon which one or more species of tidal wetlands plants is growing".

Nonvegetated wetlands: "include the land lying between and contiguous to mean low water to an elevation of mean high water not otherwise considered "vegetated wetlands".

Additional definitions which define VMRC's jurisdiction include "Navigability-in-Fact" (Code of Virginia, 1972). VMRC may assume jurisdiction unless the landowner can show title to riparian land acquired by grant prior to July 4, 1776. In the case of "Non-Navigable-in-Fact", VMRC may assume jurisdiction unless the landowner can show a grant prior to 1792 in that part of the state draining toward the Atlantic Ocean, or prior to 1802 in that part of the State draining toward the Gulf of Mexico.

VMRC's jurisdiction is based on the Commonwealth's ownership of the bottom, and the Commission should assume that unless as otherwise outlined above, the Commonwealth no longer has title to the parcel in question.

The responsibility for regulating non-tidal wetland areas in the state such as palustrine forested wetlands, was primarily authorized by the Federal Pollution Control Act of 1972. Although this Act began as an attempt to regulate discharges into tidal waterways (navigable waters), the extent of the jurisdiction of the Act reached into non-tidal areas as well. This act was later amended to the Clean Water Act (CWA) of 1972. The CWA, as amended, provided for State Water Quality Certification (Section 401) and required permits for the "discharge of dredged or fill materials into waters of the United States". Thus, the Clean Water Act regulated those activities which have an impact on wetlands. A technical definition of the

term "wetland" was not available to state and federal regulators, as adjacent wetlands were generally considered tidal or freshwater marsh. A general definition is provided in Section 328.3 (a)(b) of the Clean Water act:

The term "wetlands" means 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 (Federal Register, 1986).

This definition recognized 3 fundamental qualities of all wetlands; 1.) wetland plants, 2.) wetland soils and, 3.) wetland hydrology. Although the broad and general definition of wetland was provided in the Clean Water Act, the methods for identifying non-tidal wetland areas in the state varied widely. Due to the spectrum of moisture regimes and plants that occur in varying degrees of soil saturation during the growing season of the year, any attempt by regulatory agencies to delineate wetlands often led to confusion, disagreement and indecision. This situation was exacerbated by the creation of "several" regulatory definitions developed by each agency of the federal government. The U.S. Army Corps of Engineers, The U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency and the U.S. Soil Conservation Service were each equipped with their own regulatory definitions of what constituted a wetland. These agencies used their own technical manuals which provided criteria based on soil types, plant associations and hydrologic characteristics which may be present on a site. Based on these technical criteria, the agencies were allowed to delineate transitional areas between temporarily inundated and upland areas. The wetlands that would fit these various regulatory definitions would gain protection as they were now under the jurisdiction of the various agencies. Although the various federal and state regulatory agencies couldn't always agree where the wetland/upland boundary occurred, a shift could clearly be seen in wetland protection in the state as wetland area that is considered non-tidal, and which lay west of Interstate 95 was brought under federal and state jurisdiction. The problem that existed with the enforcement of the Clean Water Act was partly based on the disagreement between the federal agencies as to the precise wetland definition that each based their decision on for identifying the technical criteria of wetland. Wetland protection in the state of Virginia is partially a function of the availability of a unified definition of "wetland" that would allow regulators to enforce the Clean Water Act and other wetland protection acts such as the Food Security Act of 1985.

In January of 1989, the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* was issued. The 4 federal agencies of the federal government, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service and the U.S. Soil Conservation Service each combined their technical manuals into one. The unified federal manual was the cumulation of efforts to merge existing field-tested wetland delineation manuals, methods, and procedures used by these agencies. The 1989 Federal Manual not only unified the interagency definition, it also brought vast non-tidal wetland areas along the coastal plain and inland areas of the state under federal and state regulation. Non-tidal wetlands are the subset of the wetland resources that lie upstream of tidally influenced waters. They represent the majority of the Mid-Atlantic region's wet-

lands and include freshwater marshes, wet meadows, bogs, shrub swamps, bottomland hardwood forests, shallow ponds, seepage areas, and springs. They range in size from small isolated depressions surrounded by upland to large complexes thousands of hectares in size on the floodplains of major rivers (Tiner 1988).

The 1989 manual defined a "three parameter approach" to wetland identification: *hydric soils*, *hydrophytic vegetation* and *wetland hydrology*. The technical definition of hydric soil is as follows: a soil that is 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). In general, hydric soils are flooded, ponded, or saturated for usually 1 week or more during the period when soil temperatures are above biologic zero. This is defined as 5 degrees centigrade by "Soil Taxonomy" U.S.D.A. Soil Survey Staff 1975. These soils usually support hydrophytic vegetation.

The technical definition of hydrophytic vegetation is as follows: plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. The U.S. Fish and Wildlife Service in cooperation with the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, and U.S. Soil Conservation Service has published the "National List of Plant Species That Occur in Wetlands". This list was developed from a review of the scientific literature which was further reviewed by wetland experts and botanists (Reed 1988). The list separates vascular plants into four basic groups, each with a "wetland indicator status". It is based on a plant species' frequency of occurrence in wetlands and includes the following: (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 non-wetlands; (3) facultative plants (FAC) that are equally likely to occur in wetlands or non-wetlands (estimated probability 34-66%); and (4) facultative upland plants (FACU) that usually occur in non-wetlands (estimated probability 67-99%), but occasionally are found in wetlands (estimated probability 1-33%). If a species occurs almost always (estimated probability 99% in non-wetlands 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 when found in wetlands with a higher probability in 1 region of the country. If a species is not on the list, it is presumed to be an obligate upland plant.

The driving force behind the formation of wetland is, of course, water. A technical definition for wetland hydrology is provided in the Federal Manual of 1989: permanent or periodic inundation, or soil saturation for a significant period (usually a week or more) during the growing season. Based on the identification of hydrologic indicators in the field such as water stained leaves, wetland drainage patterns, morphological plant adaptations and hydric soils, the 7 consecutive days of inundation or soil saturation within the upper part of the soil could be deduced at the time these indicators were noted. The field scientist or professional observer typically identified emergent or palustrine wetland area as a condition where facultative (FAC), facultative wetland (FACW) and obligate wetland (OBL) vegetation was present on undrained hydric soils.

In September of 1990, the Chesapeake Bay Preservation Act of 1988/ Sections 10.1-2103 and 10.1-2107 of Chapter 21, Title 10.1 of the Code of Virginia came into effect for tidewater Virginia. The Act requires that 46 cities, counties and towns of tidewater Virginia amend their land use plans and ordinances to meet state standards for the protection of water quality. The aim of the legislation was to protect the water quality of the Chesapeake Bay. The legislation contained state standards for water quality protection which also included, for the first time, a state requirement for those localities within the Bay Act to identify their non-tidal wetlands.

The requirements of the Bay Act included Resource Protection Areas (RPAs) and Resource Management Areas (RMAs). Both land-use overlay areas include protection to jurisdictional (federally defined) wetland area. Wetland area adjacent to perennial stream may have a 100 foot buffer placed landward from the boundary of the wetland. Several local governments are presently requiring wetland assessments/delineations for compliance with Bay Act regulations. As provided in the Bay Act, in 1992 Virginia must review its progress under the 1987 Chesapeake Bay agreement with Maryland, Pennsylvania, the District of Columbia, and federal agencies.

Concurrent with the Bay Act legislation in 1990, the Virginia State Water Control Board asserted its 401 certification of authority in August of 1990 to regulate discharges into wetlands exceeding 1 acre (.4 hectare) in headwaters and isolated waters. As mandated by the Clean Water Act, the Corps of Engineers must have 401 certification, denial or waiver before Pre-Discharge Notification procedures can begin for these discharges. A Pre-Discharge Notification is provided to the Corps of Engineers for review when discharges of dredged or fill material which will cause the loss or substantial adverse modification of 1 to 10 acres (0.4 -4 hectares) of waters of the United States including wetlands (located above the headwaters) [(33 CFR 330.5 (a)(26)) 1986]. The assertion of 401 certification by the state into areas that were not previously scrutinized by state regulators allowed the state great permit authority over wetland losses in the Commonwealth.

The Federal Manual of 1989 broadened the Corps jurisdiction and regulation of federally defined wetland areas to include areas that were typically ignored or not previously considered within Corps jurisdiction. Areas that need only be inundated or saturated with groundwater for a period of 1 week or more during the growing season (frost line to frost line) may be considered wetland under the new definition. Vast areas along the floodplains of rivers and streams were brought into federal regulation. Poorly draining farmland was brought under the Corps jurisdiction. Large parcels of land with poor drainage, due to neglected maintenance of drainage culverts were now protected by federal law.

On 17 August 1991, President Bush signed into law the Energy and Water Development Appropriations Act of 1992. The Act contained an amendment to the Corps regulatory appropriation that affects the use of the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989 Manual). According to the federal lawmakers, the 1989 Manual was not adopted in accordance with the requirements for notice and public comment of the rule-making process of the Administrative Procedures Act. Since 17 August 1991, the Corps has utilized the *Corps of Engineers Wetlands Delineation Manual* (1987 Corps Manual). This

manual is less encompassing than the 1989 Manual, since the presumption that hydric soils are an indicator of wetland hydrology is not used in this manual. The inundation or saturation of the soil must be present for a minimum of 12.5 % of the growing season, as opposed to 7 days out of the growing season for the 1989 Manual.

The vegetation criteria for the 1987 Manual also require that FAC, FACW or OBL plant species dominate the vegetation strata, as opposed to FACU, FAC, FACW and OBL plant species included for a wetland determination for the plant criteria as in the 1989 Manual. This shift in manual use shrinks the jurisdiction of wetland areas, especially the palustrine forested wetland areas that are typically found along the floodplains of perennial streams.

On 15 August 1991, Proposed Revisions to the Federal Manual for Identifying and delineating Jurisdictional Wetlands were published in the FEDERAL REGISTER of the United States congressional record for public comment. This proposed manual was developed in response to concerns that the 1989 Manual may have included substantial area (based on 7 days of wetness) as wetland that may not be "wet enough" to be wetland. The hydrological criteria defined in the new manual requires that an area experience inundation for a minimum of 14 consecutive days or saturation to the surface for a minimum of 21 consecutive days. Also, greater scrutiny of plant dominance on a site is mandatory in this proposed manual.

State protection of wetland areas within the jurisdiction of the Chesapeake Bay Act has met with less than total compliance on the part of localities and land owners. Land developers have challenged the state's Bay Act with litigation. In 1 of 3 Bay Act suits filed by the same attorney in 1990, a York County Circuit Court judge threw out the Bay rules, delaying full implementation of the Act until late 1991. The Bay Act rules were challenged in court in York and Spotsylvania counties. Although 46 cities, counties and towns in Virginia are required to implement local ordinances of the Bay Act, only 32 Eastern Virginia cities and counties have bay regulations on their books to date.

DISCUSSION

Current Status of Wetlands: A Regional Overview:

In a comparison among Delaware, Maryland, Pennsylvania, Virginia and West Virginia, among the five states, Virginia has the greatest wetland acreage while West Virginia has the least. Virginia has approximately 739,600 hectares of wetland of which 301,080 hectares are inland vegetated wetlands. The remaining area of wetland is comprised of coastal vegetated wetlands, tidal flats/beaches, and freshwater ponds (Dahl, 1990).

It is estimated that in the 1780's, 1,050,200 hectares of wetlands existed in Virginia. Since that time, approximately 42% of the original wetlands have been lost in the State. Due to the historical perception of wetland as "wasteland" or a convenient place to dump trash and other debris, the Commonwealth has lost almost half of its original wetland area. As the many benefits of wetlands have become realized, this public resource has recently gained federal and state protection. State and federal laws have evolved in an attempt to preserve these sensitive areas. The intrinsic nature of these transitional areas to be dynamic and not static, makes technical definitions difficult and impermanent. This is further complicated

by the fact that any legal/technical definition must include the support of scientific, political and environmental communities.

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