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User Notes for National Wetlands Inventory Maps of Eastern Maryland*

U.S. Fish and Wildlife Service
Region 5
Habitat Resources
Newton Corner, MA 02158

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*This report covers the following 1:100,000 map areas: Washington NW, NE, SW; Salisbury NW, SW; Baltimore NE, SE and Wilmington NW and SW.

Introduction

The U.S. Fish and Wildlife Service, Office of Habitat Resources is conducting an inventory of the wetlands of the United States using conventional aerial photointerpretation techniques. All wetlands are classified according to the Service's new system - Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al., 1979). The National Wetlands Inventory (NWI) is establishing a wetland data base, in both map and computer forms for the entire country. The present emphasis is on map production and in the future, wetland data will be digitized to create an automated wetland data base, as funding becomes available. The NWI information will serve to identify the current status of U.S. wetlands and can be used as a reference point from which future changes in wetlands can be evaluated. Final wetland maps for Maryland can be ordered from the Maryland Department of Natural Resources, Wetlands Division, Water Resources Administration, Tawes State Office Building, Annapolis, MD 21401. Other information, including a topical brief about the NWI program, can be obtained by contacting the Regional Wetland Coordinator, U.S. Fish and Wildlife Service, One Gateway Center, Newton Corner, MA 02158.

Subject Area

This report covers the Chesapeake Bay region of Maryland. It encompasses the following 1:100,000 map areas: Washington NE, NW, SW; Salisbury NW, SW; Baltimore NE, SE; Wilmington NW and SW. This area falls within the Southeastern Mixed Forest Province (Bailey 1978) and the Atlantic Coastal Plain. It includes all of the Maryland portion of Chesapeake Bay.

Map Preparation

Two series of wetland maps were produced: (1) large-scale (1:24,000) series and (2) small-scale (1:100,000) series. The National Wetlands Inventory employs conventional aerial photointerpretation techniques, i.e. high-altitude photography, to map wetlands and deepwater habitats. Wetlands were identified on aerial photographs based on vegetation, visible hydrology, and geography in accordance with the Fish and Wildlife Service's wetland definition and classification system (Cowardin et al. 1979). There is a margin of error inherent in the use of aerial photographs. Thus, a detailed on-the-ground survey may result in revision of the wetland boundaries. Map should therefore be used to locate the presence of wetlands and not to identify precise boundaries between wetlands and uplands.

Outlined below are relevant data about the wetlands inventory for eastern Maryland.

Contractor for Photointerpretation

University of Massachusetts
Department of Forestry and Wildlife Management
Amherst, Massachusetts 01003

Aerial Photography Used

The aerial photography used to annotate wetlands was either 1:60,000 black and white panchromatic transparencies (1978 and older) or 1:60,000 color infrared transparencies (1981 and more recent). The dates of the photography for each 1:100,000 mapping unit are outlined below. Specific photography used for a given area is listed on each large scale NWI map.

1:100,000 Mapping Unit	Dates
Salisbury SW	Spring 1972, Spring 1976, Spring 1977, Spring 1978 (Updated with Spring 1981/2 1:60K CIR).
Salisbury NW	Spring 1981/2
Wilmington NW	Spring 1981/2
Wilmington SW	Spring 1981/2
Washington SE	Spring 1972, Spring 1977, Spring 1978
Washington NE	Spring 1981/2
Washington NW	Spring 1977
Baltimore NE	Spring 1981/2

Field Checking

Approximately four weeks of field work was performed.

Collateral Data Used

U.S. Geological Survey topographic maps
Department of Commerce Coast and Geodetic Survey maps
U.S.D.A. Soil Conservation Service Soil Surveys
Environmental Atlas of the Potomac Estuary
Extent of Brackish Water in the Tidal Rivers of Maryland

Minimum Mapping Unit

The minimum mapping unit is generally one to three acres, although wetlands less than one acre are commonly mapped.

Reviewers of Draft Maps

Maryland Department of Natural Resources:
Water Resources Administration and Tidewater Administration
U.S.D.A. Soil Conservation Service
U.S. Environmental Protection Agency
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
National Marine Fisheries Service

Photointerpretation Problems

Photointerpretation of wetlands in Maryland presented a few problems that had to be addressed. These problems and their solutions are discussed below:

1. Determination of the boundary between the riverine (freshwater) and estuarine (brackish water) systems. Relied heavily on collateral data sources, i.e. Potomac Estuary report and the Maryland brackish water report. This was complemented by photointerpretation of non-halophytic woody vegetation encroaching into the marsh as an indicator of greater freshwater influence.

2. Delineation of tidal flats. Used Coast and Geodetic Survey charts to identify those areas which aerial photography did not show low tide stage. Since the photography was not tide coordinated, this procedure was the general rule.

3. Flooding. Spring flooding conditions on some of the photos obscured emergent vegetation. Field checks and use of collateral photography or other sources, when available, were the primary means of resolving this problem.

4. Identification of aquatic beds. Aquatic beds were not visible in early spring imagery. Hence they were included in the "open water" class, except where field checked.

5. Riverine Tidal vs: Riverine Non-Tidal Waters. Where specific head of tide data were lacking, the boundary between the tidal and non-tidal rivers was approximated by consulting contours on USGS topographic maps. In limited cases, bridge abutments and other features were examined in the field for evidence of tidal flooding.

6. Mapping temporarily flooded wetlands. When photo-signatures were difficult to make a wetland determination, soil survey reports were consulted and field checking was conducted whenever possible. The national list of hydric soils was used as guide to identifying wetland soils.

Wetland Communities

The Fish and Wildlife Service is preparing a list of wetland plants (i.e. hydrophytes) to help identify wetlands. A tentative regional list is now available for distribution. In the future, the Service plans to develop a list of the Nation's wetland plant communities. At this time, however, such information is not available.

Table 1 represents a list of major wetland plant communities observed during inventory work in eastern Maryland. Map symbols are also given; they reflect dominant vegetative life-form and water regimes (i.e. the degree of flooding and/or soil saturation).

Hydric Soils

The presence of undrained hydric soil is one of the three major criteria used to define wetlands (Cowardin et al., 1979). The U.S.D.A. Soil Conservation Service is preparing a list of hydric soils to accompany the Fish and Wildlife Service's wetland classification system. Table 2 is a draft list of hydric soils for Maryland. For specific information regarding hydric soils in Maryland, contact the State Soil Scientist, U.S.D.A., Soil Conservation Service, 4321 Hartwick Road, College Park, MD 20740.

TABLE 1 (CONTINUED)

Map Symbol	Dominant Types	Plant Common Name	Water Regime
PEMFB	*Juncus effusus*	Soft Rush	Saturated
PEMFA	*Lythrum salicaria*	Purple-Loosestrife	Temporarily Flooded
PEMCA	*Phalaris arundinacea*	Reed Canary Grass	Temporarily Flooded
PSS1F	*Cephalanthus occidentalis*	Buttonbush	Semi-Permanently Flooded
PSS1E	*Alnus* spp.	Alder	Seasonally Flooded and Saturated
	Cornus spp.	Dogwood	
	Salix spp.	Willows	
	Rosa palustris	Swamp Rose	
PFO1C	*Myrica cerifera*	Wax Myrtle	Seasonally Flooded
PFO1E	*Acer rubrum*	Red Maple	Seasonally Flooded and Saturated
	Nyssa sylvatica	Black Gum	
	Fraxinus sp.	Ash	
PFO1C	*Acer rubrum*	Red Maple	Seasonally Flooded
	Betula nigra	River Birch	
	Quercus spp.	Oaks	
PFO1A	*Platanus occidentalis*	Sycamore	Temporarily Flooded
	Quercus spp.	Oaks	
	Acer rubrum	Red Maple	
	Acer negundo	Box Elder	
	Liquidambar styraciflua	Sweet Gum	
	Betula nigra	River Birch	
	Ulmus americana	Elm	
	Liriodendron tulipifera	Tulip Poplar	
	Fraxinus spp.	Ash	
	Juglans cinerea	Butternut	

Literature Cited

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