

DRAFT

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

1:100,000 SCALE MAP

LOUISVILLE SW

LOUISVILLE NW

LOUISVILLE NE

(INDIANA ONLY)

NATIONAL WETLANDS INVENTORY MAP

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A. INTRODUCTION

The U.S. Fish & Wildlife Service's National Wetlands Inventory is producing maps showing the location and classification of wetlands and deepwater habitats of the United States. The Classification of Wetlands and Deepwater Habitats of the United States by Cowardin et al. is the classification system used to define and classify wetlands. Photo interpretation conventions, hydric soils lists and wetland plant lists are also available to enhance the use and application of the classification system.

B. PURPOSE

The purpose of the notes to users is threefold: (1) to provide localized information regarding the production of NWI maps, including specific imagery and interpretation discussion; (2) to provide a descriptive crosswalk from wetland codes on the map to common names and representative plant species, and (3) to explain local geography, climate, and wetland communities.

C. STUDY AREA

Geography: The study area covered by the Louisville NW, Louisville SE and Louisville SW base maps is located along the southeastern edge of Indiana. (See Appendix.) Bailey classifies the study area as being in the Eastern Deciduous Forest Province of the Humid Warm - Summer Continental Division (Bailey 1980).

The Interior, Middle Western Upland Plains covers the Eastern portion of the mapping area. The Interior, Eastern North-Central Lake-Swamp-Morraine Plains cover the western portion of the mapping area. Overall this topography is characterized by gently rolling hills, although there are some broad flat areas. The topography is dissected by moderately sloping to very steep drainage ways (Hammond 1965 and 1969). This area was glaciated during the Wisconsin Ice Age. Bailey includes the area as the Beech-Maple Section to the north and the Oak-Hickory Section to the south and east.

The mapping area includes numerous lakes, ponds, and streams. The Ohio, Miscatatusuck and White Rivers are the most prominent drainages in the study area.

Climate: The climate is considered to be a midcontinental climate characterized by cold winters and hot summers. The average winter temperature is 30°F with an average daily minimum of 21°F. The average summer temperature is 73°F with an average daily maximum of 85°F. Total annual precipitation is 38". Sixty percent of the precipitation falls between April and September, which is the growing season (Bailey 1980).

Vegetation: The winter Deciduous or Temperate Deciduous forest is characteristic of the vegetation of the study area. The Winter Deciduous Forest is dominated by tall, broadleaf deciduous trees. A lush understory develops quickly in the spring, but is greatly reduced in areas where trees have reached full foliage. Common trees are oak, beech, birch, hickory, walnut, maple, basswood, elm ash, tulip tree, and hornbeam. In poorly drained areas, species may consist of alder, ash, willow, elm, and hydrophytic shrubs. Pines develop as second growth vegetation where forests have been cleared by logging or mining (Bailey 1980).

Soils: The soils associated with deciduous forests are the Alfisols (Bailey, 1980). Generally, soils associated with the bottomlands in the Louisville SW area are of the Haymond-Huntington, Wheeling-Markland-Huntington and Bartle-Wakeland-Haymond associations. The first two associations consist of nearly level, deep well drained soils. The third association is comprised of deep somewhat poorly drained and well drained, nearly level soils. Of the associations mentioned only Wakeland is a hydric soil, but wetland communities were found on nonhydric soils. In upland areas wetlands can be found on the Avonburg-Rossmoyne and Beford-Bartle associations. These two groups include some soils that are poorly drained and nearly level.

Soils associated with the bottomlands in the Louisville NW and Louisville NE areas are of the Haymond- Wakeland-Wilbur, Genesee-Eel, Wirt-Haymond, and Huntington-Dearborn-Elkinsville associations. Additional soils found in the bottomlands include Pope-Philo-Stendal and Atkins. The first association consists of soils that are level to nearly level and are well to somewhat poorly drained. The remaining associations are level to nearly level and well drained. Wakeland and Stendal are hydric soils. In the upland areas, wetlands are found on the Cobbsfork-Aronburg and Clermont-Avonburg associations. These two associations consist of nearly level poorly drained soils. Cobbsford is included on the hydric soils list for the state of Indiana.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

TABLE - Cowardin Classification Codes and Descriptions

NWI CODE (water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lakes	Unconsolidated bottom
L1AB (H)	Lacustrine, limnetic, aquatic bed	Lakes	<u>Lemna sp.</u> (<u>duckweed</u>) Green algae
L2AB (F,G)	Lacustrine, littoral, aquatic bed	Lake Marshes	<u>Lemna sp.</u> (<u>duckweed</u>) Green algae
R2UB (H)	Riverine, lower perennial, unconsolidated shore	River	Unconsolidated bottom
R3UB (H)	Riverine, upper perennial, unconsolidated bottom	River/Stream	Unconsolidated bottom
R2US (A)	Riverine, lower perennial unconsolidated shore	Sand Bar	Unconsolidated bottoms (Sand, Cobble, Gravel)
R3AB (H)	Riverine, upper perennial aquatic bed	River/Stream	Algae
R4SB (C,F)	Riverine, intermittent	River/Stream	Streambed
PUB (F,G)	Palustrine, unconsolidated bottom	Pond	Unconsolidated bottom
PAB (F,G)	Palustrine aquatic bed	Farm Pond, Reservoir, Marsh	<u>Lemna</u> (<u>duckweed</u>) Green algae

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PEM (A,C,F)	Palustrine, emergent	Marshes, Depressions, Drainages, Backwaters	<u>Solidago</u> sp. (golden rod) <u>Rhus radicans</u> (posion ivy) <u>Galium aparine</u> (cleavers) <u>Typha</u> sp. (cattail) <u>Carex</u> sp. (sedge) <u>Juncus</u> sp. (rush) (Grasses) <u>Hydrophyllum</u> <u>Virginianum</u> (virginia waterleaf) <u>Urtica dioica</u> (stinging nettle) <u>Circuta maiculata</u> (water hemlock) <u>Rumex crispus</u> (curly dock) <u>Cirsium</u> sp. (thistle) <u>Acorous calamus</u> (sweetflag) <u>Eleocharis</u> sp. (rush) <u>Impatiens</u> sp. (jewelweed) <u>Equisetum</u> sp. (horsetail) <u>Polygonum</u> sp. (smartweed) <u>Senecio</u> sp. <u>Ambrosia trifida</u> (giant ragweed)

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PSS1 (A,C,F)	Palustrine, scrub shrub, broad-leaved deciduous	Marsh, floodplains	<u>Potamogetan</u> sp. (pondweed) <u>Phragmites</u> sp. (common reed) <u>Salix</u> sp. (willow) <u>Xanthium</u> sp. (cock bur) <u>Sambucus canadensis</u> (elderberry)
PFO1 (A,C,F)	Palustrine scrub shrub, broad-leaved deciduous	Forested stands, floodplains	<u>Salix nigra</u> (black willow) <u>Populus deltoides</u> (cottonwood) <u>Fraxinus</u> sp. (ash) <u>Salix</u> sp. (willow) <u>Betula nigra</u> (river birch) <u>Ulmus</u> sp. (elm) <u>Platanus</u> <u>occidentalis</u> (sycamore) <u>Acer saccharinum</u> (silver maple) <u>Acer negundo</u> (box elder) <u>Carya laciniosa</u> (shagbark hickory) <u>Celtis occidentalis</u> (hackberry) <u>Acer saccharinum</u> (sugar maple) <u>Acer rubrum</u> (red maple) <u>Quercus palustris</u> (pin oak) <u>Populus deltoides</u> (cottonwood) <u>Ulmus americana</u> (American elm)

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h	Diked, Impounded	Dam or levee, reservoir	<u>Liquidambar</u> <u>styraciflua</u> (sweet gum) <u>Quercus</u> <u>muehlenbergii</u> (chink a pin oak) <u>Liriodendro</u> <u>tulipifera</u> (yellow poplar)
x	Excavated	Strip mine, ditched or channelized	

Water Regime Description

- (A) Temporarily Flooded - Surface water present for brief periods during growing season, but water table usually lies well below soil surface. Plants that grow both in uplands and wetlands are characteristic of this water regime.
- (B) Saturated - The substrate is saturated to surface for extended periods during the growing season, but surface water is seldom present.
- (C) Seasonally Flooded - Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is very variable, extending from saturated to a water table well below the ground surface.
- (F) Semipermanently Flooded - Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land's surface.
- (G) Intermittently Exposed - Surface water is present throughout the year except in years of extreme drought.
- (H) Permanently Flooded - Water covers land surface throughout the year in all years.
- (K) Artificially Flooded - The amount and duration of flooding is controlled by means of pumps or siphons in combination with dikes or dams.

F. MAP PREPARATION

The wetland classifications that appear on the Louisville NW, NE, SW National Wetlands Inventory (NWI) Base Maps (Figure 1) are in accordance with Cowardin et. al. (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography. The photography was taken during April 1983 and March 1986.

Field checks of areas found within the Louisville SW, NW and NE photography were made prior to the actual delineation of wetlands. Field check sites were selected to clarify varying signatures found on the photography. These photographic signatures were then identified in the field using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic maps, SCS soil surveys, vegetation, and ecoregional information.

The user of the map is cautioned that, due to the limitation of mapping primarily through aerial photointerpretation, a small percentage of wetlands may have gone unidentified. Since the photography was taken during a particular time and

season, there may be discrepancies between the map and current field conditions. Changes in landscape which occurred after the photography was taken would result in such discrepancies.

Aerial photo interpretation and drafting were completed by Martel Laboratories, Inc., St. Petersburg, Florida.

G. SPECIAL MAPPING PROBLEMS

Numerous non-hydric soils were encountered in the bottomlands (many were check sited as wetland) as well as hydric soils. For this reason, photography signature, topo information and soil surveys were closely compared for interpretation.

It was not possible to field check wet signatures on the military reservation located on the San Jacinto, Rexville and Clifty Falls quads. Again, soil surveys photography signature and topo information were closely compared for interpretation.

H. MAP ACQUISITION

To discuss any questions concerning these maps or to place a map order, please contact:

Ron Erickson
Regional Wetland Coordinator
U.S. Fish and Wildlife Service - Region 3
Federal Building, Ft. Snelling
Twin Cities, MN 55111

To order maps only, contact:

National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, VA 22092
1-800-USA-MAPS

Maps are identified by the name of the corresponding USGS 1:24,000 scale topographic quadrangle name. Topographic map indices are available from the U.S. Geological Survey.

I. LITERATURE CITED

Bailey, Robert G., 1980. Description of the Ecoregions of the United States. U.S. Department of Agriculture Forest Service. Miscellaneous Publications No. 1391.

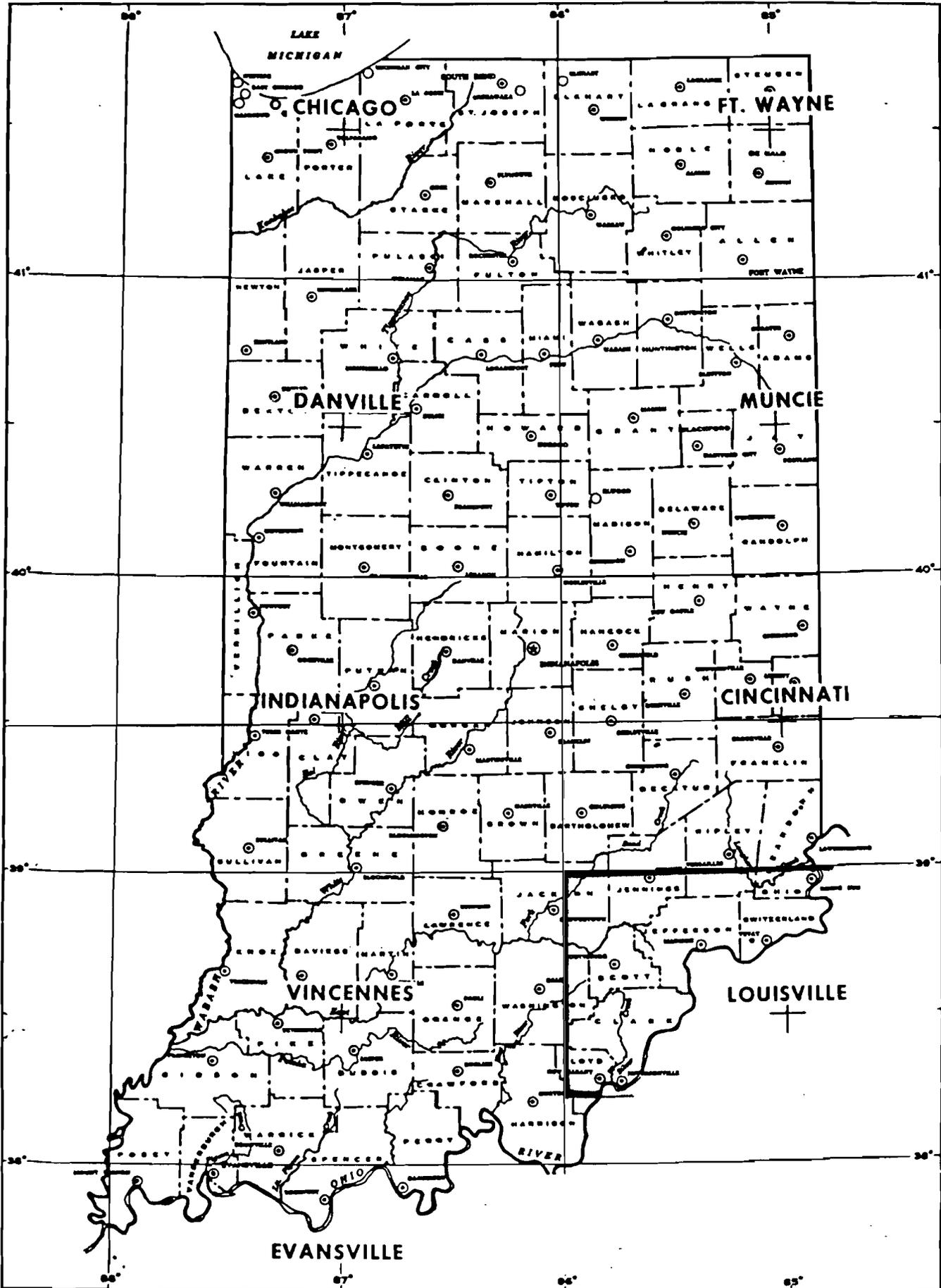
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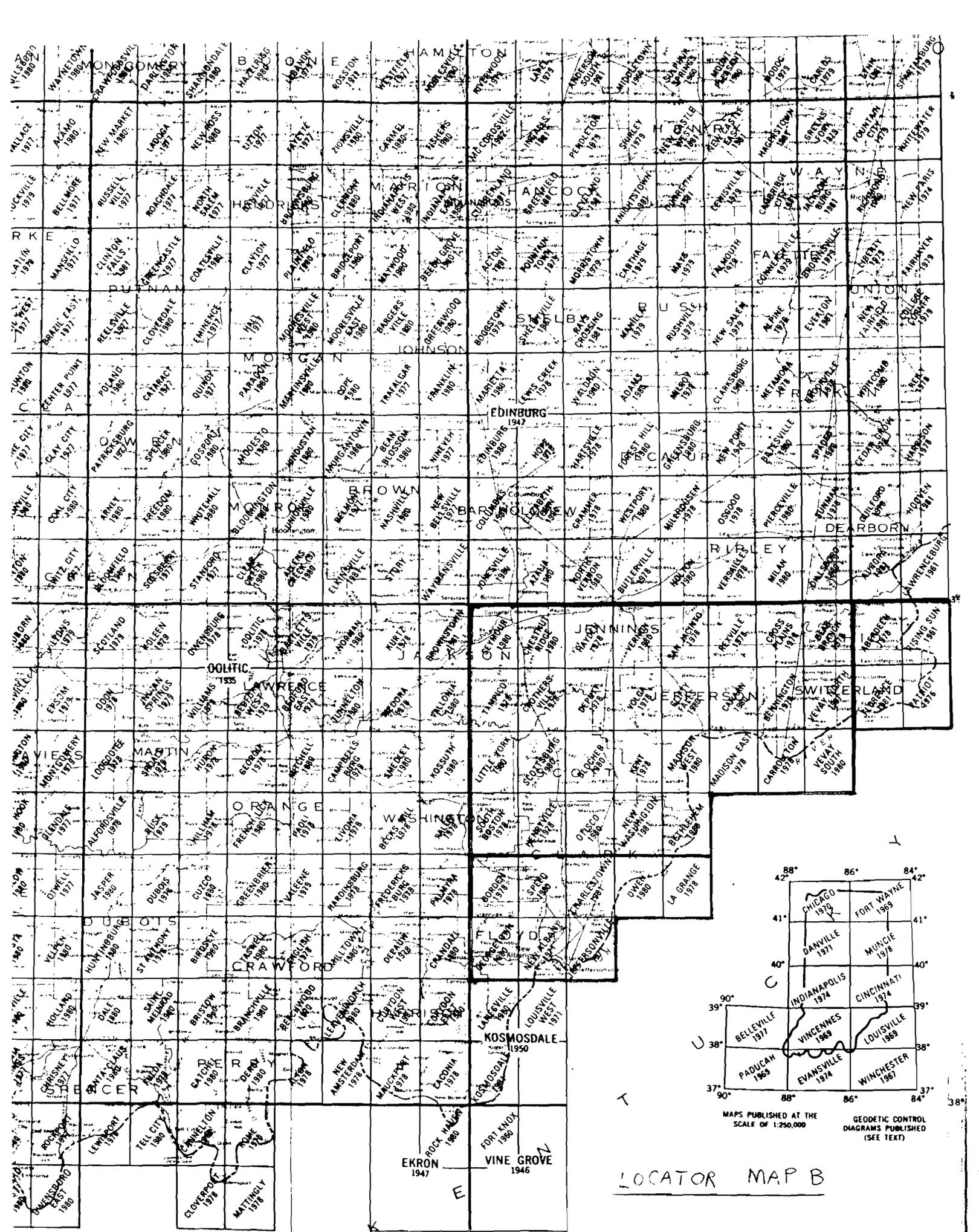
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Hydric Soils of the State of Indiana; 1985. U.S. Department of Agriculture, Soil Conservation Service.

Wetland Plants of the State of Indiana; 1986. U.S. State Department of the Interior, U.S. Fish and Wildlife Service.

Locator Map
Appendix A





LOCATOR MAP B