

NONTIDAL WETLAND PROTECTION PROGRAM  
A GUIDANCE DOCUMENT  
TALBOT COUNTY

SEP 1989

Maryland Coastal Zone Management Program

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# Talbot County

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## Nontidal Wetland Protection Program

A Guidance Document

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Maryland - Coastal Zone Management Program

TALBOT COUNTY  
NONTIDAL WETLAND PROTECTION PROGRAM:  
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PREPARED BY:

McCRONE, INC.  
20 RIDGELY AVENUE  
ANNAPOLIS, MD 21401

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## INTRODUCTION

Generally, wetlands can be described as areas transitional between uplands and water that are periodically or permanently inundated by surface or groundwater and support vegetation adapted for life in saturated soils. Examples of wetlands include swamps, marshes, bogs, streams and similar areas.

Most residents of Talbot County are very familiar with tidal wetlands; the coastal marshes that fringe the creeks, rivers and embayments associated with the tidal waters of the Chesapeake Bay. Fewer residents are familiar with the nontidal wetland resources of Talbot County. While the term itself is somewhat self-explanatory (i.e. nontidal wetlands are wetlands not influenced by tidal waters), many people are surprised to learn that hundreds of acres of nontidal wetlands are located throughout the County; many of them a notable distance from any body of water.

Nontidal wetlands can occur as a result of a high groundwater table, or the retention of surface waters in a natural depression. They are found along the edges of streams or in overflow bottomlands (floodplains). Most nontidal wetlands are naturally occurring, however, some are man-made as a result of development activities (e.g. ditches, stormwater basins). They can be areas that are permanently covered with water (e.g. ponds) or they can be areas that are saturated with water for just a short period of time (a week or two) during the growing season. Nontidal wetlands are found in farm fields as well as woodlands. They can occur in urban as well as rural areas.

The Maryland Department of Natural Resources (DNR) publication on nontidal wetlands ("Nontidal Wetlands: A Handbook for Maryland Local Government") discusses two important sets of reasons for protecting nontidal wetlands. First, these areas are usually hazardous building sites. Wetland areas are exposed to flooding, characteristically have inadequate soil support, and pose severe limitations for on-site domestic waste disposal. Development along streams and rivers often is subject to the deep and high velocity flow occurring in the area. Even when wetlands are filled, subsequent development is exposed to these hazards. Additionally, development will increase hazards for adjacent lands upstream and downstream.

Secondly, nontidal wetlands should be protected for their valuable environmental functions. Some of these functions (as described in the DNR publication) are discussed below.

Flood conveyance and storage - Flood waters flow naturally into stream and river channels. If these areas are filled or blocked, flood flow and height is increased. The dense vegetation found in wetlands effectively store flood waters and allow its slow release downstream. Notably, a one acre wetland can store 330,000 gallons of water, if flooded to a depth of one foot.

Erosion and sediment control - The canopy of wetland vegetation impedes rainfall thereby reducing the generation of sediment. The complex and extensive root system of wetland plants also stabilize soils and allow the effective infiltration of water into the soil. Sediment carried by runoff is trapped and held by vegetation, thus reducing deposition of sediment into open water. In shallow water, submerged vegetation acts as a filter to adsorb sediment particulates. Wetland vegetation also reduces water velocity, allowing sediment to be deposited on overbank areas.

Pollution control - Nontidal wetlands act as pollutant filters. The vegetation traps and removes nutrients such as nitrogen and phosphorus. Wetlands also collect and hold sediment, silt and other natural and man-made pollutants generated in the upland environment. Heavy metals are accumulated in wetland soils, thus limiting their exposure to humans and wildlife. Wetlands are becoming increasingly recognized as important mechanisms for reducing point source pollution resulting from wastewater treatment plants.

Wildlife habitat - Nontidal wetlands are heavily utilized as breeding and feeding areas for all types of wildlife including waterfowl, mammals, amphibians, fish and reptiles. Because they are transitional areas between water and uplands, nontidal wetlands provide a diversity of habitat and, therefore, can support an array of wildlife. Wetland productivity is one of the highest among ecosystems. Most of Maryland's rare and endangered plant and animal species occur in nontidal wetland habitat.

Water supply - Many wetlands are underlain by groundwater aquifers. Wetlands can be natural recharge areas where ground and surface water are interconnected.

Harvest of Natural Products - Natural crops such as blueberries, cranberries and rice flourish in nontidal wetlands. Research indicates that cattails have a great potential for production of protein as well as for alcohol as a supplement for fossil fuels. Timber products and harvestable furbearing wildlife occur in nontidal areas.

Recreation and Aesthetics - Because of the diversity of habitat, nontidal wetlands present good opportunities for birdwatching. Fishing and canoeing also are possible. Wetlands provide natural study areas for educational purposes. They also enhance the diversity and beauty of the landscape and can improve air quality in urban areas.

Recognizing the need to protect and conserve the State's nontidal wetland resources, the Maryland General Assembly passed legislation referred to as the Nontidal Wetlands Protection Law in April of 1989. The new legislation calls for the State to attain a regional goal of "no net loss in wetland acreage and function, and to strive for a net resource gain in nontidal wetlands over present conditions". To implement the protective measures of the law, the DNR, as the lead regulatory State agency, was directed to devise a set of regulations that would establish a permitting procedure for certain land use activities proposed in nontidal wetland areas. A mitigation requirement for nontidal wetland loss is also part of the legislative mandate. A timeline for important elements relating to the law is presented as Table I.

The nontidal wetland legislation includes a provision that allows the DNR to delegate regulatory authority to County jurisdictions that can demonstrate capabilities to implement the protection initiatives and regulations. It is in response to this provision that Talbot County has elected to pursue the possibility of obtaining regulatory authority. This document has been prepared to assist the County in moving forward on its nontidal wetland regulatory initiatives.

The document is organized into two major parts or Sections. Section I consists of a set of guidelines for a countywide Nontidal Wetland Protection Program. The Protection Program, as proposed, can be established by the County whether or not it decides to proceed toward obtaining State-delegated permitting authority for regulated activities. The program includes a procedure for identifying nontidal wetlands, and a County review process for protecting wetlands during site plan and subdivision review. Language for incorporating the program initiatives into the County's Comprehensive Plan and local ordinances is proposed.

Section II focuses on a discussion of the County's efforts to obtain State-delegated permitting authority over certain activities proposed in nontidal wetlands. In Section II, the most recent draft of DNR regulations (August 1989) are discussed in light of the County's objective to gain regulatory authority. A number of specific issues are identified; issues that the County must consider before proceeding toward development of a State approved permit program.

**TABLE I  
TIMELINE FOR  
NONTIDAL WETLANDS PROTECTION LEGISLATION**

- April 1989 - Nontidal Wetlands Protection Law passed by Maryland General Assembly
- July 1989 - Activities requiring a DNR Waterway Permit must comply with standards in the law
- August 1989 - Draft regulations published in Maryland Register; promulgation process begins
- December 31, 1989 - Regulations finalized; first phase of State mapping completed; General Assembly begins its review
- January 1990 - First phase of State maps available through Salisbury State University
- March 15, 1990 - The 1990 General Assembly completes its review of regulations and maps
- December 31, 1990 - Counties must have plans and programs accepted for delegation of regulatory authority. DNR or delegated counties begin issuing permits; mitigation will be required for disturbed wetlands

## SECTION I - NONTIDAL WETLAND PROTECTION GUIDELINES

In recognition of the need to protect nontidal wetlands areas, the following set of guidelines has been developed to assist Talbot County in establishing a Nontidal Wetland Protection Program. The guidelines introduce a procedure for identification and conservation of wetland resources during the County's site plan and subdivision review process for proposed development projects. A mechanism for requiring, reviewing and monitoring mitigation plans also is provided. Regulatory initiatives are presented in a format that allows easy integration of the program elements into the County's comprehensive plan and associated ordinances.

### **A. Nontidal Wetland Identification**

The accurate identification of nontidal wetlands on a site is the first important step in a regulatory process. There are two phases of the wetland identification procedure: in-house research and on-site delineation. Both phases must be completed to ensure that all wetlands in a particular area are properly identified and located for adequate protection.

#### **1. In-House Research**

The first phase of wetland identification, in-house research, is performed by collecting and analyzing available secondary sources of information (e.g. maps, aerial photographs, site plans). As described below, a variety of information sources are available to Talbot County.

County officials can utilize in-house research methods during initial review procedures for site plans and subdivision proposals. The information sources also can be made available to individual land owners that are interested in obtaining a preliminary indication of whether or not nontidal wetlands exist on their property. However, it is necessary to note that secondary sources are not always accurate. As a result, in-house research must always be followed by an on-site inspection performed by field personnel experienced in making wetland determinations.

The following is a recommended in-house research process for Talbot County. The process generally follows methods outlined in the January 1989 "Federal Manual for Identifying and Delineating Jurisdictional Wetlands", however, it has been tailored to fit Talbot County's needs.

#### **Step 1 - Locate the Site/Property on a U.S. Geological Survey 7.5 Minute Topographic Map**

By locating the site on the large scale USGS maps, a regional indication of topography, land forms, and water bodies can be gained. Location of streams, marshes, rivers and drainageways in the vicinity of the subject site will present a potential for wetland areas.



## Step 2 - Review the County's and DNR State Wetland Maps

The County's wetland maps were created by photographically enlarging the U.S. Department of the Interior National Wetlands Inventory Maps and overlaying the Inventory information onto the County tax maps at a 1" = 600' scale. The County's Wetland Maps include an index which shows how the tax maps relate to the USGS topographic maps. If the County maps indicate the presence of wetlands on a particular property, then it is very likely that wetlands do occur, unless there is evidence that the area has been altered by fill or draining.

It is very important to recognize that there are some notable limitations to the use of the County's Wetland Maps. The maps will not always show the presence or exact location and size of a particular wetland. For example if a wetland area is not displayed on the maps, wetlands could still be present on site. Furthermore, nontidal areas shown on the County maps could be much larger in area than what is indicated. Wetlands shown as occurring near a particular property, but not within the property lines could actually extend into the subject site. Conversely wetland areas on the site may actually be smaller than indicated on the wetland maps.

Each of the wetland areas shown on the County maps are coded to provide information on vegetation type and water regimes of wetlands. The coded classifications are standardized according to a system devised by the U.S. Fish and Wildlife Service. More detailed information on the system can be obtained in the publication by Cowardin et. al. (1979).

The Maryland DNR is in the process of creating a set of State nontidal wetland maps. The maps will be based on satellite imagery and presented at a 1" = 1000' scale. Once these maps are made available for public use, the information should be utilized in conjunction with the County's Wetland Maps.

## Step 3 - Review the Talbot County Soil Survey

The Soil Survey of Talbot County (USDA 1970) provides an abundance of information that can be utilized to detect potential nontidal wetland areas. Soil types, as found on the survey maps for a subject property, can be compared to the list of Hydric Soils for Maryland (Table II). Hydric soils are very poorly drained, saturated soils that are able to support wetland vegetation. If hydric soils are designated for the site, a wetland probably is present, particularly if the area is also shown as a wetland on County maps. On the other hand, some areas showing hydric soils may have been altered (e.g. drained) and no longer can support wetland vegetation (e.g. some farm fields).

Certain soil types, though not considered to be hydric and thus not found on the hydric soil list, can also support wetlands. These are poorly drained soils or soils with a seasonally high water table such as Keyport, Woodstown, Donlonton or Monmouth. The text of the Soil Survey should be reviewed to determine which soil types have wet characteristics.

The Soil Survey maps also give a reasonably good indication of the location of intermittent and perennial streams, wet areas, drainageways and treelines. The presence of woods or treelines in a predominately agricultural area may indicate that the wooded area has not been cleared due to extreme wetness, and thus forested wetlands may be present.

#### Step 4 - Review Aerial Photographs

Aerial photographs can provide valuable information, particularly if climatological data are known for the region. For example, it is important to know if the photo was taken in a year with normal or abnormal (low or high) precipitation. Evidence of wetlands to look for in aerial photographs include:

- wetland vegetation
- surface water and saturated soils
- flooded or stressed crops
- greener crops in dry years
- forested areas within croplands (forested areas may be too wet to till).

Aerial photographs for Talbot County are available from several sources. The Wetlands Division of DNR has 1985 aerial photographs of coastal areas at a 1" = 1000' scale. The Soil Conservation District for the County also has infrared photographs at a 1" = 1320' scale (April 1981 and March 1982).

#### Step 5 - Review Site - Specific Information

A property owner may have pertinent information relating to wetlands. Field run or aerial topographic studies can provide site-specific information including the location of areas of vegetation, elevation changes, floodplains, streams, drainageways and slopes. Reports or plans prepared by government officials or consultants that have made a site visit can also be helpful (e.g. environmental assessments, soil percolation tests).

#### 2. On-Site Delineation

Once in-house research is completed, a field investigation must be performed to determine the extent of existing wetlands on a site. The accurate delineation of wetland boundaries is an essential component to a protective regulatory program.

In conjunction with the U.S. Fish and Wildlife Service, the Environmental Protection Agency and the Soil Conservation Service, the U.S. Army Corps of Engineers has developed a unified set of technical guidelines for the field determination and delineation of wetlands. The methodologies are described in the January 1989 document entitled "Federal Manual for Identifying and Delineating Jurisdictional Wetlands". This manual should be followed during all field determinations.

Generally, the unified wetland identification process involves the consideration of the following three environmental parameters:

1. hydrophytic or wetland vegetation
2. hydric soils
3. surface and/or groundwater hydrology

Each of these parameters should be assessed during an on-site investigation.

Vegetation type and areal coverage should be noted and documented. The predominance of wetland versus upland indicator plant species can be determined through use of information provided in the "National List of Plant Species that Occur in Wetlands: Northeast (Region 1)". This publication lists plants by both common and scientific name and provides the indicator status of the plant. The indicator status is based on the plant's frequency of occurrence in wetland habitats as follows:

- a. Obligate - always found in wetlands (>99% of the time); e.g. skunk cabbage.
- b. Facultative Wetland - usually found in wetlands (67 to 99% of the time); e.g. phragmites
- c. Facultative - sometimes found in wetlands (33 to 67% of the time); e.g. sweetgum
- d. Facultative Upland - seldom found in wetlands (<33% of the time); e.g. white oak.

Soil samples should be taken using an auger or hand sampler. Hydric soil indicators, such as color or the presence of mottled or gleyed (gray color) materials should be analyzed. These soil characteristics are a result of chemical changes due to prolonged saturation. Soil colors are compared to the standardized Munsell Color Chart.

Hydrological indicators also should be examined in the field. Indicators include observation of topography and drainage patterns, standing water, saturated soils, water stained or sediment covered leaf litter and swollen tree bases.

As a wetland area is assessed and boundaries determined, flagging should be placed along the upland/wetland edge. Flag locations should be surveyed and the wetland delineation line and the adjacent minimum 25 foot buffer shown on a site plan.

Nontidal wetland delineations must be performed by qualified personnel experienced in making field determinations. The U.S. Army Corps of Engineers, the State Nontidal Wetlands Division of the DNR, the Soil Conservation Service, and the U.S. Fish and Wildlife Service have staff that may be contacted for a field inspection. If government agency personnel are not available, a qualified private consultant can be hired to perform a delineation.

It must be noted that wetlands are ecological transition zones that show a great deal of physical and biological variability. As a result, there is no one single, correct indisputable wetland determination. Because of the inherently subjective nature of wetland interpretation, a delineation should always be reviewed by all authorities involved in a permit or regulatory procedure.

The 1988 Maryland Nontidal Wetland Protection Law directs the DNR to develop a certification program for wetland scientists. To gain State certification for performing delineation and mitigation activities, a candidate must meet minimum requirements for coursework and field experience. The certification program will ensure that uniform and professional standards are applied to wetland identification, delineation and mitigation. All personnel involved in the regulatory process (i.e. private consultants and public officials) will eventually be required to obtain State certification.

TABLE II

HYDRIC SOILS OF MARYLAND

(Source: U. S. Soil Conservation Service 8/6/65)

<u>Soil Series</u>	<u>Drainage</u>	<u>Soil Series</u>	<u>Drainage</u>
Andover	P	Leon, flooded	P
Andover, Stony	P	Leonardtwn	P
Armagh	P	Lickdale	VP
Armagh, Stony	P	Lickdale, stony	VP
Atkins	P	Loysville	P
Atsion	P	Markes	P
Atsion, tide flooded	P	Melvin	P
Axis	VP	Melvin, cool	P
Baile	P	Melvin, ponded	P
Barbour	W	Nolo	P
Bayboro	VP	Nolo, stony	P
Bayboro, ponded	VP	Melvin, cool	P
Berryland	VP	Osier	P
Bibb	P	Osier, flooded	P
Bladen	P	Osier, ponded	P
Bladen, ponded	P	Othello	P
Bowmansville	P, SP	Plummer	P
Brinkerton	P	Plummer, ponded	P
Brinkerton, stony	P	Pocomoke, drained	VP
Colemantown	P	Pocomoke, ponded	VP
Croton	P	Portsmouth	VP
Croton, stony	P	Purdy	VP
Dunning	P	Roanoke	P
Elkins	VP	Roanoke, ponded	P
Elkton	P	Robertsville	P
Fallsington	P	Rutledge	VP
Guthrie	P	Rutledge, ponded	VP
Guthrie, ponded	P	Shrewsbury	P
Hatboro	P	St. John's	P
Hyde	VP	St. John's depressional	P
Ipswich	VP	Warners	VP
Johnston	VP	Warners, non-flooded	VP
Kingsland	VP	Watchung	P
Kinkora	P	Watchung, stony	P
Lantz	VP	Wehadkee	P
Lenoir	SP	Westbrook	VP
Leon	P	Worsham	P

P - Poorly drained

VP - Very poorly drained

SP - Somewhat poorly drained

W - Well drained

**B. Project Review Process**

The following process is recommended for County review of site and subdivision plans to determine potential impact to nontidal wetlands from proposed development projects. The process, as described, is also reflected in the proposed ordinances found in Section C. Regulatory Initiatives. A summary of the review process is illustrated in Table III.

**1. Plan Review**

The location of all nontidal wetlands, and a minimum 25 foot buffer or expanded buffer should be accurately shown on site and subdivision plans submitted to the County. The County should then review the plans to determine:

- if wetlands are shown on the plan, that the delineation of the wetlands boundary is correct; and if no nontidal wetlands are shown, that none exist on the site.
- whether proposed plans will directly affect the wetland as a result of placement of fill or structures or grading within the wetland and/or buffer.
- whether structures or activities outside the wetland and buffer will indirectly affect the wetland through alteration of hydrology.

In-house research is the first step in determining the possible presence and general extent of wetlands on a site proposed for development activities. The Talbot County planning staff can easily perform the in-house research described in Section I.A. Nontidal Wetland Identification. Talbot County, however, is not sufficiently staffed to perform on-site field delineation or confirm delineations performed by independent consultants.

There are several alternatives the County should consider to gain technical assistance in site plan review. For instance, the County could rely on State or federal agencies for assistance, and request that biologists from the U.S. Army Corps of Engineers, DNR or Soil Conservation Service confirm delineations. However, increasing workloads and understaffing often keeps government personnel from making routine site visits.

The County can also consider forming an environmental Technical Advisory Committee (TAC). The TAC would be comprised of individuals from the private, academic or governmental community who have expertise in environmental matters. At least one member of the committee should be experienced in wetland activities. The TAC could examine proposed plans, make site visits and provide comments to the County planning staff.

The County also may want to consider hiring a full or part-time environmental planner with expertise in wetland regulation. The planner would be responsible for in-house research and the confirmation of delineations. A qualified planner could also perform on-site delineations when necessary.

Once it is determined that the nontidal wetland and buffer have been properly identified and shown on the submitted plan, the County must determine if proposed development activities will affect the resource. If there will be no disturbance to the wetland or buffer and hydrologic regimes will not be significantly altered, then no further action is needed during the review process.

If it is necessary to disturb the nontidal wetland (i.e. the project is water-dependent or no feasible alternative exists for the project), the County shall require that all appropriate federal and State permits be obtained. At this time, a Section 404 permit issued by the Corps of Engineers would be required for the discharge of dredged or fill material in the wetland area. Additionally, per Section 401 of the Clean Water Act, and in conjunction with Section 404, a State Water Quality Certification must be obtained for any proposed discharge of pollutants into water or wetlands. The Maryland Department of the Environment is the issuing agency of the 401 permit. The 401 and 404 permits are processed through a joint application procedure.

After December 31, 1990, as mandated by the State Nontidal Wetland Protection legislation, certain work within nontidal wetlands and the buffer will be regulated through either a DNR or County permitting procedure. These future permits also will be processed under the aforementioned joint application procedure.

Under the proposed Nontidal Wetland Protection Program, the County should require that a copy of all correspondence from State and federal agencies be submitted for review. This should include copies of permits or copies of letters indicating that permits are not needed or that the requirement has been waived or activities exempted. The County should also consider requiring that the Maryland Forest Park and Wildlife Service be contacted for an indication of whether or not threatened or endangered species or significant natural habitat may be affected by the development project.

## 2. Mitigation Activities

When development activities alter or destroy nontidal wetlands, mitigation should be required. Mitigation in the form of restoring, enhancing or creating nontidal wetlands should be considered only after all necessary steps are taken to avoid or reduce wetland losses.

Currently, mitigation is often a condition of the joint Section 404 and Section 401 permits. After December 1990, mitigation also will be required by the DNR or a County authorized for permitting regulated activities. It is recommended that Talbot County require that copies of proposed mitigation plans be submitted as part of development project review. This will ensure that the County can identify local land use issues that may not be considered under the State and federal permit procedures. The County may also decide to require mitigation in circumstances where federal and State agencies have waived or exempted mitigation.

Talbot County should use the following guidelines in reviewing mitigation plans. Mitigation areas should be connected to existing nontidal wetlands, waterways or 100 year floodplains in a geographic location selected according to the following order of preference:

- on site
- off-site in areas of the County where the State or County has determined a need for nontidal wetlands
- off-site in the same watershed or drainage basin
- outside of the same drainage basin

At a minimum, the area of wetland replacement or enhancement should equal the area lost. The area of replacement can be increased to two or more times the area lost for more sensitive wetlands such as forested or scrub-shrub wetlands.

Examples of mitigation strategies may include:

- the expansion of existing wetlands into surrounding uplands through regrading;
- the design and installation of water control structures to alter hydrological processes (making an existing wet area wetter)
- surface water diversion to an area not currently supporting wetlands
- design of stormwater management basins or borrow areas to establish shallow marsh
- enhancing wetland production or habitat by eliminating an existing invasive plant species such as phragmites
- rehabilitation of stream channels
- increasing the upland buffer area

A mitigation project should include two central components; an engineering plan for creating an efficient hydrological regime and a planting plan for the establishment of a diversity of wetland vegetation. A viable and productive wetland system must be designed.

The engineering portion of the site plan should identify pre and post construction water sources, soil types, topography (pre-and-post construction elevations) as well as temporary and permanent stormwater management and sediment/erosion control measures. Provisions for adequate dissolved oxygen levels and temperature should be provided, particularly for stream systems.

The planting plan should include a variety of wetland plants and all species should be native to the locale. The design should incorporate measures to maintain and enhance habitat for mammal and bird populations as well as herptofauna (reptiles and amphibians). Forested wetlands including wooded buffers should include a mixture of evergreen and deciduous species that are multilayered to produce a canopy layer, understory of shrubs and vines, as well as groundcover. Wherever possible, previously cleared areas (such as croplands) should be allowed to regenerate themselves through natural succession.

The County will need to establish a monetary compensation system for situations where it is determined that restoration or creation of nontidal wetlands is just not feasible. For example, monetary compensation may be necessary when an acceptable creation or restoration site can not be found in the watershed of the affected wetland area. The monies within the fund could then be utilized for creation or restoration of wetlands to fulfill a more regional need (e.g. wetlands created to assist in a sewage treatment system). The funds could also be used to acquire lands for nontidal wetland creation.

A mitigation plan should include a three year monitoring program that ensures that a healthy and viable wetland system is produced. The program should assure that dead vegetation is replaced and that undesirable plant species do not invade the area. Hydrological systems, stormwater management and sediment/erosion control capabilities of the mitigated wetland may need to be "fine-tuned" over the monitoring period.

The County should require that a performance bond be posted to cover any and all expenses incurred from implementing the mitigation plan. The bond should be released only after the County determines that all mitigation requirements have been met and a productive wetland has been successfully established.

At this time, the County may need assistance in reviewing and monitoring mitigation plans. Mitigation is a highly technical field, with the state-of-the-art continually evolving. The County should consider establishing a Technical Advisory Committee, or hiring an independent consultant or additional planning staff to implement mitigation activities. Federal and State agencies can also be requested to review plans and monitor mitigation projects.

### C. Regulatory Initiatives

To have an effective Nontidal Wetland Protection Program, Talbot County should integrate the goals and objectives of the program into the County Comprehensive Plan and associated ordinances. The following program outline is suggested and presented in a format and language for easy translation into regulatory documents.

Nontidal wetlands are recognized as an important ecological and economic component of the Talbot County landscape. Nontidal wetland resources are known to attenuate floodwaters, reduce pollutant loadings to surface and groundwater, protect erodible shorelines and slopes, provide valuable habitat for fish and wildlife including rare and endangered species, support food chains and provide areas of timber and natural crop production. Talbot County further recognizes that by protecting its nontidal wetlands from incompatible land uses that impair surface and groundwater supplies, public health and safety hazards, as well as associated financial burdens from flooding, groundwater contamination, sanitation problems and erosion can be reduced.



It is the intent of Talbot County to conserve and enhance its nontidal resources and wherever possible prevent further degradation and loss through a comprehensive program of protective initiatives and ordinances. Under the Talbot County Nontidal Wetland Program the County's wetlands are identified on a set of preliminary planning maps, a standardized method for the identification and on-site delineation of nontidal wetlands during the site plan and subdivision review process is established, a regulatory procedure including mitigation requirements is developed and appropriate ordinances for program implementation and enforcement are provided.

Nontidal wetlands, as defined under the Talbot County Nontidal Wetland Protection Program, means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Nontidal wetlands considered under the County Protection Program includes

- (a) those areas found on the County's Wetland Maps and State Nontidal Wetland maps as confirmed by an on-site field identification and delineation performed according to the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" (January 1989).
- (b) all nontidal wetlands within the County not shown on the County or State Nontidal Wetland maps, but found by site survey and delineation according to methodologies in the Federal Manual.

Tidal wetlands regulated under Natural Resources Article, Title 9, Annotated Code of Maryland are not included under the County's Nontidal Wetland Protection Program.

-At the time of proposed development (application for building and grading permits, subdivision, variances, rezoning, special exception and conditional uses), an applicant shall identify all nontidal wetlands on a site. An on-site delineation of wetland boundaries shall be performed by a qualified professional according to methodologies outlined in the Federal Manual. Wetland boundaries shall be flagged in the field and reviewed on-site by representatives of Talbot County.

-A minimum 25 foot buffer shall be maintained around all nontidal wetlands. The buffer shall be expanded to a maximum of 100 feet to include sensitive resources such as steep slopes, highly erodible soils or other soils with development constraints whose disturbance may impact the healthy functioning of the wetland area. A 100 foot buffer shall be maintained around Nontidal Wetlands of Special State Concern as they are indicated on the County and State Nontidal Wetland maps.

-Development or other activities shall be prohibited within the nontidal wetland, the buffer or expanded buffer, unless it can be shown that the activity will not adversely affect the wetland.

-After December 31, 1990, a person may not conduct certain regulated activities within a nontidal wetland, the buffer and expanded buffer unless it is determined that the activity is:

- 1) water-dependent and requires access to the nontidal wetland as a central element of its basic function; or
- 2) is not water-dependent and has no practicable alternative; and
- 3) will minimize alteration or impairment of the nontidal wetland hydrological conditions and plant and wildlife resources
- 4) will not cause or contribute to a degradation of groundwater or surface water

-Regulated activities shall require a written permit or exemption letter from the Maryland Department of Natural Resources, (or the County if authority is granted).

-An application for a permit or exemption letter shall include, but not be limited to, a copy of the following:

- 1) completed and signed application form
- 2) detailed description of the type and purpose of the project including all project phases
- 3) proposed starting and completion dates for all project phases
- 4) A site plan at a scale not less than 1 inch equals 200 feet that includes:
  - a. nontidal wetland boundary and buffer or expanded buffer
  - b. location of existing and proposed structures and activities
  - c. property lines of site and adjacent landowners
  - d. location of Nontidal Wetlands of Special State Concern
  - e. location of soil types
- 5) cross-sections of final elevations after grading, filling or excavating
- 6) acreage of wetland, and buffer to be permanently and temporarily affected by the proposed activity
- 7) written documentation from Maryland Forest, Park and Wildlife Service as to the presence (or not) of threatened or endangered species
- 8) a characterization of the vegetation, soils and hydrology of the wetland including an identification of nontidal wetlands having significant plant or wildlife value
- 9) a written description of measures considered during the project planning process for minimizing losses to nontidal wetlands on the proposed site and reasons for their rejection. The description shall include a discussion of measures to reduce the project size, configuration or density as well as reasonable or customary alternative designs

-A copy of all correspondence and permits including permit conditions from State and federal agencies shall be submitted to the County.

-If proposed development activity is shown to be water-dependent or cause unavoidable and necessary impacts to the wetlands, then a plan for mitigation of wetlands must be prepared by the applicant.

-A mitigation plan must specify measures that will provide water quality benefits and plants and wildlife habitat equivalent to the wetland destroyed or altered. At a minimum, the area of mitigation should equal the area of wetland disturbed or lost. The area of replacement may be increased to two or more times the area disturbed or lost for wetlands considered to be particularly productive or valuable.

-Selected mitigation sites shall be on-site and connected to existing nontidal wetlands, waterways or the 100 year floodplain. If on-site location is not possible, than the selected area shall be off-site in the watershed or drainage basin where the wetland loss has occurred, or on a site selected by the County.

-At a minimum the mitigation plan shall include:

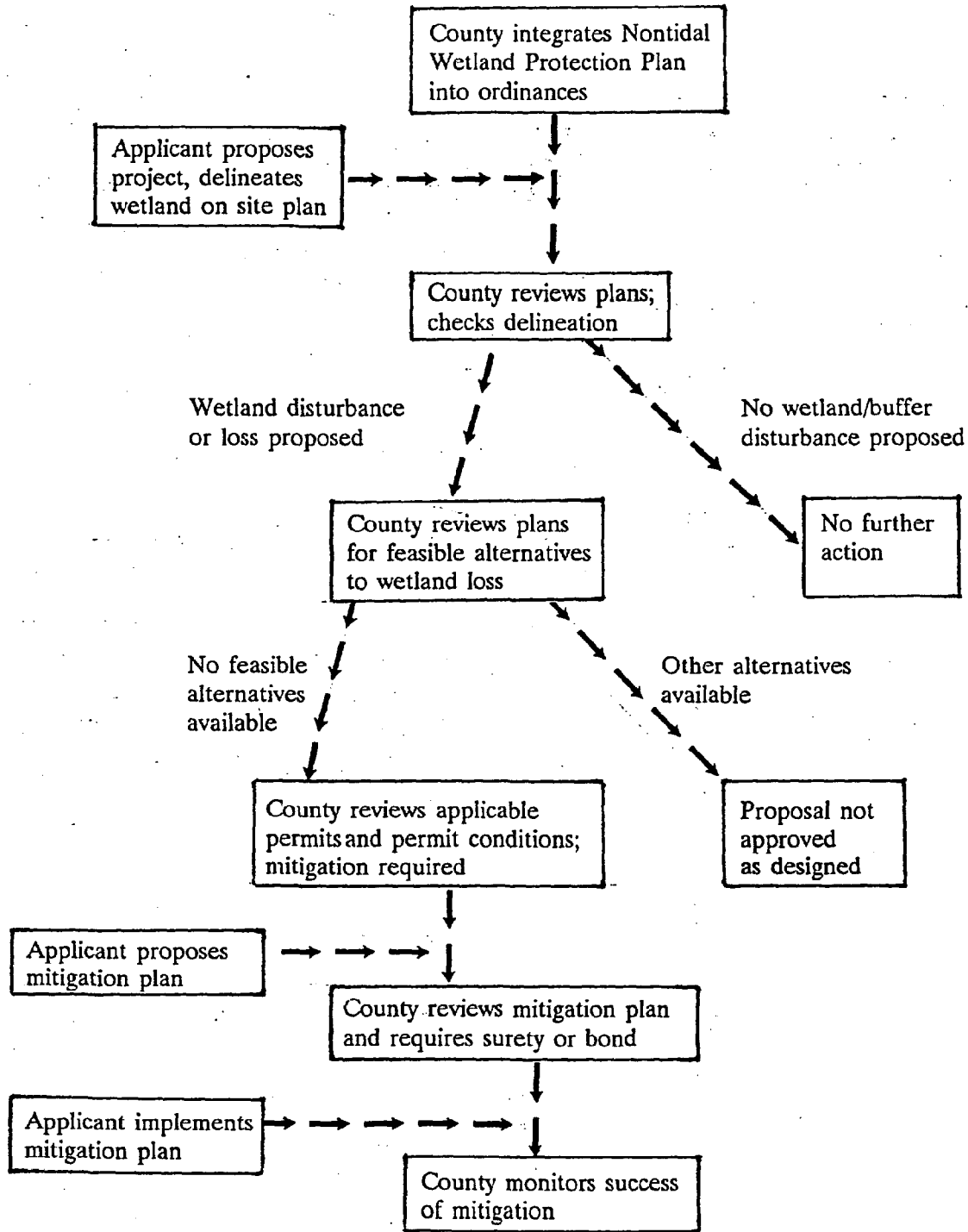
- 1) location, type and area of nontidal wetland mitigation activities
- 2) location, spacing and type of plant species and a description of planting times and techniques
- 3) Scientific and common names of plant species. (All vegetation shall be native to the area).
- 4) location of structures, or grading activities that will be used to create hydrologic regime, including pre and post construction elevations and water levels, where applicable
- 5) location and description of sediment/erosion control and stormwater management techniques and structures (temporary or permanent)
- 6) description of source and reliability of water saturation
- 7) location of stockpile and borrow areas
- 8) a description of a 3 year monitoring program to ensure the creation of a successful, productive wetland. (The program shall include responsibility for the removal of exotic or nuisance plants).

-The proposed plan shall be reviewed by the County and any selected representatives from appropriate State and federal agencies.

-The County shall only accept monetary compensation if it determines that creation or restoration of nontidal wetland losses is not a feasible alternative.

-A surety or bond shall be posted with the County to cover any and all expenses incurred to implement the mitigation plan and establish a viable wetland system.

TABLE III  
 SUMMARY OF MAJOR ACTIVITIES UNDER PROPOSED TALBOT COUNTY  
 NONTIDAL WETLAND PROTECTION PLAN



## SECTION II - STATE REGULATORY ISSUES

As previously stated, the Maryland Nontidal Wetland Protection legislation includes a provision that allows an individual County government to take authority over certain regulated activities proposed in nontidal wetlands. In response to the provision, Talbot County is considering development of an independent program for assuming permit responsibilities. However, once a program is developed, it must be reviewed and approved by State officials before regulatory authority can be granted. The following is a discussion of specific issues that the County must consider before pursuing an independent permitting program.

### **A. Staff and Funding**

As mentioned in Section I of this document, certain activities within a nontidal wetland protection program, such as delineation and mitigation, are highly technical and require that staff have a certain amount and type of training and field experience for proper implementation. At this time, Talbot County can perform many of the administrative duties of a wetland program, but need to rely on other government officials or independent consultants to provide technical information.

Under a State-delegated regulatory program, the County must demonstrate that it has, or will have, sufficient staff to administer and enforce a permit system. Employed staff should be versed in the technical aspects of wetland determination, be able to scrutinize plans and determine if alternative designs or sites can reduce wetland disturbance, review proposed mitigation plans and techniques, and monitor mitigation projects to ensure that a viable wetland system is established.

The County will need to project an anticipated workload. At this time, it seems that one environmental planner, with technical expertise in wetland activities, could handle the County's current project load. If a full-time employee can not be justified, Talbot County could consider coordinating with an adjacent county to "share" a regional environmental planner.

The County will need to present a discussion of budget and funding capabilities to the State. Funding must be available to cover administrative costs of the permit program including, but not limited to, ordinance revision activities, application processing, planning and support staff salaries, supplies and equipment, regular wetland training, travel expenses, and enforcement administration.

### **B. Ordinance Revisions**

The State's draft regulations were published for public comment in August 1989. The regulations are detailed and complex. Because they are currently under public review, it is anticipated that the regulations will be revised and repropounded before going before the General Assembly in December of this year. The General Assembly then has until March 1990 to make any further revisions.

Once the regulations have been redrafted and finalized, the County should make its final decision as to whether or not it is interested in obtaining regulatory authority over activities in nontidal wetlands. If the County decides to pursue permitting authority, the finalized State regulations must then be incorporated into the County's Wetland Protection Program and ordinances.

The Protection Program presented in Section I of this document provides the foundation for a protection program which can be adopted by the County whether or not the County decides to attempt gaining State-delegated regulatory authority. However, additional ordinances would eventually be needed to reflect the complexity of the State permitting regulations. These ordinances would address such issues as: application information requirements, conditions for exemption from permit requirements, temporary emergency permit criteria, mitigation requirements and standards, establishment of a monetary compensation fund in lieu of mitigation, standards for forestry and agricultural activities, expanded buffer requirements, enforcement, permit suspension, revocation and bond forfeiture. The County can not develop final ordinances until the State regulations are adopted by the General Assembly. The DNR intends to develop a set of "model ordinances" for interested counties, once the State regulations are finalized, however, it is not clear when the model ordinances would be available.

#### C. Assumption of Full Program Responsibility

The current State nontidal wetland regulations indicate that a county that wishes to assume authority must accept the State program in its entirety and may not assume responsibility for only a portion of the program. This means that the County must enforce, as well as implement the permit requirements. The State program is very detailed and complex, and will require a significant amount of administrative and technical input.

Furthermore, permit activities must be coordinated with a number of State and federal agencies including the U.S. Army Corps of Engineers, and Maryland Department of the Environment. In particular, projects proposing large impact areas could involve negotiations with even more regulatory officials such as the Fish and Wildlife Service, National Marine Fisheries and Environmental Protection Agency.

Enforcement activities would also be involved. The County would be responsible for issuing a written complaint, require corrective actions (e.g. stop work order), and hold public hearings. Documentation must be generated to support permit suspensions or revocations, bond forfeitures, and penalties. Enforcement may require a significant amount of staff activity.

The State will retain oversight of a delegated County's program. The County will have to notify the State of completed applications for permits for regulated activities. The State also can request more specific information for a particular project. Annual reports will be required. Every two years the delegation must be reviewed by the State, at which time the State may require amendments to the program or deny renewal.

D. Delegation Deadline

The DNR regulations state that a county must develop a regulatory program and have it reviewed and accepted by the DNR by December 31, 1990. The regulation implies "a one time only" opportunity to gain state approval. At this time, the DNR is considering the issue of whether or not a county will be given the opportunity to request and gain regulatory authority after December 1990.

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