

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

MAP AREA: IRON RIVER SE

1:100,000 NAME: IRON RIVER

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

RONALD E. ERICKSON
REGIONAL WETLAND INVENTORY COORDINATOR
U.S. FISH AND WILDLIFE SERVICE
FEDERAL BUILDING, FORT SNELLING
TWIN CITIES, MINNESOTA 55111

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.

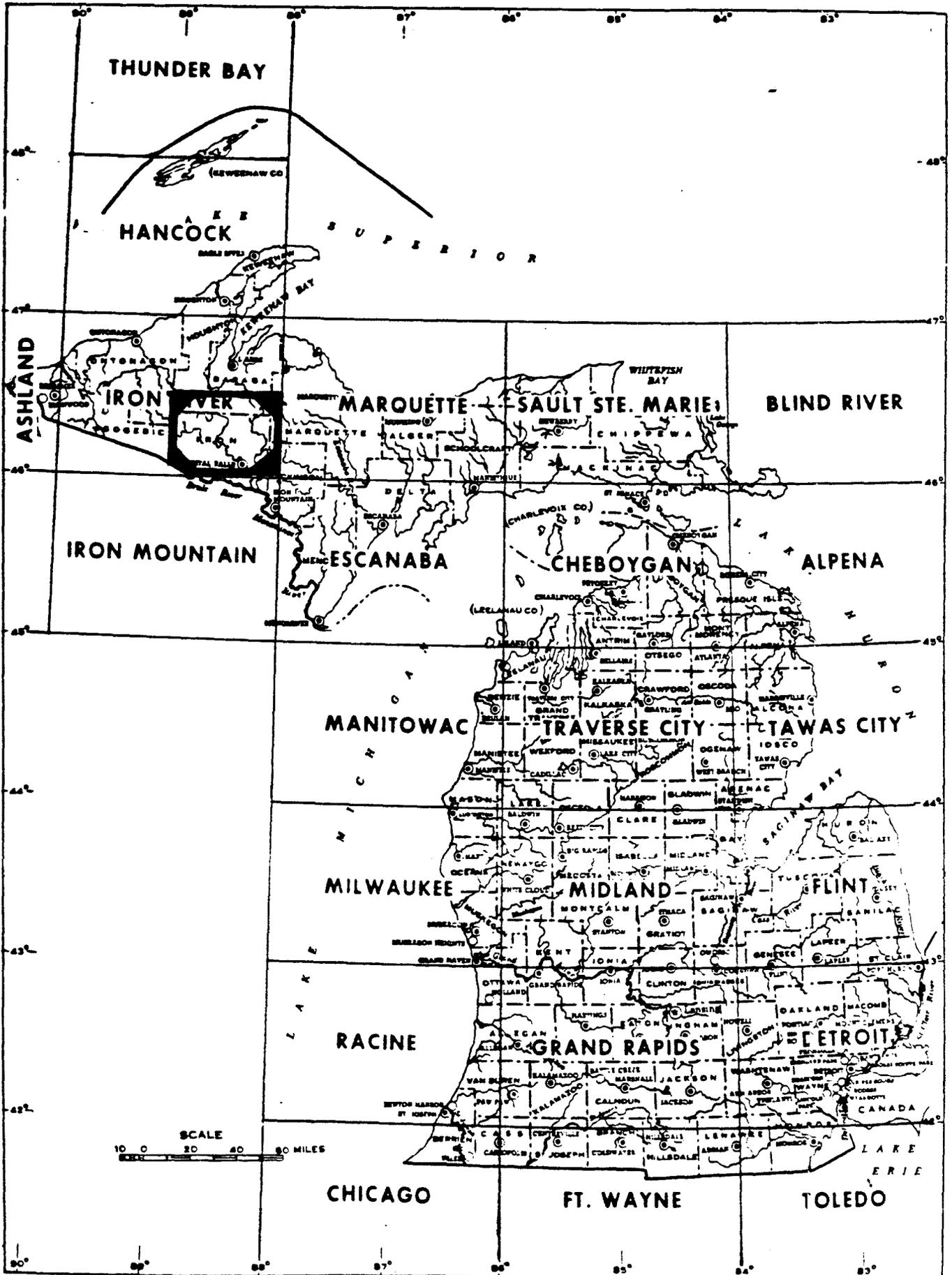
Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either design or products of this inventory, to define limits of proprietary jurisdiction of any local, State,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

<u>Emulsion</u>	<u>Scale</u>	<u>Date</u>	<u>Percent Coverage</u>
1. Black and white	1:80,000	September 1975	100%

Field Check Dates:

1. May 6 - 7, 1980
2. October 15, 1980
3. August 3 - 5, 1981

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.

GEOGRAPHY

A. General Location

Degrees Longitude: 88° 0' to 89° 0' West

Degrees Latitude : 46° 0' to 46° 30' North

Largest City : Crystal Falls, Michigan

The Michigan portion of Iron River SE is located in the western part of Michigan's upper peninsula. The map area is bordered on the south by the Menominee River and the Wisconsin state line, and encompasses portions of Iron, Dickinson, Marquette, Baraga, Houghton, Ontonagon and Geogebic Counties. This map is included within Menominee, Ontonagon, Sturgeon and Ford River drainage basins. Ottawa National Forest covers a portion of the map area.

B. Ecoregion

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

Code: 2112L

Humid Temperate Domain (2000)

The entire Iron River SE 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.

Warm Continental Division (2100)

All of the Iron River SE map area lies within this Division.

This Division characteristically has warm summers and cold, snowy winters. The natural vegetation is needleleaf and mixed needleleaf-deciduous forest. The soils of this Division are Spodosols, which are strongly leached but have a top layer of humus. Spodosols are usually acidic and lack calcium, potassium and magnesium. Despite these deficiencies, Spodosols are very suitable for growing the conifers found in this Division.

Laurentian Mixed Forest Province (2110)

The entire Iron River SE map falls within this Province.

The vegetation of this Province is representative of the transitional zone in which it lies, between the boreal and deciduous forest zones. Forests consist either of mixed conifer-deciduous stands or mosaic-like arrangements with pure stands of deciduous forest growing on good soil sites and pure stands of conifers growing on poor soil sites.

Pines (Pinus spp.) are the most representative conifers of the mixed forest stands, with white pine (P. strobus) dominating in the Great Lakes region. Pines are often a pioneer woody species following forest fires. Eastern hemlock (Tsuga canadensis) and eastern redcedar (Juniperus virginiana) also grow in this Province.

Northern Hardwoods-Fir Forest Section (2112L)

This Section occurs in lowlands and includes all of the Iron River SE map area.

Hardwoods and firs (Abies spp.) are the predominant tree species of this Section.

C. Topography and Land Forms

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

Codes: (III-3) B2b, (III-3) B4b

Interior Physical Division (III) - This Physical Division includes the entire Iron River SE map area.

North-Central Lake-Swamp-Moraine Plains Subdivision (3) - All of the Iron River SE map lies within this Subdivision.

Irregular Plains Class (B2b) - This Class covers over 99% of Iron River SE, all but a small area in the extreme northwestern part of the map. Fifty to 80% of the land is in gentle slopes. Fifty to 75% of these slopes occur in lowlands. Local relief ranges from 100 to 1000 feet.

Plains With High Hills Class (B4b) - This Class is found in the extreme northwestern part of Iron River SE and comprises less than 1% of the map area. Fifty to 80% of the land is in gentle slopes; 50 to 75% are found in lowlands. Local relief ranges from 500 to 1000 feet.

RESOURCES

A. Wetlands

No wetland acreage figure is available for the Iron River SE area at the present time.

A list of plant communities, local names, typical water regimes and associated mapping symbols is included in Appendix C.

B. Wildlife and Fish

Populations of many wildlife species in the Iron River SE 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 species of wildlife in the area are on the Endangered and Threatened list. Habitat loss and competition for nest usage by brown-headed cowbirds (Molothrus ater) have been the reasons for the decline of Kirtland's warblers (Dendroica kirtlandii). Bald eagles (Haliaeetus leucocephalus) and peregrine falcons (Falco 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, particularly in the vicinities of Michigamme Reservoir and Peavy Pond. These species include scaups (Aythya spp.), canvasbacks (A. valisineria), redheads (A. americana), ring-necked ducks (A. collaris), mallards (Anas platyrhynchos), black ducks (Anas rubripes), wood ducks (Aix sponsa), goldeneyes (Bucephala clangula), buffleheads (B. albeola), old squaws (Clangula hyemalis), Canada geese (Branta canadensis), and whistling swans (Olor columbianus) (Great Lakes Basin Commission 1975b, Panzner 1955, Rounds 1956).

Other wildlife species of Iron River SE 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 colchicus).

Numerous fish species are present in Iron River SE. Small, cold streams and headwaters of larger rivers provide excellent brook trout (Salvelinus fontinalis) fishing opportunities. Northern pike (Esox lucius) and smallmouth bass (Micropterus dolomieu) are fished in the warmer streams and mainstream portion of large rivers.

Smallmouth bass and northernns are also sought after in the lakes and reservoirs of Iron River SE, as are walleyes (Stizostedion vitreum vitreum), muskellunge (E. masquiongy), largemouth bass (Micropterus salmoides), trout (Salvelinus sp.), bluegills (Lepomis macrochirus), black crappies (Pomoxis nigro maculatus) and yellow perch (Perca flavescens). Iron Lake has the highest muskie population of any lake in the State of Michigan (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 reference is 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.

Appendix B

SPECIAL MAPPING PROBLEMS

Problem 1: Some PSS/EM areas near the Wisconsin border appeared very light on the photos and were mistakenly labeled PEM.

Resolution: Photos were checked carefully for subtle tone and texture differences. Field checking showed leatherleaf (Chamaedaphne calyculata) to be present in a number of cases. Some experience was necessary to learn to recognize the signature of low shrubs on these photos and the configuration of typical bogs.

Problem 2: Canopy cover in heavily forested areas made it difficult to see small ponds.

Resolution: USGS topographic maps were used as an aid for indicating wetness in these areas.

Problem 3: Some forested areas appeared similar to PFO4 or PFO4/1 wetlands and contained many of the same plant species (e.g. hemlock, balsam fir, cedar, aspen, birch).

Resolution: Topographic maps were checked carefully. Subtle tone and texture differences was looked for on photos. Soil borings during field checks showed these areas to have somewhat poorly drained clay soils. However, delineation problems still occur for species which grow on both upland and wetland sites.

Problem 4: Some small Emergent wetlands (old beaver floodings) may have been missed.

Resolution: Photos with intermittent streams were carefully checked for small openings that could have been created by beaver dams.

Problem 5: 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 C

WETLAND COMMUNITIES

<u>MAP SYMBOLS</u>	<u>LOCAL NAME</u>	<u>DOMINANT VEGETATION</u>	<u>WATER REGIME</u>
PFOB PFOY	Swamp	<u>Betula papyrifera</u> <u>Tsuga canadensis</u> <u>Abies balsamea</u> <u>Thuja occidentalis</u>	Saturated Seasonal
PFO1B PFO1/4B PFO1Y PFO1/4Y	Swamp	<u>Fraxinus nigra</u> <u>Acer rubrum</u> <u>Populus spp.</u> <u>Abies balsamea</u>	Saturated Seasonal
PFO4B PFO4Y	Swamp	<u>Thuja occidentalis</u> <u>Tsuga canadensis</u> <u>Abies balsamea</u> <u>Picea mariana</u>	Saturated Seasonal
PFO4/1B PFO4/1Y	Swamp	<u>Thuja occidentalis</u> <u>Tsuga canadensis</u> <u>Abies balsamea</u> <u>Populus spp.</u> <u>Betula papyrifera</u> <u>Fraxinus nigra</u>	Saturated Seasonal
PFO/SSB PFO/SSY	Swamp	<u>Tsuga canadensis</u> <u>Abies balsamea</u> <u>Populus spp.</u> <u>Betula spp.</u> <u>Alnus rugosa</u>	Saturated Seasonal
PFO5/EMY	Swamp	Dead <u>Ulmus sp.</u> <u>Tsuga canadensis</u> <u>Populus spp.</u> <u>Juncus spp.</u> <u>Carex spp.</u> <u>Typha latifolia</u>	Saturated Seasonal Semi-permanent
PSSB PSS3B PSSY	Bog	<u>Chamaedaphne calyculata</u> <u>Ledum groenlandicum</u>	Saturated
PSSB PSS1B PSSY PSS1Y	Swamp	<u>Alnus rugosa</u> <u>Salix sp.</u> <u>Cornus stolonifera</u>	Saturated Seasonal
PSS/EMB	Bog	<u>Chamaedaphne calyculata</u> Misc. grasses and sedges	Saturated

<u>MAP SYMBOLS</u>	<u>LOCAL NAMES</u>	<u>DOMINANT VEGETATION</u>	<u>WATER REGIME</u>
PSS/EMY	Swamp	<u>Alnus rugosa</u> <u>Salix</u> spp. <u>Cornus stolonifera</u> <u>Carex</u> spp.	Saturated Seasonal Semi-permanent
PEMB	Wet meadows	<u>Carex</u> spp. <u>Juncus</u> spp. Misc. grasses	Saturated
PEMY	Marsh	<u>Carex</u> spp. <u>Juncus</u> spp. Eriophorum spp.	Seasonal Semi-permanent
PABH	Pond	<u>Nuphar</u> sp. <u>Lemna</u> sp.	Permanent
POWZb	Beaver flooding	Open water	Intermittently exposed Permanent

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.

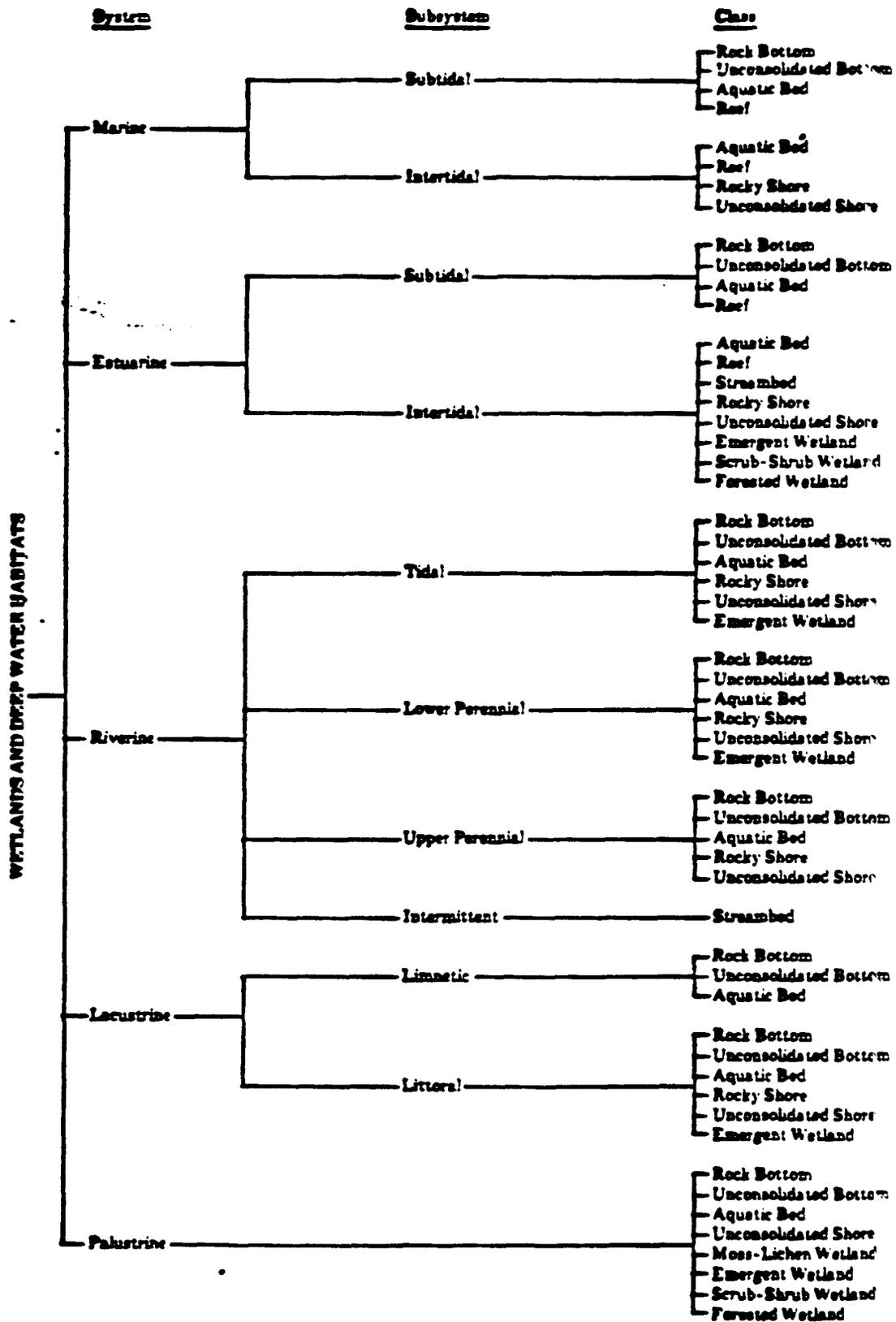


Fig 1. Classification hierarchy of wetlands and deepwater habitats, showing systems, subsystems, and classes. The Palustrine System does not include deepwater habitats.

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

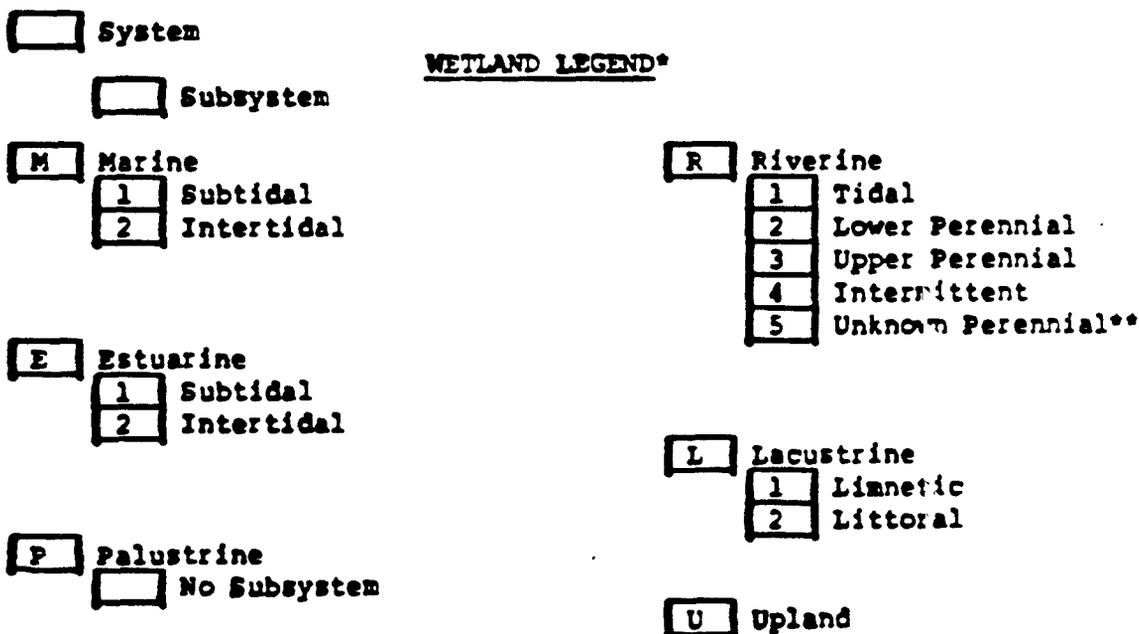
a. Classification of wetlands to water regime and special modifier:

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/EM1P = Palustrine, Forested, Needle-leaved deciduous (PFO2) mixed with Palustrine, Emergent, Persistent (PEM1) with semipermanent water regime (F).



*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 Deciduous
 - 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

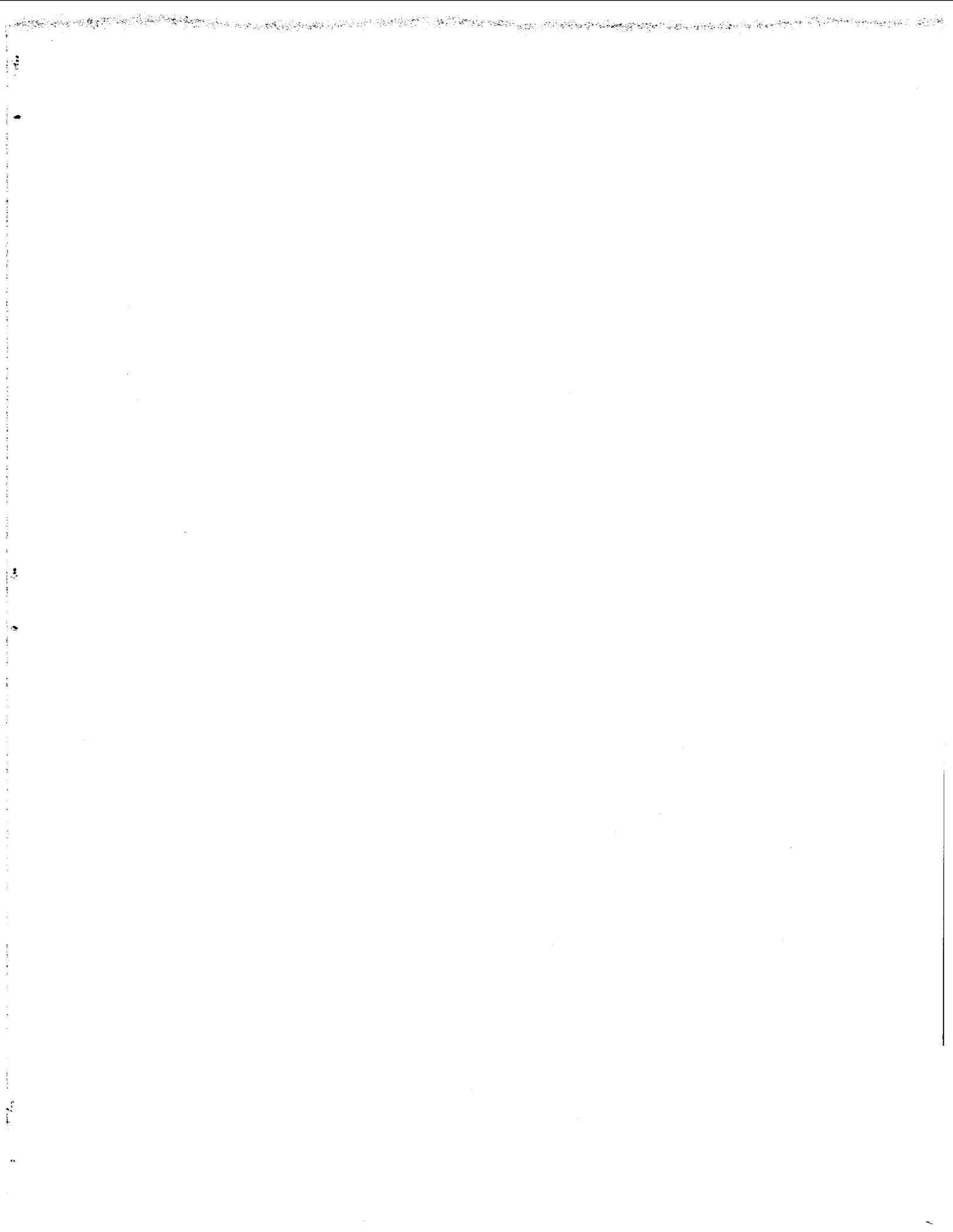
- SB** Streambed
- 1 Bedrock
 - 2 Rubble
 - 3 Cobble/Gravel
 - 4 Sand
 - 5 Mud
 - 6 Organic
 - 7 Vegetated

- 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/Gravel
 - 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.



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 Deciduous
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/Gravel
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
i	Artificial
s	Spoil
x	Excavated

Soils

o	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 addition, 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 addition, 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 describe 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.