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NATIONAL WETLANDS INVENTORY

NOTES TO USERS

for the

Huntsville 1:100,000 Scale Map Area

Gadsden NE

INTRODUCTION

In 1974, the U.S. Fish and Wildlife Service directed its Office of Biological Services to conduct an inventory of the nation's wetlands. This National Wetlands Inventory (NWI) became operational in 1977.

Wetland delineations depicted on these maps were produced by stereoscopically interpreting high altitude aerial photography and then transferring this information with a zoom transfer scope to an overlay using the U.S. Geological Survey 7.5' or 15' map series as base information.

Wetlands were identified on the photography by vegetation, visible hydrology, and geography, and subsequently classified in general accordance with Cowardin et al. Classification of Wetlands and Deep Water Habitats of the United States. Where, for pragmatic reasons, strict adherence to this classification system was not possible, mapping conventions developed by NWI were used.

MAP PREPARATION

The wetland maps of the Huntsville 1:100,000 scale map area were produced using 1:80,000 scale quad-centered U.S. Geological Survey black and white photography captured during February and March of 1979. Photo interpretation and map production were performed by the Tennessee Valley Authority located in Chattanooga, Tennessee. Collateral photography used during this effort was 1:120,000 scale color-infrared captured during May and November of 1971 and 1:7,200 color captured during October of 1979.

Additional information was derived from available soil surveys produced by the Soil Conservation Service, limited ground truthing conducted during October 22-26, 1979, and December 10-13, 1979, and Wetland Classification System for the Tennessee Valley Region by V. Carter and J. H. Burbank.

SPECIAL MAPPING PROBLEMS

Two primary problems were encountered during this mapping effort:

1. Photography exhibiting drawn-down conditions in the reservoirs of the Tennessee River.
2. Manipulation of water levels and vegetation in wildlife management areas. Vegetative manipulation often involved the planting of soybeans for wildlife use.

The former problem was resolved by mapping the reservoirs at full stage while the latter was resolved by mapping both planted soybeans and natural hydrophytes as persistent emergents and employing the artificial water regime.

STUDY AREA

The Huntsville 1:100,000 scale map area is located in the extreme northern portion of Alabama within the Tennessee Valley Authority and encompasses portions of the Tennessee River.

Bailey in Descriptions of the Ecoregions of the United States describes this area as part of the Hot Continental Division, Eastern Deciduous Forest Province where most of the area is rolling, but with some parts being nearly flat. Elevations in this province range from sea level to 2,500 feet with a few isolated peaks in the Appalachian Mountains being over 4,500 feet.

The climate represents a response to a continental climatic regime that receives adequate precipitation in all months with markedly greater amounts falling in the summer months. Only a small water deficit due to evapotranspiration and high moisture demands is incurred in the summer, whereas a large surplus normally develops in the spring. A strong annual temperature cycle brings cold winters and warm summers. The average annual temperature is 40-60°F.

Soils of this area characteristically are Alfisols with Ultisols being encountered toward the lower latitudes. Toward the continental interior, the tendency to calcification sets in and the deciduous forest extends into the darker soils of the grasslands (Mollisols). In the deciduous forests, a

thick layer of leaves covers the ground and humus is abundant.

Bailey divides this Huntsville map area into two sections: the eastern half being described as Mixed Mesophytic Forest and the western half as Oak-Hickory Forest.

WETLAND COMMUNITIES

Riverine System

- R2UB3H - Permanently flooded river channels with unconsolidated mud bottoms typically devoid of vegetation.
- R4SB1U - Less than permanently flooded stream beds with unconsolidated cobble/gravel bottoms typically devoid of vegetation.
- R4SB3U - Less than permanently flooded stream bottoms with unconsolidated mud bottoms typically devoid of vegetation.

Lacustrine System

- L10WHh - Permanently flooded, deep open water lakes formed behind dams on the Tennessee River. These areas are typically devoid of vegetation.
- L20WHh - Permanently flooded, shallow open water lakes formed behind dams on the Tennessee River. These areas are typically devoid of vegetation.
- L2AB2Hh - Permanently flooded, shallow water, submerged vascular aquatic beds. These areas are located behind dams on the Tennessee River. Dominant vegetation includes:
 - Brazilian Elodea (Egeria densa)
 - Coontail (Ceratophyllum demersum)
 - Naiads (Najas spp.)
 - Pondweeds (Potamogeton spp.)
 - Watermilfoils (Myriophyllum spp.)
 - Water Stargrass (Heteranthera dubia)

Palustrine System

- POWH - Permanently flooded open water ponds less than 20 acres. This will usually indicate small oxbows while the addition of the excavated ("x") modifier in the alpha-numeric will indicate dugouts and the addition of the impounded ("h") modifier will indicate small reservoirs.
- PAB1H - Permanently flooded submerged algal beds.
- PAB4Hh - Permanently flooded, impounded, floating-leaved aquatic beds. Dominant species includes:

American Pondweed (Potamogeton nodosus)
Cow-Lily (Nuphar luteum)
Fragrant Waterlily (Nymphaea odorata)
Watershield (Brasenia schreberi)
Yellow Nelumbo (Nelumbo lutea)

PAB5H - Permanently flooded, free floating aquatic beds. Dominant species includes:

Duckweed (Lemna spp.)
Great Duckweed (Spirodela polyrrhiza)
Mosquito Fern (Azolla caroliniana)
Watermeal (Wolffia spp.)

PEM1A, - Temporarily to seasonally flooded persistent emergents often referred to as wet meadows or shallow marshes. Some of these areas are impounded ("h"). Prevalent vegetation includes:

Beggar Ticks (Bidens spp.)
Broomsedge (Andropogon virginicus)
Panic Grasses (Panicum spp.)
Rushes (Juncus spp.)
Sedges (Carex spp.)
Smartweeds (Polygonum spp.)
Spikerush (Eleocharis quadrangulata)
St. John's-worts (Hypericum spp.)
Stinkweed (Pluchea camphorata)
Thoroughwort (Eupatorium perfoliatum)
Three-way Sedge (Dulichium arundinaceum)
Wool-grass (Scirpus cyperinus)

PEM1F, - Semi-permanently to permanently flooded persistent emergents often referred to as deep marsh. Many of these areas are impounded ("h"). A different subclass designation (PEM6Hh) specifies permanently flooded, impounded, broad-leaved persistents. Prevalent vegetation not mentioned above includes:

Alligatorweed (Alternanthera philoxeroides)
Bulrushes (Scirpus spp.)
Bur-reed (Sparganium americanum)
Cattail (Typha latifolia)
Giant Cutgrass (Zizaniopsis miliacea)
Jussiaea diffusa
Rice Cutgrass (Leersia oryzoides)
Rose Mallow (Hibiscus spp.)
Water Smartweed (Polygonum pensylvanicum)

PEM1K - Persistent emergents of wildlife management areas where the water levels are artificially manipulated. Many of these areas are impounded ("h").

PEM2Hh - Permanently flooded, impounded, non-persistent emergents. Different subclasses (PEM4Fh, PEM4Hh) specifies broad-leaved emergents that are semi-permanently or permanently flooded, respectively. Prevalent species includes:

Arrow Arum (Peltandra virginica)
Arrowhead (Sagittaria latifolia)
Golden Club (Orontium aquaticum)
Lizard's Tail (Saururus cernuus)
Nut Grasses (Cyperus spp.)
Pickernelweed (Pontedaria cordata)
Sweetflag (Acorus calamus)

PSS1A - Temporarily flooded broad-leaved deciduous shrubs. The impounded modifier ("h") may be indicated for some of these areas. Prevalent species includes:

Alder (Alnus serrulata)
Dogwood (Cornus amomum)

PSS1C - Seasonally flooded broad-leaved deciduous shrubs. The impounded modifier ("h") is used in some of these areas. Prevalent vegetation includes:

Alder (Alnus serrulata)
Buttonbush (Cephalanthus occidentalis)
Deciduous Holly (Ilex decidua)
Storax (Styrax americana)
Swamp Privet (Forestiera acuminata)
Virginia Willow (Itea virginica)

PSS1F, - Semi-permanently to permanently flooded broad-leaved
PSS1H deciduous shrubs. The impounded modifier ("h") is often indicated for these areas. Dominant vegetation includes Buttonbush and Swamp Privet mentioned above, in addition to Water Loosestrife (Decodon verticillatus).

PF01A - Temporarily flooded broad-leaved deciduous forest often referred to as bottomland hardwoods or overflow areas. The impounded modifier ("h") is sometimes used. Many more water tolerant species mentioned under PF01C will be found in this habitat, but some less water tolerant species include:

Beech (Fagus grandifolia)
Black Cherry (Prunus serotina)
Black Walnut (Juglans nigra)
Catalpa (Catalpa speciosa)
Honey Locust (Gleditsia triacanthos)
Hornbeam (Ostrya virginiana)

Pignut Hickory (Carya cordiformis)
Southern Red Oak (Quercus falcata)
White Ash (Fraxinus americana)

PF01C - Seasonally flooded broad-leaved deciduous forest often referred to as bottomland hardwoods or river swamps. Many of these species also occur in the bottomlands described under PF01A.

American Elm (Ulmus americana)
Black Gum (Nyssa sylvatica)
Box Elder (Acer negundo)
Cherry Bark Oak (Quercus falcata var. pagodaefolia)
Cottonwood (Populus deltoides)
Hackberry (Celtis occidentalis)
Ironwood (Carpinus carolinianus)
Pecan (Carya illinoensis)
Persimmon (Diöspyros virginiana)
Pin Oak (Quercus palustris)
Red Mulberry (Morus rubra)
River Birch (Betula nigrans)
Shellbark Hickory (Carya ovata)
Silver Maple (Acer saccharinum)
Slippery Elm (Ulmus rubra)
Sugarberry (Celtis laevigata)
Swamp Chestnut Oak (Quercus michauxii)
Swamp White Oak (Quercus alba)
Sweet Gum (Liquidambar styraciflua)
Sycamore (Platanus occidentalis)
Willow Oak (Quercus phellos)
Winged Elm (Ulmus alata)

PF01F - Semi-permanently flooded, broad-leaved deciduous swamp, often impounded. Specific communities include cypress and tupelo swamps. Most of the following species are also prevalent in the habitat described above as PF01C.

Bald Cypress (Taxodium distichum)
Bitter Pecan (Carya aquatica)
Black Willow (Salix nigra)
Green Ash (Fraxinus pennsylvanica)
Overcup Oak (Quercus lyrata)
Red Maple (Acer rubrum)
Swamp Cottonwood (Populus heterophylla)
Water Elm (Planera aquatica)
Water Locust (Gleditsia aquatica)
Water Tupelo (Nyssa aquatica)

PF01Hh - Permanently flooded, impounded, broad-leaved deciduous swamp. This habitat usually is dominated by Water Tupelo and/or Black Willow.

- PF04A - Temporarily flooded needle-leaved evergreen forest usually dominated by loblolly pine (Pinus taeda). Usually this dominance type occurs as pure, planted stands or as a mixture with bottomland hardwoods (PF04A).
- PF05C, - Dead timber persisting in a variety of water regimes. Often
PF05F, this is a result of impoundments.
PF05H