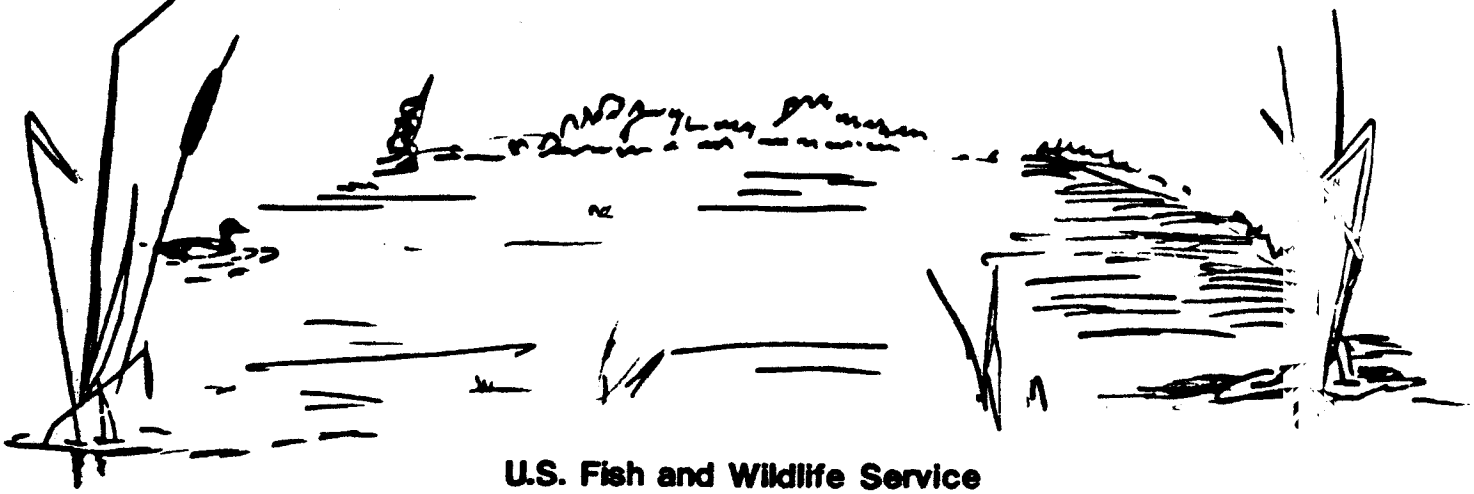
# NATIONAL WETLAND INVENTORY USER REPORT 1:100,000 MAP AREA

**MAP AREA:** CHARLESTON NW

**1:100,000 NAME:** RIPLEY

**STATE:** OHIO

## NORTH CENTRAL REGION



**U.S. Fish and Wildlife Service**

**Federal Building, Fort Snelling Twin Cities, Minnesota 55111**

# USER REPORT
# NATIONAL WETLAND INVENTORY
# U.S. FISH AND WILDLIFE SERVICE
# REGION 3

PREPARED BY

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## USER CAUTION

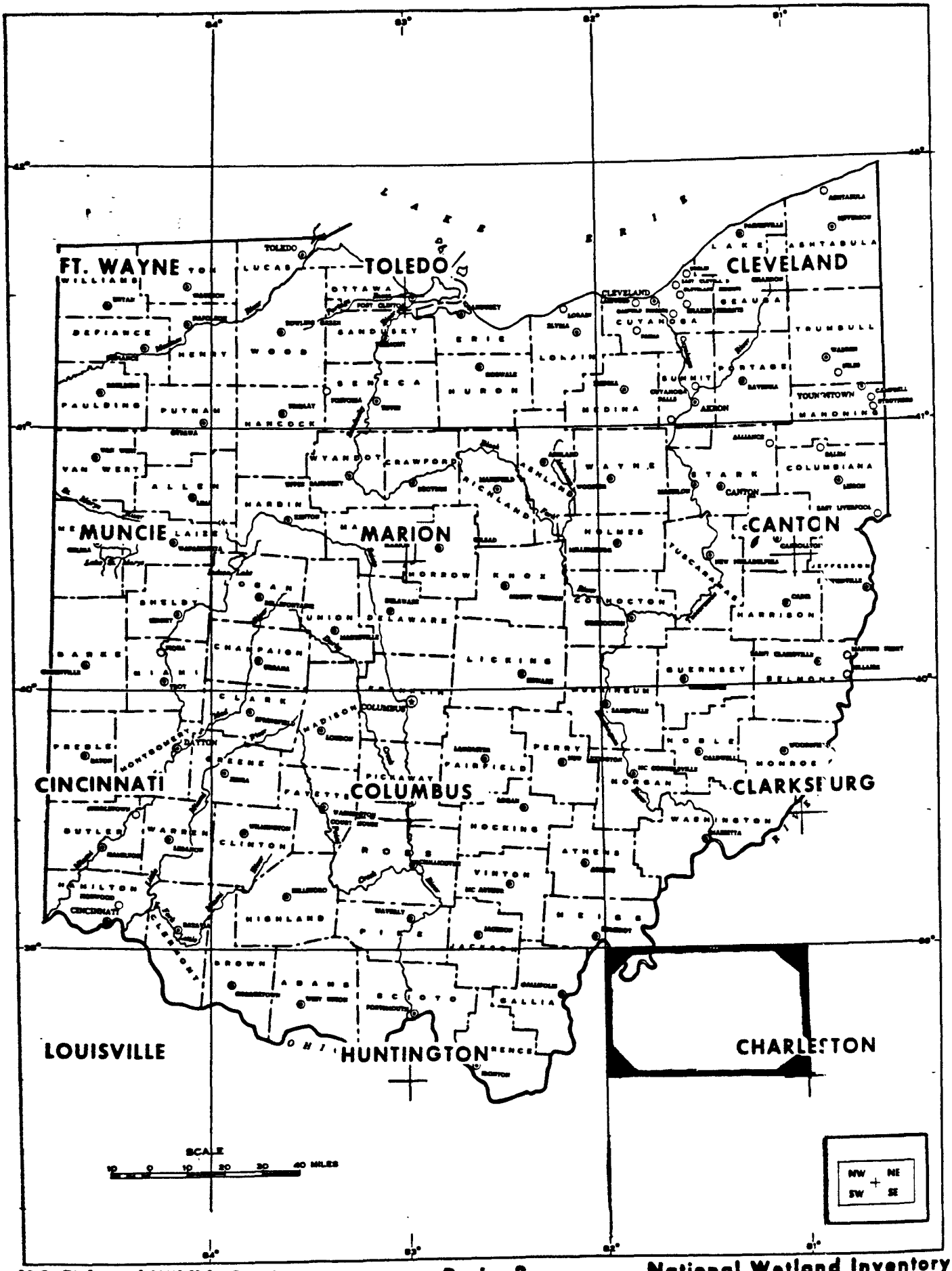
Maps for this 1:100,000 scale map were prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with Classification of Wetlands and Deepwater Habitats of the United States, Cowardin, et al., 1979. The aerial photographs reflect conditions during the specific year and season when they were taken. Some small wetlands and those obscured by dense forest cover may not be included on the map document. In addition, there is a margin of error inherent in the use and interpretation of aerial photographs. Thus a detailed on-the-ground and historical analysis of a single site may result in revision of the wetland boundaries established through photographic interpretation.

Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either design or products of this inventory, to define limits of proprietary jurisdiction of any local, State, or Federal government or to establish the geographical scope of regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specific agency regulatory programs and propriety jurisdictions that may affect such activities.

Additional information regarding this map or other National Wetland Inventory activities may be obtained by contacting:

Regional Director, Region 3 (AH/TS)
Attn: Regional Wetlands Coordinator
United States Fish and Wildlife Service
Federal Building, Fort Snelling
Twin Cities, Minnesota 55111

LOCATION OF REPORT
STATE OF OHIO




U.S. Fish and Wildlife Service Region 3 National Wetland Inventory

DATE: December 1983

MAP PREPARATION

Basic Data

Photography Used:

| | Emulsion | Scale | Date | Percent Coverage |
|---|---|---|---|---|
| 1. | Black and white | 1:80,000 | April 1975 | 3% |
| 2. | Black and white | 1:80,000 | May 1975 | 3% |

Field Check Dates:

1. March 24 - 28, 1980
2. April 20 - May 2, 1980

Contractor(s) for Photo Interpretation:

1. Earth Satellite Corporation
2. Revised in house by USFWS

Collateral Data Used:

1. USGS topographic quad sheets
2. Wetlands Inventory of Ohio, 1955
3. USDA Soil Surveys

Mapping Legend: (See Appendix D)

Farmed Wetlands

It is the policy of the Fish and Wildlife Service to not map farmed wetlands in the National Wetlands Inventory unless the wetland is a pothole-like depression, such as those found in the Prairie Pothole Region, intermittently flooded lake bottoms, cranberry bogs, or diked former tidelands in California. Therefore this map area may contain various amounts of non-depression type wetlands which were farmed on the date of the photography and intentionally not included in the inventory. Many of these omitted wetlands commonly occur in floodplains.

## GEOGRAPHY

### A. General Location

Degrees Longitude: 81° 0' to 82° 0' West

Degrees Latitude : 38° 30' to 39° 0' North

Largest City : Racine, Ohio

The Ohio portion of Charleston NW lies in the southeastern part of the state and is bordered by the Ohio River and West Virginia state border. This map covers a portion of Meigs County and lies in the Ohio River drainage basin.

### B. Ecoregion

Bailey's Ecoregion Classification and Description (Bailey 1978):

Code: 2211L

Humid Temperate Domain (2000)
The entire Charleston NW map is in this Domain.

The climate of this Domain has strong seasonal temperatures and precipitation cycles, and a distinctive winter season. The Humid Temperate Domain comprises the humid midlatitude forests of broadleaf deciduous and needleleaf evergreen trees.

Hot Continental Division (2200)
All of the Charleston NW map lies in this Division.

This Division characteristically has hot summer and cool winters. The natural vegetation is winter deciduous forest, where tall broadleaf trees dominate. These trees form a dense canopy in the summer, but lose their leaves in the winter. The shrub layer is weakly developed. A lush herbaceous layer develops in early spring, but diminishes as the dense tree canopy forms and shades the ground. Soils are primarily Alfisols, Inceptisols and Ultisols which are rich in humus and moderately leached.

Eastern Deciduous Forest Province (2210)
The entire Charleston NW map area falls within this Province.

The vegetation of this Province represents a response to a climate that receives adequate precipitation all year long. Common tree species of the deciduous forests include beech (*Fagus grandifolia*), oak (*Quercus spp.*), birch (*Betula* spp.), basswood (*Tilia americana*), elm (*Ulmus spp.*), maple (*Acer* spp.), and ash (*Fraxinus* spp.). Pines develop quickly in forests cleared for logging.

Trees of poorly drained forests consist of alder (*Alnus spp.*), willow (*Salix spp.*), ash and elm.

Mixed Mesophytic Forest Section (2211L)
This Section occurs in lowland areas and covers all of the Charleston NW map area.

Tree species of the mixed mesophytic forest dominate this Section.

C. Topography and Land Forms

Hammond's Land Surface Form and Physical Subdivision (Hammond 1965, 1969):

Codes: (II-2) D3

Eastern Highland Physical Division (II) - The entire Charleston NW map lies within this Physical Division.

Appalachian Highland Subdivision (2) - This Subdivision covers all of the Charleston NW map area.

Hills Class (D3) - All of the Charleston NW map area is in this Class, where less than 20% of the area is in gentle slopes. Local relief ranges from 300 to 500 feet.

## HYDROLOGY

Carleston NW lies within the Ohio River drainage basin and is bordered by the River on all but the northern edge of the map. Several Ohio River tributaries bisect the Ohio portion of the map area. Due to the steep topography of the area, these tributaries have virtually no floodplain.

The wetland density of Charleston NW is generally quite low. The area has no major lakes or reservoirs. A few palustrine impoundments are scattered throughout the map area.

## GEOLOGY

During the Precambrian age, foldbelts were created in the Charleston NW area by several disturbances within the earth's crust. These disturbances caused the flowage, recrystallization and metamorphism of rock layers far below the surface of the earth, with granite and other plutonic rocks forced into the deepest layers. Much folding and faulting occurred in the subsurface strata, resulting in mountainous terrain.

Foldbelts were eventually eroded to lowlands and were subsequently buried during the Upper Paleozoic age by several strata of sedimentary rocks. These rocks were referred to as platform areas. The surface of these areas accounts for the present-day land forms of Charleston NW (Gerlach 1970).

## CLIMATE

The climate of Charleston NW is rather mild, with average temperatures ranging from 26°F to 46°F in January and from 64°F to 89°F in July. The average annual precipitation ranges from 40 - 42 inches, of which 19 - 20 inches falls during the growing season. Snowfall averages 15 - 20 inches per year, and the ground is usually frost-free from April 25 - October 15 (Collins 1975).

## LAND USE

The presettlement vegetation of Charleston NW consisted largely of mixed oak forests and oak savannas (Collins 1975). As the area was settled during the late 1700's to the early 1800's, the forests were cleared on a large-scale basis to make room for agricultural crops. The cut trees were used to fuel the furnaces of industry. Deforestation continued until much of the remaining timber was concentrated on small scattered tracts of land. This practice left bare slopes which were subjected to severe water erosion, and much of the topsoil was washed away. Many farms were eventually abandoned; permanent pastures and second-growth forests gradually recovered the denuded slopes (Cochran 1960).

Presently, most of the Charleston NW land area consists of oak-hickory woodlots and forests interspersed with cropland and pastures. Coal strip-mining operations occur in several locations throughout the map area.

## RESOURCES

### A. Wetlands

No wetland acreage figure is available for the Charleston NW area at the present time.

The steep terrain of Charleston NW has precluded the development of wetlands. Those wetlands which occur in the map area are found primarily in floodplains of the Ohio River and its tributaries. Some artificial palustrine impoundments also occur in the map area. Wetland concentrations are highest in the southwestern, extreme eastern and extreme western portions of the map.

The river floodplain wetlands consist primarily of flooded woodlands, shrub-emergent mixtures and emergents. Predominant trees of the wet woodlands include maple (*Acer* spp.), ash (*Fraxinus* sp.), oak (*Quercus* spp.), American beech (*Fagus grandifolia*) and willow (*Salix* sp.). Common plant species of the shrub wetlands include willow, dogwood (*Cornus* sp.) and alder (*Alnus* sp.). Emergent wetlands include soft rush (*J. effusus*), sedge, cattail (*Typha* sp.), wool grass (*Scirpus cyperinus*) and reed canarygrass (*Phalaris arundinacea*).

A list of plant species for wetland types can be found in Appendix C.

B. Wildlife and Fish

Wildlife habitat in southeastern Ohio, including the Charleston NE map area, consists primarily of second-growth hardwood forests interspersed with permanent pastures and brushland. Species commonly found in these habitats include the eastern cottontail (Sylvilagus floridanus), white-tailed deer (Odocoileus virginianus), red fox (Vulpes vulpes), gray fox (Urocyon cinereoargenteus), squirrel (Sciurus sp.), woodchuck (Marmota monax), ruffed grouse (Bonasa umbellus) and bobwhite quail (Colinus virginianus) (Cochran 1960).

Farm ponds which are scattered throughout the area provide many fishing opportunities. These ponds are commonly stocked with various combinations of largemouth bass (Micropterus salmoides), sunfish (Lepomis spp.), crappies (Pomoxis spp.), white bass (Morone chrypops), catfish and bullheads (Ictalurus spp.), walleye (Stizostedion vitreum vitreum) and perch (Perca sp.) (U. S. Fish and Wildlife Service 1969).

C. Soils

Soils which occur in the Charleston NW map area exhibit characteristics of the soil order Inceptisol, suborder Ochrept and great group Dystochrept.

Inceptisols are soils with weakly differentiated horizons showing an alternation of parent materials. Soils of this order are usually moist, but may become dry during the warm season of the year. Ochrepts are Inceptisols that have formed in materials containing crystalline clay minerals. The surface horizon of Ochrepts is low in organic matter and exhibits a pale color. Subsurface horizons are altered and have lost mineral materials. Dystochrepts are infertile Ochrepts which are low in bases and have no free carbonates in the subsurface horizon. The average annual temperature of Dystochrepts exceeds 47°F (Soil Conservation Service 1967, Gerlach 1970).

D. Agriculture

Agriculture is of limited importance in the Charleston NW area. The most important agricultural commodity is beef cattle. Other important commodities include dairy cattle, poultry and vegetables (Collins 1975).

E. Minerals

Gravel is mined in a small area in the southeastern part of the Charleston NW map area. Other mineral resources which occur in the area include oil and gas pools, oil shale, coal and salt (Gerlach 1970, U.S. Geological Survey 1960).

## Appendix A

### REFERENCES

Bailey, R.G. 1978. Descriptions of the Ecoregions of the United States. USDA For. Serv. Intermtn. Reg. Ogden, Utah. 77 p.

Cochran, R. 1960. Ohio's Wildlife Resources, Ohio Dept. of Nat. Res. Columbus. 210 p.

Collins, C.W. 1975. Atlas of Ohio Amer. Printing and Publishing, Inc., Madison, Wisc. 310 p.

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, D. C. FWS/OBS-79/31. 103 p.

Gerlach, A.C., ed. 1970. National Atlas of the United States of America. USDI Geol. Surv. Washington, D.C. 417 p.

Hammond, E.H. 1965. 1:17,000,000 scale Physical Subdivisions. 1 map. p. 61. In Gerlach, A.C., ed. 1970. National Atlas of the United States of America. USDI Geol. Surv. Washington, D. C. 417 p.

----- 1969. 1:7,500,000 scale Classes of Land Surface Form. USDI Geol. Surv. 1 map. p. 62-63. In Gerlach, A.C., ed. 1970. National Atlas of the United States of America. USDI Geol. Surv. Washington, D. C. 417 p.

U.S. Fish and Wildlife Service. 1969. Fish and Wildlife Resources: Ohio River Basin Survey Coordinating Committee Ohio River Basin Survey Comprehensive Study, App. G. Cinncinnati. 74 p.

U.S. Geological Survey. 1960. 1:24,000 scale topographic map; Ravenswood, West Virginia-Ohio quadrange. USDI Geol. Surv., Washington, D.C. 1 map.

U.S. Soil Conservation Service. 1967. 1:7,500,000 scale. Distribution of Principal Kinds of Soils: Orders, Suborders and Great Groups. Nat. Coop. Soil Surv. Classif. of 1967. 1 map. p. 86-87. In Gerlach, A.C., ed. 1970. National Atlas of the United States of America. USDI Geol. Surv., Washington, D. C. 417 p.

### ADDITIONAL INFORMATION

The purpose of this report is to provide general information regarding the production of the map and the wetlands found within the area of this map. It does not include descriptions of all wetlands found in the area nor complete species information. For additional information, the following references are recommended:

Snell Environmental Group. 1977. Critical Wetland Areas. Ohio Department of Natural Resources. Columbus. 83 p.

Hammond, E.H. 1964. Analysis of Properties in Land Form Geography: An Application to Broad-scale Land Form Mapping. Annals, Assoc. Amer. Geog. v. 54. p. 11-23.

## Appendix B

### SPECIAL MAPPING PROBLEMS

Problem 1: Access for field checking was limited because of the hilly topography and a lack or roads.

Resolution: N/A.

Problem 2: It was often difficult to accurately identify specific water regimes from the 1:80,000 black and white photography.

Resolution: Combined water regimes (Z, W, Y) were used where necessary.

## Appendix D

NATIONAL WETLAND INVENTORY
Information and Legend
For Map Products

Classification System: The U.S. Fish and Wildlife Service uses the "Classification of Wetlands and Deepwater Habitats of the United States", December, 1979, by L. M. Cowardin, et al., to delineate and identify wetlands. This system is hierarchical and structured around a combination of ecological, biological, hydrological and substrate characteristics which permits universal use across the United States, its territories and possessions. It consists of five systems: Marine, Estuarine, Riverine, Lacustrine (lake) and Palustrine (swamps, bogs, marshes) and proceeds in a hierarchical manner through subsystem, class, and subclass. It also contains provisions to use water regime, water chemistry, soil, and special modifiers to provide additional levels of detail.

Figure 1 is an illustration of the classification system to the class level.

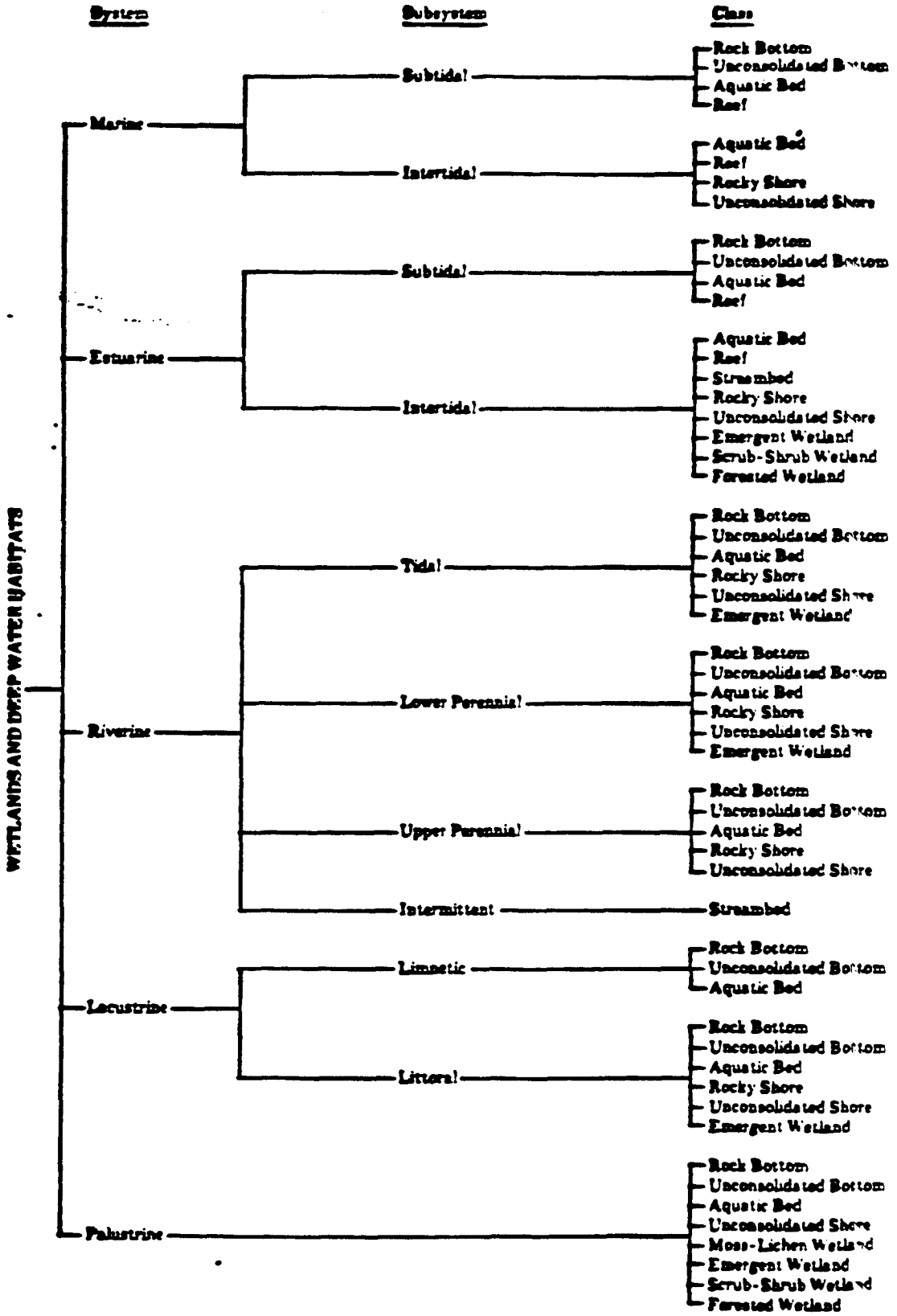



**Fig 1.** Classification hierarchy of wetlands and deepwater habitats, showing systems, subsystems, and classes. The Palustrine System does not include deepwater habitats

**Use of Wetland Legend:** Wetland data are displayed on overlays or maps by a series of letters and numbers (alpha numerics) with the first letter representing the system and subsequent alpha numerics representing, in a sequential manner, the subordinate levels of detail down to the modifiers. Where classes and subclasses have been mixed, they are separated by a diagonal line.

**Examples**

a. Classification of wetlands to water regime and special modifier:

| | |
|---|---|
| System: | Lacustrine |
| Subsystem: | Limnetic |
| Class: | Unconsolidated Bottom |
| Subclass: | Mud |
| Water Regime: | Intermittently Exposed |
| Special Modifier: | Diked/Impounded |

**L 1 UB 3 G h**

b. Mixing of wetland classes and subclasses:
PFO2/EM1F = Palustrine, Forested, Needle-leaved deciduous (PFO2) mixed with Palustrine, Emergent, Persistent (PEM1) with semipermanent water regime (F).

**WETLAND LEGEND***

- [ ] System
- [ ] Subsystem
- [M] Marine
  - [1] Subtidal
  - [2] Intertidal
- [E] Estuarine
  - [1] Subtidal
  - [2] Intertidal
- [P] Palustrine
  - [ ] No Subsystem
- [R] Riverine
  - [1] Tidal
  - [2] Lower Perennial
  - [3] Upper Perennial
  - [4] Intermittent
  - [5] Unknown Perennial**
- [L] Lacustrine
  - [1] Limnetic
  - [2] Littoral
- [U] Upland

*Should be used in conjunction with "Classification of Wetlands and Deepwater Habitats of the United States," by L. M. Cowardin et al.
**Not included in "Classification of Wetlands and Deepwater Habitats of the United States." Created specifically for National Wetland Inventory mapping effort.

Wetland Legend (continued)

[ ] Class

[ ] Subclass

## CLASSES AND SUBCLASSES

[AB] Aquatic Bed
- [1] Algal
- [2] Aquatic Moss
- [3] Rooted Vascular
- [4] Floating Vascular
- [5] Unknown Submergent**
- [6] Unknown Surface**

[EM] Emergent
- [1] Persistent
- [2] Nonpersistent

[FO] Forested
- [1] Broad-Leaved Deciduous
- [2] Needle-Leaved Decidous
- [3] Broad-Leaved Evergreen
- [4] Needle-Leaved Evergreen
- [5] Dead
- [6] Deciduous**
- [7] Evergreen**

[ML] Moss/Lichen
- [1] Moss
- [2] Lichen

[OW] Open Water/ Unknown Bottom**

[RB] Rock Bottom
- [1] Bedrock
- [2] Rubble

[RF] Reef
- [1] Coral
- [2] Mollusk
- [3] Worm

[RS] Rocky Shore
- [1] Bedrock
- [2] Rubble

[SB] Streambed
- [1] Bedrock
- [2] Rubble
- [3] Cobble/Gravel
- [4] Sand
- [5] Mud
- [6] Organic
- [7] Vegetated

[SS] Scrub/Shrub
- [1] Broad-Leaved Deciduous
- [2] Needle-Leaved Deciduous
- [3] Broad-Leaved Evergreen
- [4] Needle-Leaved Evergreen
- [5] Dead
- [6] Deciduous**
- [7] Evergreen**

[UB] Unconsolidated Bottom
- [1] Cobble/Gravel
- [2] Sand
- [3] Mud
- [4] Organic

[US] Unconsolidate Shore
- [1] Cobble/
- [2] Sand
- [3] Mud
- [4] Organic
- [5] Vegetat

**Not included in "Classification of Wetlands and Deepwater Habitats of the United States." Created specifically for National Wetland Inventory mapping efforts.