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

MAP AREA: CLARKSBURG SW

1:100,000 NAME: PARKERSBURG

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

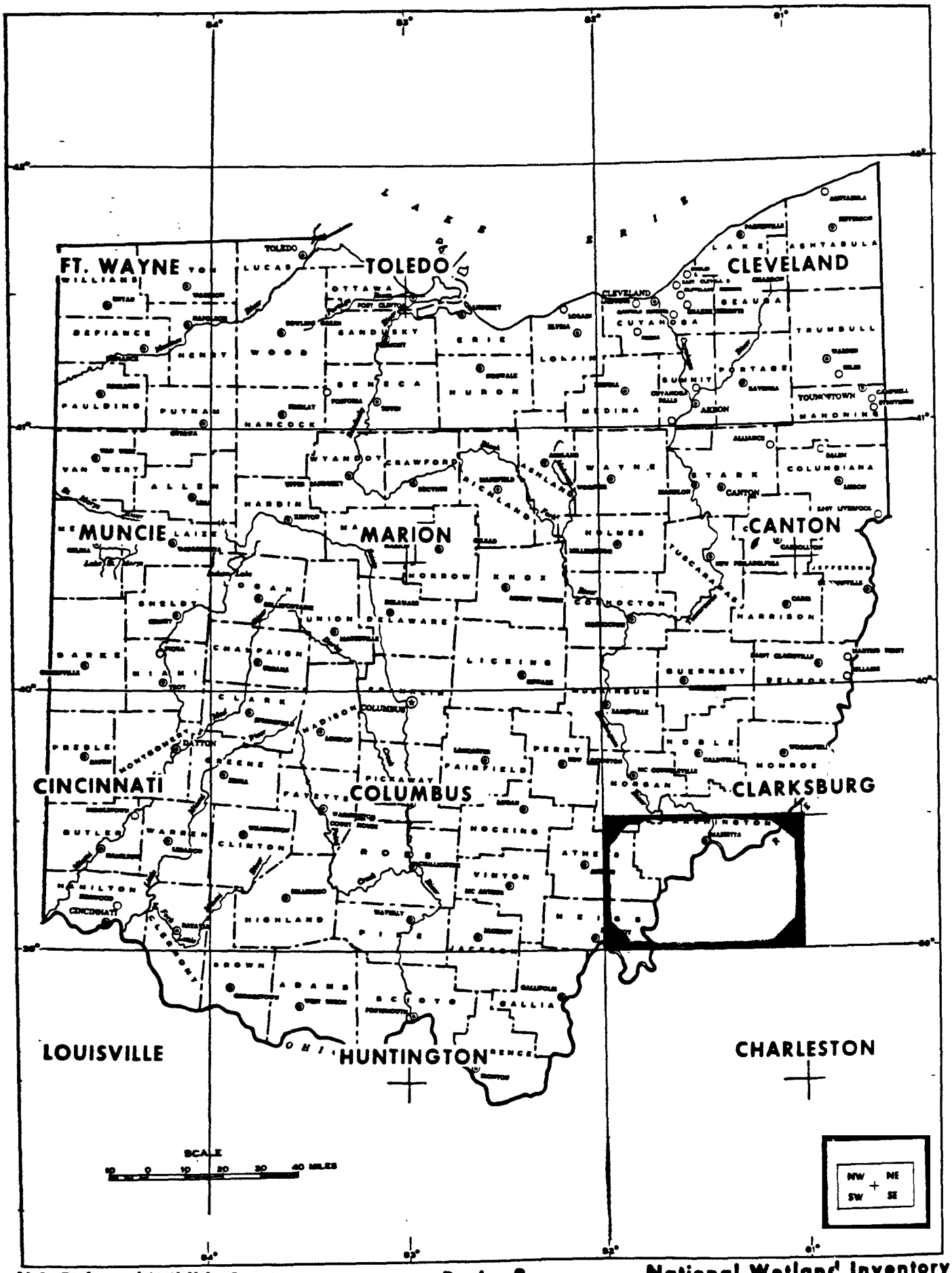
Maps for this 1:100,000 scale map were prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with Classification of Wetlands and Deepwater Habitats of the United 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	13%
2. Black and white	1:80,000	May 1975	38%
3. Black and white	1:80,000	March 1976	13%

Field Check Dates:

1. April 20 - May 2, 1980

Contractor(s) for Photo Interpretation:

1. Earth Satellite Corporation
2. Revised in-house (FWS)

Collateral Data Used:

1. USGS topographic quad sheets
2. USDA Soil Survey of Washington County, Ohio
3. Wetlands Inventory of Ohio, 1955
4. Ohio Wetlands Inventory, 1972-74

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 : 39° 0' to 39° 30' North

Largest City : Marietta, Ohio

The Ohio portion of Clarksburg SW lies in the southeastern part of the state and is bordered on the southeast by the Ohio River and the West Virginia state line. This map covers portions of Washington, Meigs, Morgan and Athens Counties and is located within the Ohio River drainage basin.

B. Ecoregion

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

Codes: 2211L, 2214L

Humid Temperate Domain (2000)
The entire Clarksburg SW 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 Clarksburg SW map is covered by 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 Clarksburg SW 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 includes 25% of the map area extending from the northwest and northcentral portions to the southwest corner of the map. This Section covers an additional 40% of the Clarksburg SW map which extends from the northeast corner to the southcentral edge, and includes the entire southeast portion.

The dominant tree species of this Section are those of the mixed mesophytic forest.

Appalachian Oak Forest Section (2214L)
This Section is found in lowland areas and covers one-third of the Clarksburg SW map extending from the northcentral and northeast portions to the southwest portion of the map area.

Oaks are the dominant tree species of this Section.

C. Topography and Land Forms

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

Codes: (II-2) D3, (II-2) D4

Eastern Highland Physical Division (II) - The entire Clarksburg SW map lies within this Physical Division.

Appalachian Highland Subdivision (2) - This Subdivision covers all of the Clarksburg SW map area.

Hills Class (D3) - This Class covers 85% of the map area, all but the extreme eastern edge and eastern part of the southern edge. Less than 20% of the area is in gentle slopes of 300 to 500 feet.

High Hills Class (D4) - Fifteen percent of the Clarksburg SW map lies within this Class, including the extreme eastern edge and the eastern part of the southern edge. Less than 20% of the land is in gentle slopes of 500 to 1000 feet.

HYDROLOGY

Three river systems drain the Clarksburg SW map area. The Hocking River system drains the northwestern and central portions of the map, while the Little Hocking River system drains the northeastern part. The southern part of the map is drained by the Shade River system. All three rivers flow into the Ohio River which borders the map area on the southeast.

Few lakes and reservoirs occur in the map area. Wetland density is low; many are associated with river flood plains.

GEOLOGY

During the Precambrian age, foldbelts were created in the Clarksburg SW 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 platform areas accounts for the present-day land forms of Clarksburg SW (Gerlach 1970).

CLIMATE

The climate of Clarksburg SW is rather mild, with average temperatures ranging from 26°F to 44°F in January and from 63°F to 89°F in July. The average annual precipitation ranges from 38 - 42 inches, of which 19 - 21 inches falls during the growing season. Snowfall averages 15 - 25 inches per year, and the ground is usually frost-free from April 25 - October 15 (Collins 1975).

LAND USE

The presettlement vegetation of Clarksburg SW consisted 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, much of the Clarksburg SW land area is covered by oak-hickory woodlots and forests interspersed with cropland and pastures. Some mining occurs within the map area.

RESOURCES

A. Wetlands

No wetland acreage figure is abailable for the Clarksburg SW area at the present time.

Steep topography has precluded wetland development in most of the Clarksburg SW map area. Natural wetlands which occur in the map area are located almost entirely in river flood plains. These flood plain wetlands are primarily temporary/intermittently flooded woodlands, emergents, and shrub-emergent mixtures. Trees and shrubs present in the woodlands include red maple (Acer rubrum), sugar maple (A. saccharum), oaks (Quercus spp.), American beech (Fagus grandifolia), black cherry (Prunus serotina) and dogwood (Cornus sp.). Common species found in the shrub-emergent wetlands include red maple, black cherry, dogwood, willow (Salix spp.) and sedge (Carex spp.). Rushes and sedges are also common in the emergent floodplain wetlands.

Several intermittently exposed/permanent open water ponds also occur in the map area. Most of these ponds are associated with strip-mining areas; however, some farm ponds exist as well.

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

B. Wildlife and Fish

The wildlife which inhabit southeastern Ohio, including Clarksburg SW, are primarily those species associated with the interspersion of second-growth hardwood forests, permanent pastures, cropland and brushland which covers much of the area. These species 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).

Some waterfowl species also inhabit the area, most notably the wood duck (Aix sponsa) and the black duck (Anas rubripes). Forked Run Lake, Duck Creek, and Shade, Hocking, Muskingum and Little Muskingum Rivers are of particular importance to the waterfowl of Clarksburg SW (Rounds 1955, U.S. Fish and Wildlife Service 1957, Weeks 1978).

Sport fishing occurs in farm ponds and in Little Muskingum and Hocking Rivers. Farm 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.). Species found in Hocking and Little Muskingum Rivers include spotted bass (Micropterus punctulatus), crappies, sunfish, muskellunge (Esox masquinongy), catfish and suckers (Catostomus). However, mining pollution and excessive siltation threatens the fishing quality in these rivers (Langlois n.d., U.S. Fish and Wildlife 1969).

C. Soils

Soils which occur in the Clarksburg SW 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 moderate importance in the Clarksburg SW area. The most important agricultural commodity in the area is beef cattle. Other important commodities include dairy cattle, vegetables, poultry, hogs and corn (Collins 1975).

E. Minerals

Active mining operations take place in several locations throughout the Clarksburg SW map area. Coal is perhaps the most extensively mined resource, although sandstone and quartzite are also extracted. Other mineral resources which occur in the map area include oil and gas pools, oil shale, clay, siderite (iron), salt and gypsum (Collins 1975, Gerlach 1970).

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.

Langlois, T.H. n.d. Ohio's Fish Program. Ohio Div. of Conserv. and Nat. Res. 40 p.

Rounds, B.W. 1955. Wetlands Inventory of Ohio. U.S. Fish and Wildlife Service, Office of River Basin Studies, Minneapolis, Minn. 23 p.

U.S. Fish and Wildlife Service. 1957. Inventory of Permanent Water Habitat Significant to Waterfowl in Ohio. U.S. Fish and Wildlife Service, Office of River Basin Studies, Minneapolis, Minn. 10 p.

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

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.

Weeks, J.L. 1978. Ohio Wetlands Inventory, 1972-1974. P-R Proj. W-104-R, Ohio Dept. of Nat. Res., Div. of Wildlife, Columbus. 24 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: Black and white emulsion, poor imagery, and poor resolution made water regime determination and species identification difficult, thus causing inconsistencies in photo interpretation.

Resolution: Awareness of signature variations from photo to photo and use of combined (Z, W, Y) water regimes. Density and texture of emergent cover in these wetlands was the basis for separating PEMY from PEMW. Differentiation was not always possible due to limits of photography. Also, some misclassification may have occurred at the subclass level. For example, some bogs (PSS3) may have been classified as PSS1.

Problem 2: Some shrub-emergent flood plain wetlands were missed due to poor quality of photos. Low lying areas along streams or river flood plains subject to periodic inundation were often difficult to determine as wetland from photos because some shrub species (i.e. alder, willow) may continue on higher contour levels which may not be wetland.

Resolution: N/A. Delineations are generally conservative in these areas.

Problem 3: Forested areas which were upstream from reservoirs and therefore subject to controlled inundation may have been omitted or delineated conservatively.

Resolution: Use of USGS topographic quad sheets as collateral data. Some of these areas may be subject to intermittent flooding as reservoir levels are raised. Users should be aware that wetland maps reflect conditions which occurred at the time of photography.

Problem 4: The high sediment load of excavated mining ponds yielded a very light signature which was difficult to distinguish from surrounding upland signatures.

Resolution: Use of USGS topographic quad sheets as collateral data. It may be more correct to classify some of these ponds as unconsolidated bottom. This is best done on a site specific basis while in the field.

Problem 5: It was difficult to distinguish between linear POW's in strip mined areas and shadows created by steep slopes.

Resolution: Use of USGS topographic quad sheets as collateral data.

Problem 6: Due to the dynamic nature of strip mined areas, some associated POW's may have missed.

Resolution: Use of USGS topographic quad sheets as collateral data. In these dynamic areas, new ponds may be created and others filled as mining progresses. The date of the photography determines what is mapped.

Appendix D

NATIONAL WETLAND INVENTORY
Information and Legend
For Map Products

Classification System: The U.S. Fish and Wildlife Service uses the "Classisfication 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.

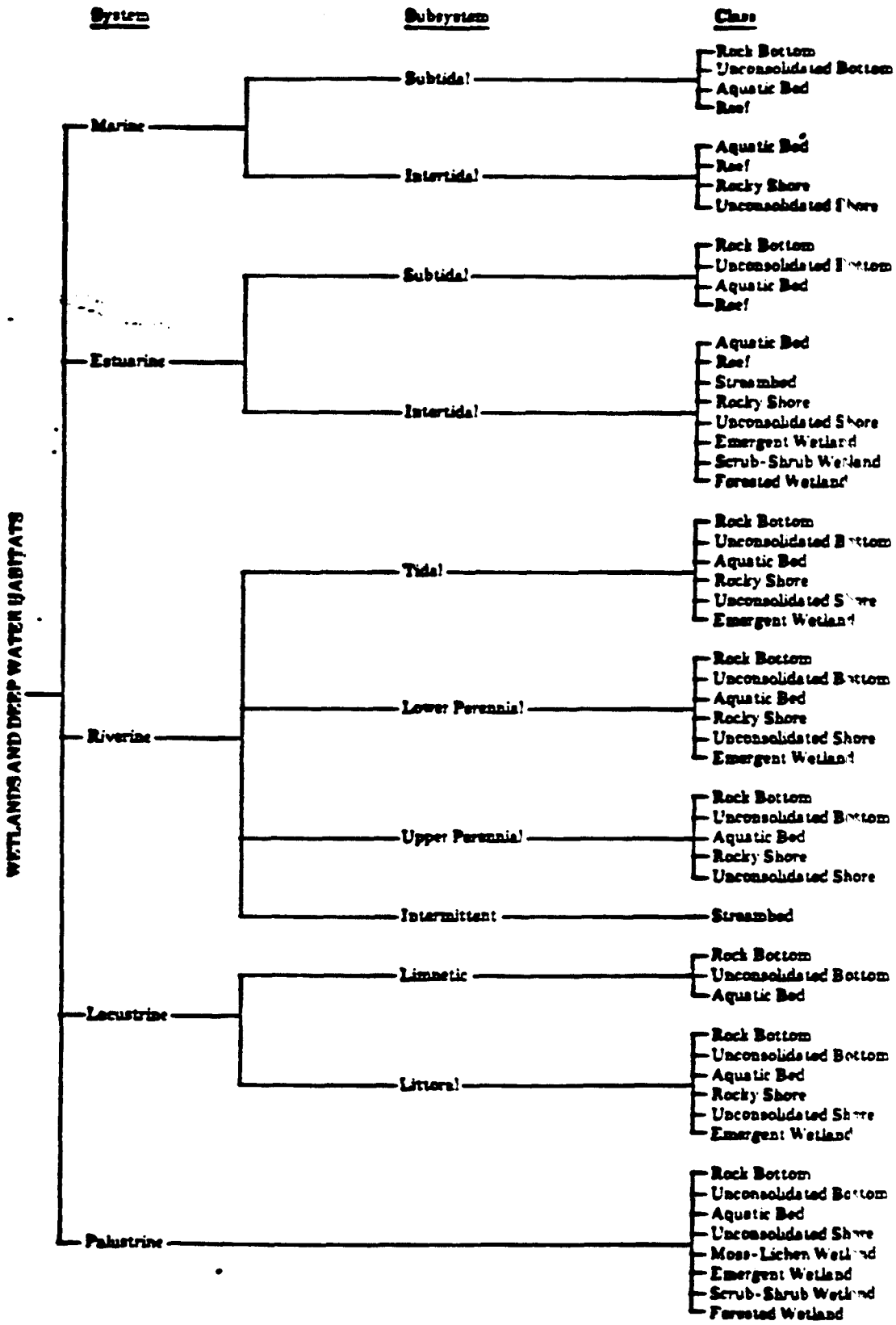


Fig 1. Classification hierarchy of wetlands and deepwater habitats, showing systems, subsystems, and classes. The Palustrine System does not include deepwater habitats

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/Gr
- [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.