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

MAP AREA: ASHLAND NW

1:100,000 NAME: PORT WING

STATE: MINNESOTA

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.

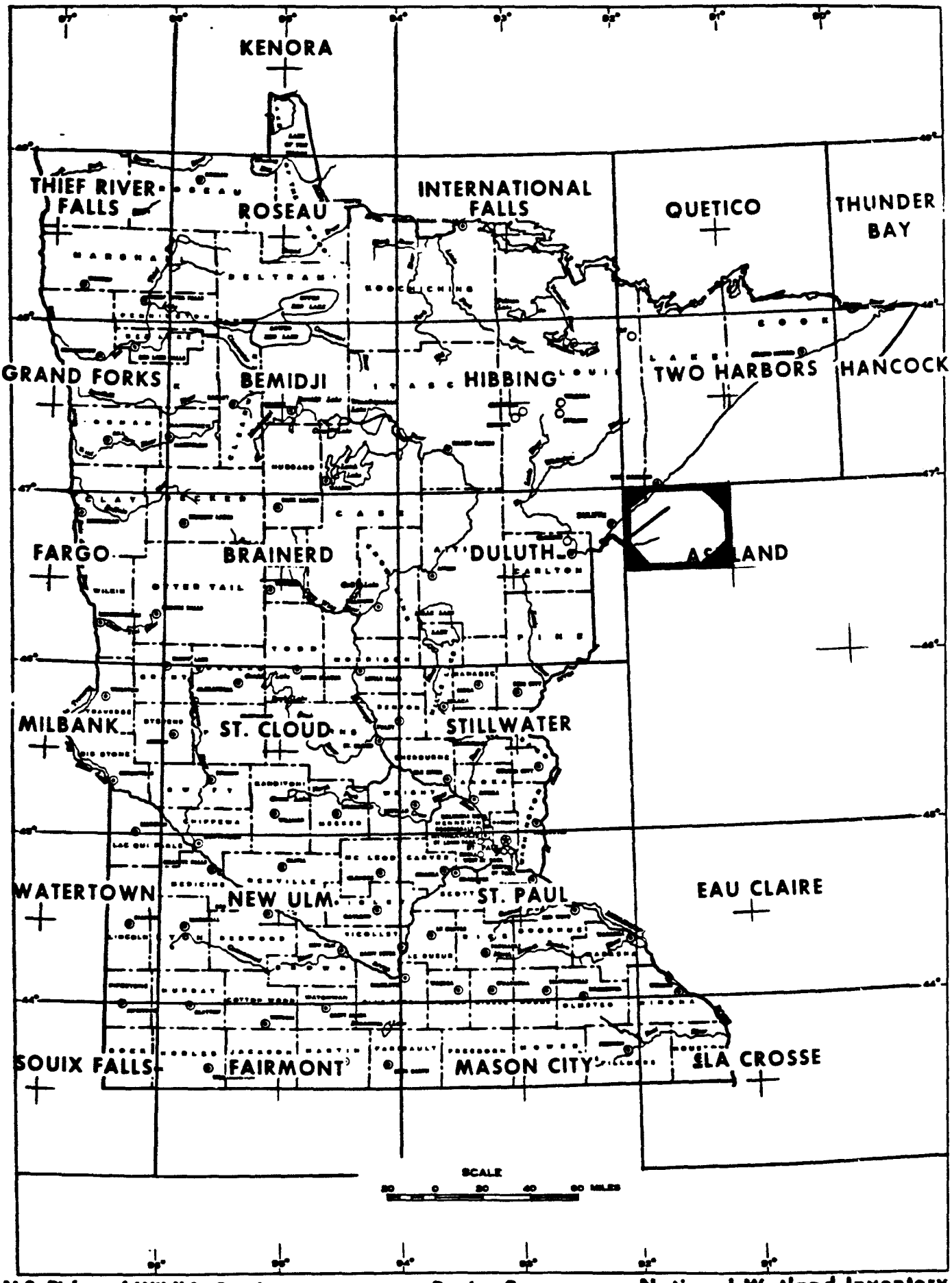
Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either design or products of this inventory, to define limits of proprietary jurisdiction of any local, State,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

STATE OF MINNESOTA



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	November 1978	100%

Field Check Dates

1. May 12, 1980

Contractor(s) for Photo Interpretation

1. University of Massachusettes

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: 91° 0' to 92°' West

Degrees Latitude : 46° 30' to 47° 0' North

The Minnesota portion of Ashland NW covers a small area of land in the northeastern part of the state, between the cities of Duluth and Two Harbors. The map is bordered on the southeast by Lake Superior, and emcompasses portions of Lake and St. Louis Counties. Ashland NW lies within the Lake Superior watershed.

B. Ecoregion

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

Code: 2111 L

Humid Temperate Domain (2000)
The entire Asland 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.

Warm Continental Division (2100)
All of the Ashland NW map 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 Ashland NW map area 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 red cedar (Juniperus virginiana) also grow in this Province.

Spruce-Fir Forest Section (2111L)
This section occurs in lowland areas and covers all of the Ashland NW map area.

Spruce (Picea spp.) and fir (Abies spp.) trees form the principal plant association 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) C5d

Interior Physical Division (III) - The entire Ashland NW map area lies within this Physical Division.

North Central Lake-Swamp-Moraine Plains Subdivision (3) - This Subdivision covers all of the Ashland NW map area.

Irregular Plains Class (B2b) - This Class is found in the northwestern corner of Ashland NW and comprises less than 5% of the map area. Fifty to 80% of the land is in gentle slopes. Fifty to 75% of these slopes occur in lowland areas. Local relief ranges from 100 to 300 feet.

Open Low Mountains Class (C5d) - This Class covers over 95% of the Ashland NW map area, all but the extreme northwest corner. Twenty to 50% of the land is in gentle slopes. More than 75% of these slopes are in upland areas. Local relief ranges from 1000 to 3000 feet.

RESOURCES

A. Wetlands*

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

The density of wetlands in the Ashland NW map area is fairly high, with wetlands well distributed throughout most of the map area. However, steep topography has precluded extensive wetland development in the southeast and extreme northeast, near Lake Superior.

Saturated forests are the most common wetlands of Ashland NW. Tree species common in these wet forests include black spruce (Picea mariana), northern white cedar (Thuja occidentalis) and black ash (Fraxinus nigra). A list of plant species for other wetland types can be found in Appendix C.

*Plant species named here were found in adjacent 1:100,000 map areas and believed to be representative of species present in the Ashland NW map area also.

B. Wildlife and Fish*

Extensive forests cover much of the Ashland NW map area. Through natural selection, these forests are changing from young, uneven-aged, mixed hardwood-conifer stands to even-aged, homogeneous spruce-fir forests. This change is causing a downward population trend for game species which prefer the diversity of habitat types afforded by the younger forests, such as the white-tailed deer (Otocoileus virginianus), black bear (Ursus americanus), moose (Alces alces), snowshoe hare (Lepus americanus), ruffed grouse (Bonasa umbellus) and American woodcock (Philohela minor). The spruce grouse (Canachites canadensis), however, prefers the spruce-fir forests and is therefore increasing in numbers. Aquatic furbearers include beavers (Castor canadensis) and muskrats (Ondatra zibethica). Some production of black ducks (Anas rubripes), mallards (Anas platyrhynchas), mergansers (Mergus spp.) and common goldeneyes (Bucephala clangula) occurs in the area. The best waterfowl habitat in the area consists of beaver ponds, small flows, and lake bays.

Other wildlife species that inhabit the map area include the woodchuck (Marmota monax), porcupine (Erethezon dorsatum), red squirrel (Tamiasciurus hudsonicus), eastern gray squirrel (Sciurus carolinensis), eastern fox squirrel (S. niger), red fox (Vulpes vulpes) and bobcat (Lynx rufus), most of which have maintained relatively stable populations. Timber wolves (Canis lupus) and bald eagles (Haliaeetus leucocephalus), on the Endangered and Threatened list, also reside in the area. Northeastern Minnesota, including the Ashland NW map area, has the largest timber wolf population in the United States (Great Lakes Basin Commission 1975b, Mann 1955).

Sport fishing occurs in many inland lakes and streams, and in Lake Superior and its immediate tributaries. Commercial fishing is limited to Lake Superior.

Fish species commonly found in the inland lakes include walleyes (Stizostedion vitreum vitreum), northern pike (Esox lucius) and smallmouth bass (Micropterus dolomieui). Lake trout (Salvelinus namaycusch) are found in some rock-bound lakes. Stream species include brook trout (Salvelinus fontinalis), brown trout (Salmo trutta) and rainbow trout (Salmo gairdneri). Factors limiting stream fish populations include stream shallowness, lack of pools, and heavy ice cover.

Common sport fish of Lake Superior and its tributaries include rainbow smelt (Osmerus mordax), perch (Perca sp.), suckers (Catostomus), panfish (Lepomis spp., Pomoxis spp.), northern pike, walleyes, bass (Micropterus sp.) coho salmon (Oncorhynchus kisutch) and rainbow, brook and brown trout. Lake herring (Coregonus artedii) account for a large share of the commercial catch out of Lake Superior, as do chubs (Semotilus), lake whitefish (C. clupeaformis), and smelt. Lake trout

are of minor importance commercially; sea lampreys (Petromyzon marinus) have prevented this species from establishing a self-reproducing population in recent years (Great Lakes Basin Commission 1975a).

*Fish and wildlife species named here occur over a large portion of northeastern Minnesota, and therefore may not all be representative of species present in the small area occupied by the Ashland NW map.

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.

Hammond, E. H. 1965. 1:17,000,000 scale Physical Subdivisions. 1 map. p. 61. In Gerlack, 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.

Mann, G. E. 1955. Wetlands Inventory of Minnesota. U. S. Fish and Wildlife Service, Office of River Basin Studies, Minneapolis, Minn. 42 p.

ADDITIONAL INFORMATION

The purpose of this report is to provide general information regarding the production of the map and 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. p. 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 six: Lake Superior. U. S. Fish and Wildlife Service, Washington, D. C. FWS/OBS-81/02-v6. 846 p.

Appendix B

SPECIAL MAPPING PROBLEMS

Problem 1: Difficulty in determining how much of lake shoreland is wetland.

Resolution: Field observations of shorelines of numerous lakes.

Problem 2: Many areas on slopes appeared to be wet.

Resolution: Field checking revealed that many of these areas (seeps) are wetland. Users should be aware that seeps are fairly common in the area.

Appendix C

WETLAND COMMUNITIES*

MAP SYMBOLS	LOCAL NAME	DOMINANT VEGETATION	WATER REGIME
PFO1B	Swamp	Fraxinus nigra Betula papyrifera	Saturated
PFO4B	Swamp	Picea mariana Pinus banksiana Thuja occidentalis	Saturated
PFO1/4B	Swamp	Fraxinus nigra Alnus sp. Betula papyrifera Picea mariana Abies balsamea Salix sp. Cornus sp. Thuja occidentalis	Saturated
PFO/SSB	Swamp	Fraxinus nigra Alnus sp. Betula papyrifera Populus sp. Picea mariana	Saturated
PFO5/OWF6	Swamp/Beaver flooding	Dead trees Open water	Semi-permanent
PSSIB	Swamp	Alnus rugosa Carex sp.	Saturated
PSS/EM5B	Swamp	Fraxinus nigra Alnus sp. Chamaedaphne calyculata Carex sp. Scirpus sp.	Saturated
PEMC	Marsh	Typha latifolia Scirpus sp. Carex sp.	Seasonal
POWFb	Pond/Beaver flooding	Open water	Semi-permanent

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

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.

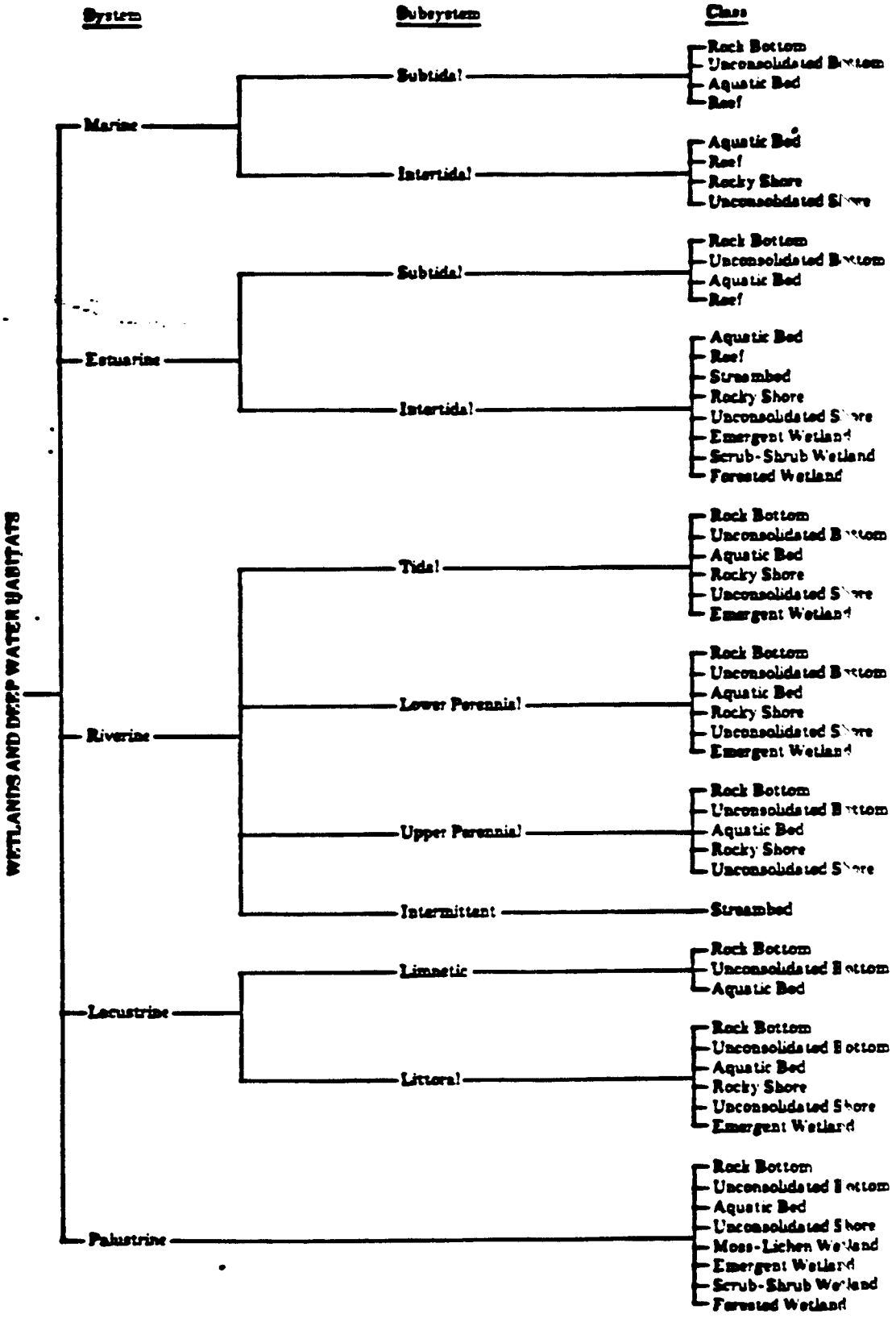


Fig 1. Classification hierarchy of wetlands and deepwater habitats, showing systems, subsystems, and classes The Palustrine System does not include deepwater habitats

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] Unconsolidated Shore
  - [1] Cobble/G
  - [2] Sand
  - [3] Mud
  - [4] Organic
  - [5] Vegetate

**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.