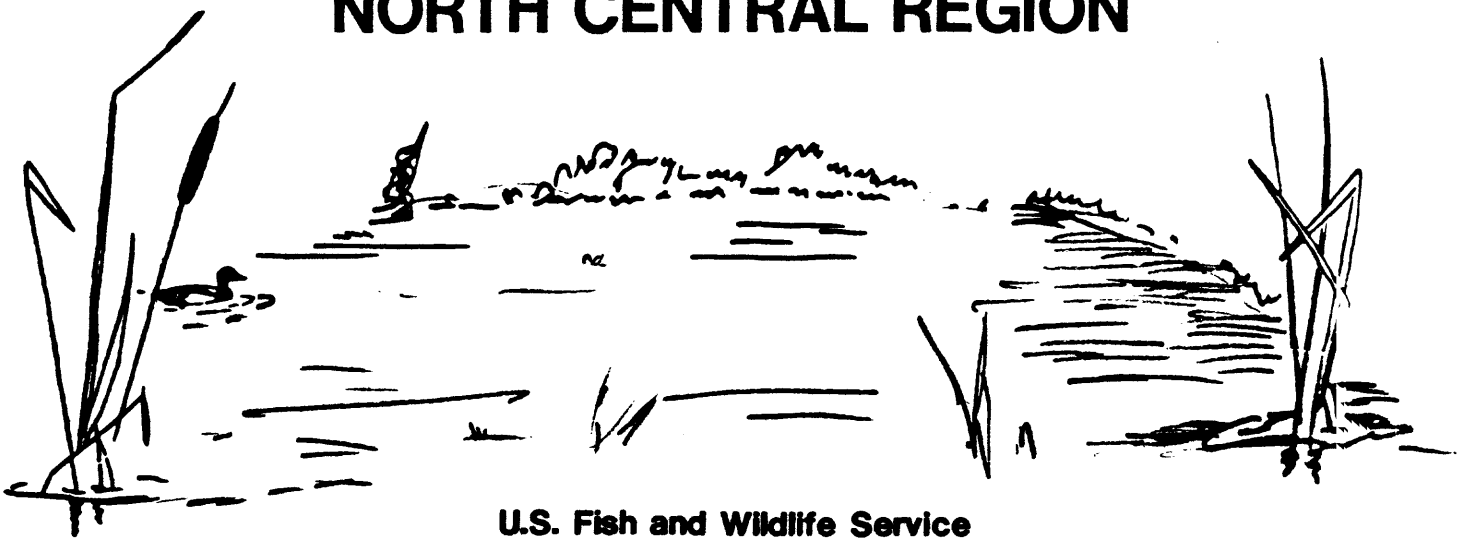
# NATIONAL WETLAND INVENTORY USER REPORT 1:100,000 MAP AREA

**MAP AREA:** BLIND RIVER SW

**1:100,000 NAME:** DRUMMOND

**STATE:** MICHIGAN

## 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.

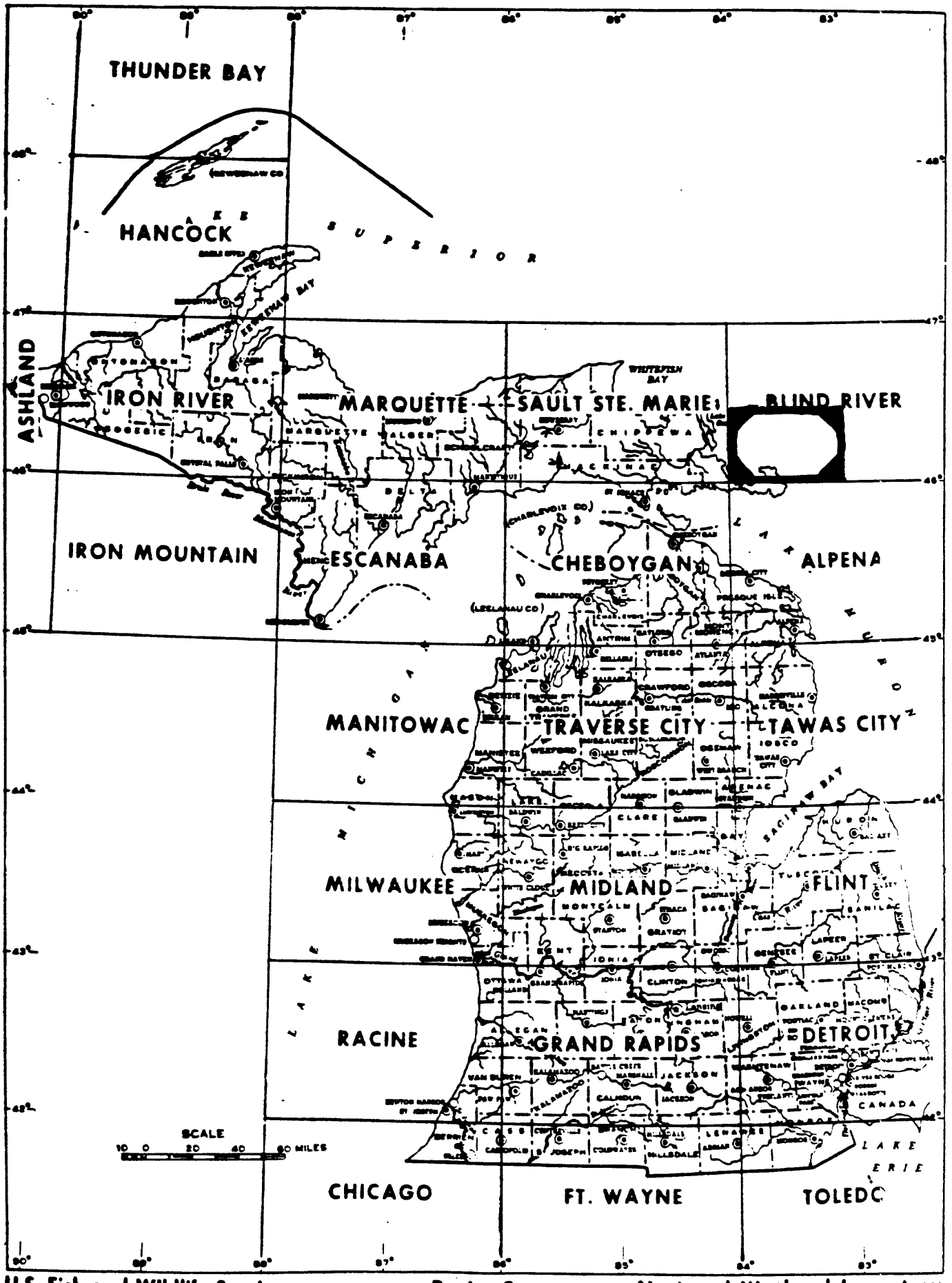
Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either design or products of this inventory, to define limits of proprietary jurisdiction of any local, State, 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

Michigan Dept. of Natural Resources
Land Resources Program
Box 30028
Lansing, Michigan 48909

LOCATION OF REPORT
STATE OF MICHIGAN



DATE: December 1983

MAP PREPARATION

Basic Data

Photography Used:

| Emulsion | Scale | Date | Percent Coverage |
|---|---|---|---|
| 1. Black and white | 1:80,000 | May 1980 | 100% |

Field Check Dates:

1. None

Contractor(s) for Photo Interpretation:

1. Michigan Dept. of Natural Resources

Collateral Data Used:

1. USGS topographic quad sheets
2. 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.

*Plant species named here were found in adjacent 1:100,000 map areas and therefore are believed to be representative of species present in the Blind River SW map area.

B. Wildlife and Fish

Populations of some wildlife species in the Blind River SW map area have declined in recent years. Decline of forest game species, particularly the white-tailed deer (Odocoileus virginianus), has been attributed to decreased habitat diversity caused by improved fire control measures and forest management practices that encouraged conifers.

Some wildlife species on the Engdangered and Threatened list occur in the map area. Habitat loss and competition for nest usage by the brown-headed cowbird (Molothrus ater) have been the reasons for the delcine of Kirtland's warblers (Dendroica kirtlandii). Bald eagles (Haliaeetus leucocephalus) and peregrine falcons (Falso peregrinus) have also decreased in numbers, primarily because of reproductive failure attributed to the use of pesticides. However, Madsen et al. 1982 report that bald eagle production in Michigan showed an overall increase during the period 1973 - 1981.

While some wildlife species in the map area have been decreasing, furbearers, including beaver (Castor canadensis), muskrats (Ondatra zibethica), raccoons (Procyon lotor), weasles (Mustela spp.) and mink (M. vison), have maintained relatively stable populations. Pine martens (Martes americana) and fishers (Martes pennanti), which were once wiped out by overharvesting and logging, have been reintroduced into Michigan's upper peninsula. Canada lynx (Lynx canadensis) are also making a comeback.

Several species of waterfowl inhabit the area including scaups (Aythya spp.), canvasbacks (A. valisineria), redheads (A. americana), ring-necked ducks (A. collaris), mallards (Anas playrynchos), black ducks (Anas rubripes), mergansers (Mergus spp.), goldeneyes (Bucephala clangula), buffleheads (B. albeola), old squaws (Clangula hyemalis), Canada geese (Branta canadensis) and whistling swans (Olor columbianus). The wetlands surrounding Potagannissing Bay and the wooded wetlands flooded by beavers provide important waterfowl nesting sites in the area (Great Lakes Basin Commission 1975b, Panzner 1955, Rounds 1956).

Other wildlife species of Blind River SW include black bears (Ursus americanus), snowshoe hares (Lepus americanus), eastern cottontails (Sylvilagus floridanus), squirrels (Sciurus sp.), ruffed grouse (Bonasa umbellus) and ring-necked pheasants (Phasianus cochicus).

Sport fishing opportunities are available in many inland lakes and in Lake Huron. Crappies (Pomoxis sp.), yellow perch (Perca flavescens), bluegills (Lepomis macrochirus) and other panfish (Lepomis spp., Pomoxis spp.) are the predominant fish species of inland lakes, although largemouth bass (Micropterus salmoides), smallmouth bass (M.

dolomieui), northern pike (Esox lucius), muskellunge (E. masquiongy) and walleyes (Stizostedion vitreum vitreum) are also common. Filling of shoreline wetlands for building purposes has reduced spawning areas in some lakes, particularly for northern pike.

Predominant sport fish of Lake Huron include rainbow smelt (Osmerus mordax), walleyes, yellowperch, smallmouth bass and northern pike. Other sport fish include panfish, suckers (Catostomus), muskellunge, catfish (Ictalurus sp.), coho salmon (Oncorhynchus kisutch), chinook salmon (O. tshawytsha, steelhead (Salmo gairdneri) and lake trout (Salvelinus namaycusch).

Commercial fishing is limited to Lake Huron. Commercial fish species include lake whitefish (Coregonus clupeaformis), lake herring (C. artedii), chubs (Semotilus), catfish and carp (Cyprinus carpio) (Great Lakes Basin Commission 1975a).

## Appendix A

### REFERENCES

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

Great Lakes Basin Commission. 1975a. Fish: Great Lakes Basin Comm. Great Lakes Basin Framework Study, App. 8. Ann Arbor, Mich. 290 p.

----- 1975b. Wildlife: Great Lakes Basin Comm. Great Lakes Basin Framework Study App. 17. Ann Arbor, Mich. 140 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.

Madsen, C.R., T.J. Sheldrake, and J.T. Leach, eds. 1982. Bald Eagle Production in the Great Lakes States 1973 - 1981. U.S. Fish and Wildlife Service, Reg. 3. Twin Cities, Minn. p.

Panzer, E.R. 1955. Wetlands Inventory of Michigan. U.S. Fish and Wildlife Service, Office of River Basin Studies. Minneapolis, Minn. 19 p.

Rounds, B.W. 1956. Inventory of Permanent Water Habitat Significant to Waterfowl in Michigan. U.S. Fish and Wildlife Service, Office of River Basin Studies. Minneapolis, Minn. 10 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:

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. pp. 11-23.

Herdendorf, C.E., S.M. Hartley and M.D. Barnes, eds. 1981. Fish and Wildlife Resources of the Great Lakes Coastal Wetlands Within the United States. Volume four: Lake Huron. U.S. Fish and Wildlife Service, Washington, D.C. FWS/OBS-81/02-v4. 792 p.

## Appendix B

### SPECIAL MAPPING PROBLEMS

Problem 1: Aquatic beds were often not easily distinguished from emergents standing in water.

Resolution: Photography dates were considered. In many instances wetlands which appeared as emergent on spring photography developed into emergent/aquatic bed mixtures as the season progresses (i.e. aquatic beds develop later in the season).

Problem 2: Beaches along the Lake Huron shoreline were not apparent on photos and were subsequently eliminated.

Resolution: Field checking revealed some areas of Lake Huron to have steep or rocky shoreline.

Problem 3: It was 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 C

### WETLAND COMMUNITIES*

| MAP SYMBOLS | LOCAL NAME | DOMINANT VEGETATION | WATER REGIME |
|---|---|---|---|
| PFOB<br>PFOY | Swamp | Tsuga canadensis<br>Betula papyrifera<br>Abies balsamea<br>Thuja occidentalis | Saturated<br>Seasonal |
| PFO1B | Swamp | Acer rubrum<br>Fraxinus nigra<br>Populus spp.<br>Abies balsamea | Saturated |
| PFO4B<br>PFO4Y | Swamp | Thuja occidentalis<br>Tsuga canadensis<br>Picea mariana<br>Abies balsamea | Saturated |
| PFO4/1B | Swamp | Thuja occidentalis<br>Abies balsamea<br>Tsuga canadensis<br>Populus spp.<br>Betula papyrifera<br>Fraxinus nigra | Saturated |
| PFO/SSB<br>PFO/SSY | Swamp | Tsuga canadensis<br>Picea mariana<br>Populus spp.<br>Betula papyrifera<br>Alnus rugosa | Saturated<br>Seasonal |
| PSSB<br>PSSY | Bog | Chamaedaphne calyculata<br>Ledum groenlandicum | Saturated |
| PSSB<br>PSSC<br>PSSY | Swamp | Alnus rugosa<br>Cornus spp.<br>Salix spp. | Saturated<br>Seasonal |
| PSS/EMB<br>PSS/EMC<br>PSS/EMY | Swamp | Alnus rugosa<br>Cornus spp.<br>Salix spp.<br>Carex spp.<br>Misc. grasses | Saturated<br>Seasonal |
| PEMF<br>PEMY | Marsh | Carex spp.<br>Juncus spp.<br>Misc. grasses | Seasonal<br>Semi-permanent |
| POWH | Pond | Open water | Permanent |

*Plant species listed here were found in adjacent 1:100,000 map area and therefore may not be representative of species present in the Blind River SW map area.

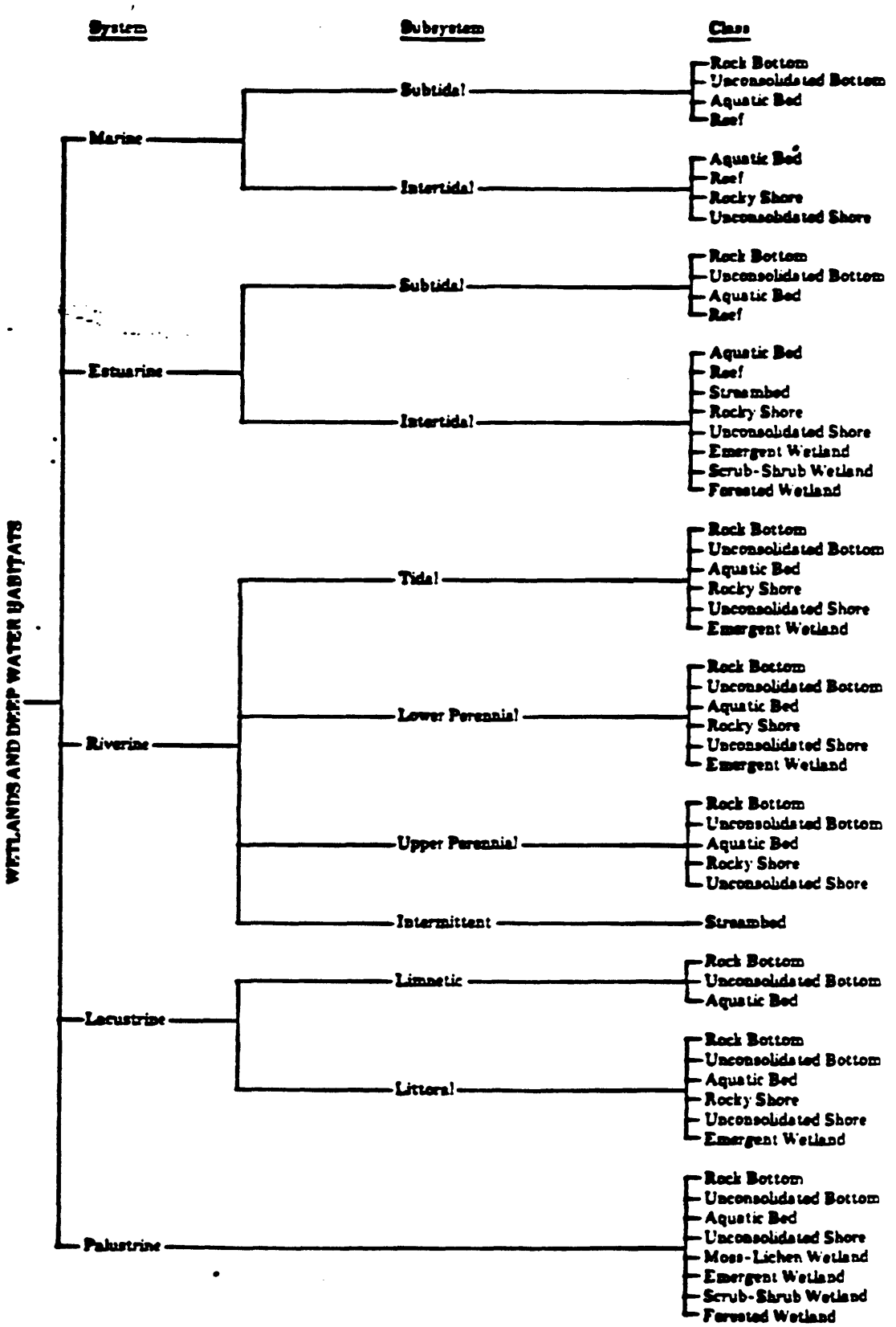



**Fig 1.** Classification hierarchy of wetlands and deepwater habitats, showing systems, subsystems, and classes The Palustrine System does not include deepwater habitats.

**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] Unconsolidated Shore
- [1] Cobble/Gr
- [2] Sand
- [3] Mud
- [4] Organic
- [5] Vegetated

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

## MODIFIERS TO WETLAND CLASSIFICATION

### WATER REGIME MODIFIERS

**Nontidal**

- A Temporary
- B Saturated
- C Seasonal
- D Seasonally Flooded-Well Drained
- E Seasonally Flooded-Saturated
- F Semipermanent
- G Intermittently Exposed
- H Permanent
- J Intermittently Flooded

**Nontidal Combined**

- Z Intermittently Exposed/ Permanent (G,H above)**
- W Intermittently Flooded/ Temporary (A,J above)**
- Y Saturated Semipermanent/ All Seasonals (B,C,D,E F above)**

**Nontidal and Tidal**

- U Unknown**
- K Artificial

**Tidal**

- L Subtidal
- M Irregularly Exposed
- N Regularly Flooded
- P Irregularly Flooded
- R Seasonal - Tidal
- S Temporary - Tidal
- T Semipermanent - Tidal
- V Permanent - Tidal

### WATER CHEMISTRY MODIFIERS

**Coastal Salinity**

- 1 Hyperhaline
- 2 Euhaline
- 3 Mixohaline (Brackish)
- 4 Polyhaline
- 5 Mesohaline
- 6 Oligohaline
- 0 Fresh

**Inland Salinity**

- 7 Hypersaline
- 8 Eusaline
- 9 Mixosaline
- 0 Fresh

**pH Freshwater**

- a Acid
- t Circumneutral
- l Alkaline

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

## OTHER MODIFIERS

**Special**

- b — Beaver
- d — Partially Drained/ Ditched
- f — Farmed
- h — Diked/Impounded
- r — Artificial
- s — Spoil
- x — Excavated

**Soils**

- q — Organic
- n — Mineral

Statement to Users: The overlays/maps 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." The aerial photographs typically reflect conditions during the specific year and season when they were taken. In additon, there is a margin of error inherent in the use of aerial photographs. Thus, a detailed on-the-ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In additon, some small wetlands and those obscured by dense forest cover may not be included on this map. Federal, State, and local regulatory agencies with jurisdictions over wetlands may define and descirbe wetlands in a different manner than that used in this Inventory, There is no attempt, in either the design or products of this Inventory, to define the limits of proprietary jurisdiction of any Federal, State, or local government or to establish the geographical scope of the regulatory programs and proprietary jurisdictions that may affect such activities.

To Order NWI Topical Wetland Overlays/Maps: A National Wetland Inventory Order Form is required and can be obtained by writing to the address on the letterhead.