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Natural
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Conservation
Service

NATIONAL FOOD SECURITY ACT MANUAL (NFSAM)
Third Edition, Amendment 2
180-V-NFSAM, Amendment WI21

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Purpose: To provide an updated state supplement to the NFSAM to all Wisconsin NRCS offices.

Effective Date: Upon receipt.

Subject: Off-site wetland identification tools

Background: NFSAM Circular No. 1 became effective September 4, 1997. It required the revision of NRCS wetland mapping tools used prior to the on-site verification of wetland determinations. An operational draft was distributed on December 23, 1997. This final draft has been approved by all signatory agencies.

Filing Instructions: Remove NFSAM Part 513.30(c), Verifying Information (following NFSAM page 513-20) and insert WI-180-V-NFSAM, Third Ed., Amendment WI21, September, 1998 (WISCONSIN WETLAND MAPPING CONVENTIONS, USDA, NRCS May 1, 1998)

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Attachments

DIST: NFSAM

WI513.30(c) Off-site wetland identification tools

WISCONSIN WETLAND MAPPING CONVENTIONS
USDA, NATURAL RESOURCES CONSERVATION SERVICE (NRCS)
May 1, 1998

INTRODUCTION

This document outlines the off-site procedures and methods that NRCS will use in Wisconsin to help identify and delineate wetlands for the Food Security Act of 1985 (FSA) as amended by FACTA (1990) and FAIRA (1996). These off-site procedures will be used in conjunction with on-site methods when delineating wetlands for Clean Water Act (CWA) Section 404 purposes and in accordance with the Federal Interagency Memorandum of Agreement (MOA).

Mapping conventions are a set of procedures used to guide trained delineators in making wetland determinations on agricultural lands. These conventions were designed to assure statewide consistency among all users and were completed with guidance from an interagency team and revised according to the Midwest Regional Wetland Team recommendations. For the purposes of this manual only, a "determination" identifies an area as wetland or non-wetland and a "delineation" identifies the boundary.

GENERAL INFORMATION

The size of an area is not part of the wetland criteria. All areas which meet the determination criteria and are large enough to delineate on aerial photography, when using these conventions, will be mapped. The base map is a single section Farm Service Agency aerial photo and is usually at a scale of 8 inches to the mile. FSA wetland symbols and definitions used here are listed in the most current version of the National Food Security Act Manual (NFSAM).

While NRCS will only complete certified determinations on-site, use of these off-site mapping conventions is a valuable tool on frequently cropped sites prior to the on-site visit. The final delineation will be the field (on-site) evaluation.

WISCONSIN NRCS WETLAND MAPPING CONVENTIONS

The three landscape conditions occurring in Wisconsin are the Glaciated Region, the Driftless Area (**Exhibit #1**) and alluvial lands. The landscape features which will be used are:

- 1) Potholes and other depressional areas. Depressions are low areas in the landscape which may contain wetlands. Potholes are closed depressions in glaciated areas.
- 2) Flooded or ponded soils* that are inundated during the growing season.** These conditions may exist along drainageways, streams, rivers, lakes, or in depressional areas.
- 3) Hydric soils that only meet saturation criteria.

*Ponding is temporary inundation in a closed depression and flooding is temporary flowing water in drainageways and adjacent to streams.

**Using air temperature data from county soil surveys, the Growing Season can be approximated as the period of time between the average date (5 years in 10) of the last killing frost (28°) in the spring to the average date of the first killing frost (28°) in the fall.

These Conventions are to be used for all three landscape features. The only difference is in the pothole vs. non-pothole Farmed Wetland (FW) hydrology criteria requirements (see below).

HYDROLOGY REQUIREMENTS

- a) For all non-manipulated areas, (plus FWP and pothole FW), soils must have 7 day ponding/flooding or 14 day saturation, during the growing season for greater than a 50% chance of occurrence each year (5 out of 10 years) to meet wetland hydrology criteria.
- b) Non-pothole cropland, manipulated prior to 12/23/85, must have 15 consecutive day ponding/flooding during the growing season for greater than a 50% chance of occurrence each year (5 out of 10 years) to meet FW hydrology criteria. Less than 15 ponding/flooding is PC.

MAPPING TOOLS

The principal tools used to make the wetland determination are:

1) NRCS and WDNR wetland maps

These inventories give an excellent overview of wetlands in the area. Wetlands identified on either inventory will be considered wetland and will be transferred to the preliminary base map. Minimum size of delineations on WWI maps are >2 or >5 acres (**Exhibit #2**). "Point symbol" determinations on WDNR maps identify wetlands. Due to the policy of the time, some NRCS maps do not show PC areas, and some WDNR WWI maps did not inventory cropland wetlands.

2) Soil Survey and County Hydric Soils List

Soil maps identify potential areas for wetlands. Look for:

- a. Map units which are listed as hydric soils for the county.
- b. Map units with hydric soils as part of their name.
- c. Map units with hydric soils as inclusions. **Note:** Wetlands can occur on almost any non hydric soil map unit. If wetlands are clearly evident on soils not on the list, they will be mapped.
- d. Conventional water feature symbols such as marsh or swamp, wet spot, stream, etc.

3) Flood Hazard Study Maps

Flood elevation boundaries are delineated for 10 and 50 year flood events along streams in some areas. These boundaries were derived from historical and stream gauge data. "Hydrology Tools-NEH-650-19" contains procedures to estimate the extent and duration of flooding and ponding.

4) Wetness Evaluation Tables (precipitation data)

These Tables list the actual precipitation for the months of April through August for the years 1979 through 1996. It also has calculated the wetness condition for the months of April through June of the given year as "Dry," "Normal," and "Wet".

- a. Identify the climate station closest to the site.
- b. Select all the "Normal" year FSA color slides (minimum of 5) for review. An equal number of "Wet" and "Dry" years are also to be used. The "Wet" and "Dry" years will be ranked, according to their total precipitation, using those closest to "Normal" first (1988 and 1993 would be used last).

5) Farm Service Agency Color Aerial Slides

The slides are usually taken in July. Review all slide years for indications/signals that wetland hydrology has caused stress in the planted crop. Concentrate your review on the "Normal" precipitation years. While wetness signals may not appear every year, they should reflect the overall hydrology of the area during that time period.

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A wetland signature is the indication left in a field, recorded by a photograph, of ponding, flooding, or impacts of saturation for sufficient duration that meets wetland hydrology and possibly wetland vegetation criteria. Wetland signatures in cropland for Wisconsin are:

- a. Hydrophytic vegetation (seen as a different color of green)
- b. Surface water (usually black or white)
- c. Drowned-out crops (bare soil or mud flats)
- d. Differences in color due to different planting dates or isolated areas not farmed with the rest field.
- e. Inclusion of wet areas in set-aside program
- f. Patches of greener color in “dry” years
- g. Crop stress (yellow) or sparse canopy (light green)
- h. Saturated soil visible on infrared (IR) slides or photos.

6) Other

USGS topographic maps; old aerial photographs; color infrared photography; and previous on-site delineations by NRCS, COE, EPA, WDNR, SEWRPC or private consultants.

The wetland delineator must be trained to interpret the above signatures in each region being mapped. This training should include field verification of the signatures observed.

OFF-SITE MAPPING PROCEDURES

All FSA wetland determinations will begin by using the **off-site** procedures identified below. When in doubt while using these **off-site** conventions, use a wetland bias.

Step 1. - Review NRCS and WDNR wetland inventory maps. All delineations on these maps will be transferred to the base map.

Step 2. - Review the Soil Survey for hydric soil map units, areas with hydric soil inclusions (usually areas with dark soil tones) and conventional water feature symbols. Transfer uncropped hydric soils to the base map as potential wetland.

Step 3. - Review all available aerial photography and topo maps.

Step 4. - Review all Farm Service Agency color aerial slides (Mapping Tools #4 above). When reviewing the slides, document the signatures (Mapping Tools #5 above) on form NRCS-CPA-32W (**Exhibit #3**). Determine the percentage of occurrence of wetness signatures (e.i., 6 out of 10 years = 60%).

Step 5. - Based on the slide review, delineate the slide year having the largest wetland boundary during a “normal” rainfall year, if signatures meet the mapping convention guidelines listed below. (**Note:** The final delineation, with appropriate FSA symbol, will be verified or adjusted during the field visit.)

CROPLAND CONVENTIONS

Use the following guidelines to identify wetlands in cropland:

Wetlands (W) farmed under natural conditions

Delineate areas in crop fields W if they contain hydric soils or soils with hydric inclusions and meet any of the following criteria:

- a) 50% or more of the slides show any items (a-h above);

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- b) 30% of the slides show any items (a-h above), and area is on the WDNR WWI or NRCS wetland inventory; **(Exhibit #4)**
- c) Other: wetness “spot” symbols, any on-site data, etc.

This includes abandoned FW, FWP, and NW areas meeting wetland criteria. PC areas cannot be abandoned after December 23, 1985, for FSA purposes BUT may still be considered jurisdictional wetlands by COE and WDNR for CWA-404 and State wetland program purposes.

Farmed Wetlands (FW)

Delineate areas in crop fields FW if they meet criteria a, b, or c, (above) AND show a visible sign of alteration (i.e., adjacent ditch or tile lines) prior to December 23, 1985. FW areas are subject to abandonment (5 consecutive years without cropping, haying, or management and wetland criteria returns.)

Note: Because of the different hydrology criteria, field verification is extremely important to confirm that the FW definition and criteria is met. FWs (determined off-site), which do not meet the on-site definition and hydrology criteria will become PC. Also, some areas identified off-site as W will be changed to FW with field documentation that drainage and FW hydrology criteria are met. A scope and effect evaluation may be needed to determine the zone of influence to delineate the FW boundary. Areas outside this zone of influence, will be labeled W (farmed under natural conditions).

Farmed Wetland Pasture and Hayland (FWP)

Pasture/hayland will seldom show cropland wetness signatures. Delineate areas as FWP where:

- 1) the whole soil map unit is hydric **OR**;
- 2) a delineation appears on the WDNR WWI **AND**;
- 3) the site shows a visible sign of alteration **AND**;
- 4) documentation of site being pasture or hayland exists (e.g.-ASCS-578 Crop Acreage Report, testimony, etc.)

Prior Converted Croplands (PC)

Use FSA slide years 1981-1985 for PC determinations. Sites containing hydric soil map units that have been manipulated and cropped before December 23, 1985 and do not meet the wetland signature criteria as described for W and FW will be labeled PC.

The site should be cropped >50% of the time, (3 of 5 years) during normal precipitation years. If cropped only once, field documentation is required to show the site was made croppable.

Crop fields that meet wetland saturation criteria only will be considered PC only if woody vegetation removal can be documented. Without documentation to support the prior existence of woody vegetation, the field will be labeled W (farmed under natural conditions). Examples of documentation can include: old aerial photography (e.g. 1930's); comparing uncropped areas of the same soil map unit and landscape position; personal testimony; and historic vegetation maps.

PC areas cannot be abandoned for FSA purposes after December 23, 1985, if they remain in agricultural use, BUT they still may be considered jurisdictional wetlands by COE and WDNR for CWA-404 and State wetland program purposes.

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Non-Wetland (NW)

Land that under natural conditions does not meet wetland criteria (sometimes called upland) will **NOT** be delineated. All areas without a symbol will be considered NW.

NON-CROPLAND CONVENTIONS

Use the following guidelines to identify wetlands in non-cropland:

Wetlands (W)

All Non-Croplands, will be marked as W where:

1. The whole soil map unit is hydric or;
2. A delineation or wet spot symbol appears on the WDNR WWI.

Not Inventoried (NI) lands

All non-hydric soil mapping units will be marked Not Inventoried (NI), and on-site procedures listed in the COE 1987 Manual will be required to determine the wetland status. On any wetland determination or copy of a wetland inventory map given to a client, an explanation of "NI" must be included. This note will state that NI areas may contain wetlands. If any manipulation is planned for this area, a determination should be requested for Farm Bill or CWA-404 purposes.

Other Waters (OW) of the U.S.

"Other Waters (OW) of the U.S" (streams, rivers, ponds, lakes, etc.) will not be delineated by NRCS and will be labeled NI, unless a delineation is provided by COE. (see NFSAM Amendment WI20 Part WI514.26(b))

Converted Wetlands (CW)

For FSA purposes, all sites with wetness signatures, that show visible signs of manipulation, beginning with the 1986 slide, will be shown as converted wetland (CW). Visible signs of manipulation include ditching, tiling, diking, filling, or woody vegetation removal. An on-site evaluation is required to verify the presence of hydric soils and that the area was made croppable. Conversions that occur between 12/23/85 and 11/28/90 are labeled CW. Conversions identified after 11/28/90 are labeled CW+yr. COE will also be notified of a possible CWA violation.

Small, Multiple Wetland Complexes

Some areas contain many, small, scattered wetlands. Delineation of these tiny areas at the present scale of mapping is very difficult and time consuming. Label the entire area "Wi" (Wetland inclusions) to convey that many small wetlands occur in this area and on-site delineation is required.

Artificial Wetland (AW)

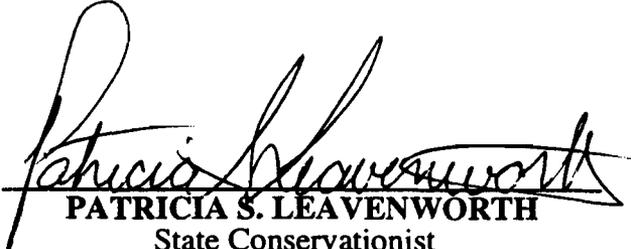
Land that was formerly nonwetland under natural conditions, but now exhibits wetland characteristics because of human activities, will be labeled "AW".

QUALITY STANDARDS

NRCS Wetland Specialists and Biologists will periodically conduct quality reviews of wetland delineations to assure statewide quality and consistency. COE, EPA, FWS, and WDNR representatives are encouraged to assist in the reviews.

AGENCY CONCURRENCE

These modifications of the original conventions have been reviewed and are concurred in by representatives of the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Environmental Protection Agency, Wisconsin Department of Natural Resources, and USDA, Natural Resources Conservation Service. These conventions will be used by NRCS to complete wetland determinations and delineations. Additional modifications of these conventions may be made at any time with concurrence of all signatory agencies.


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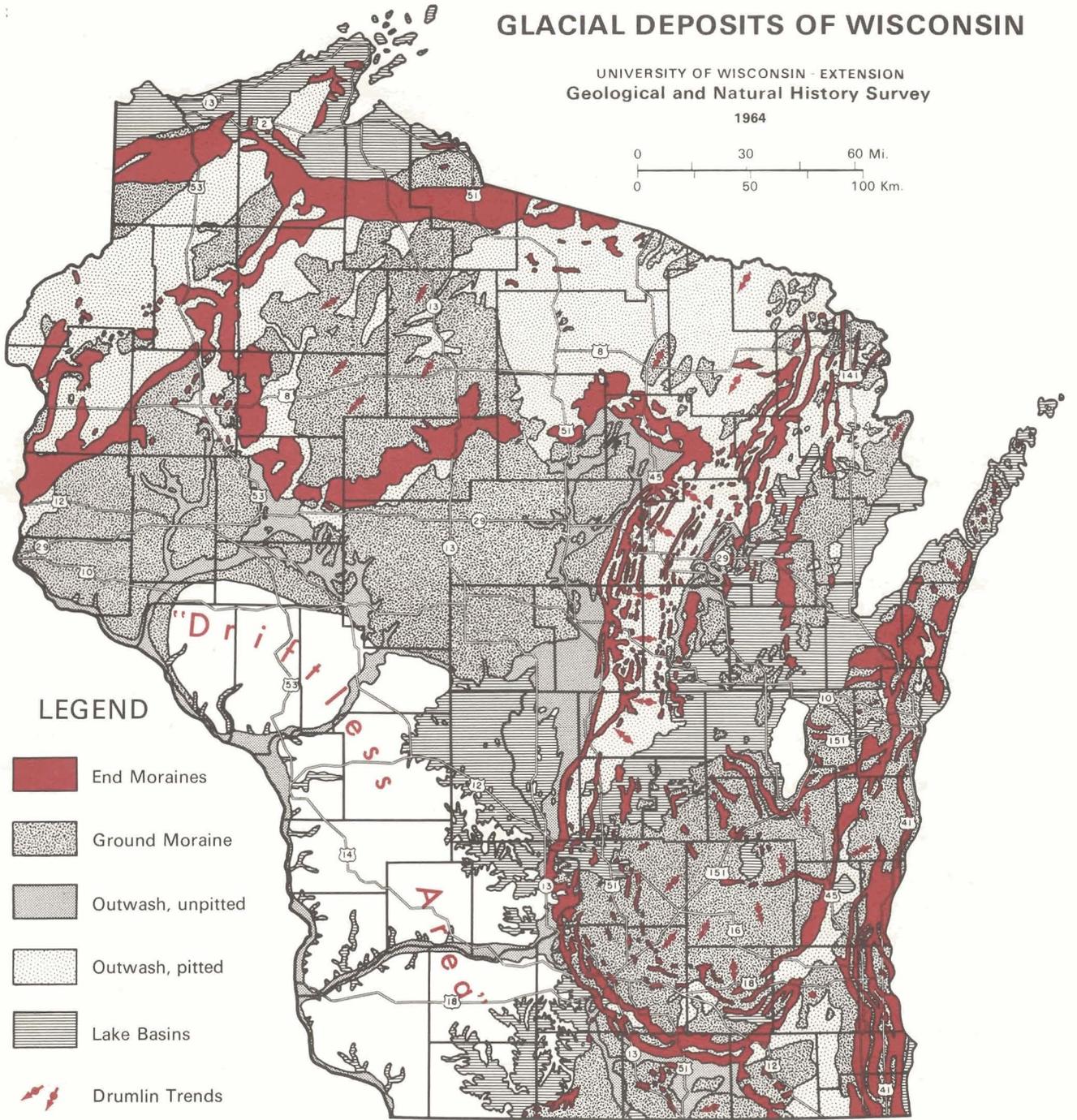
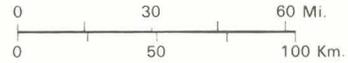

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GLACIAL DEPOSITS OF WISCONSIN

UNIVERSITY OF WISCONSIN - EXTENSION
Geological and Natural History Survey
1964

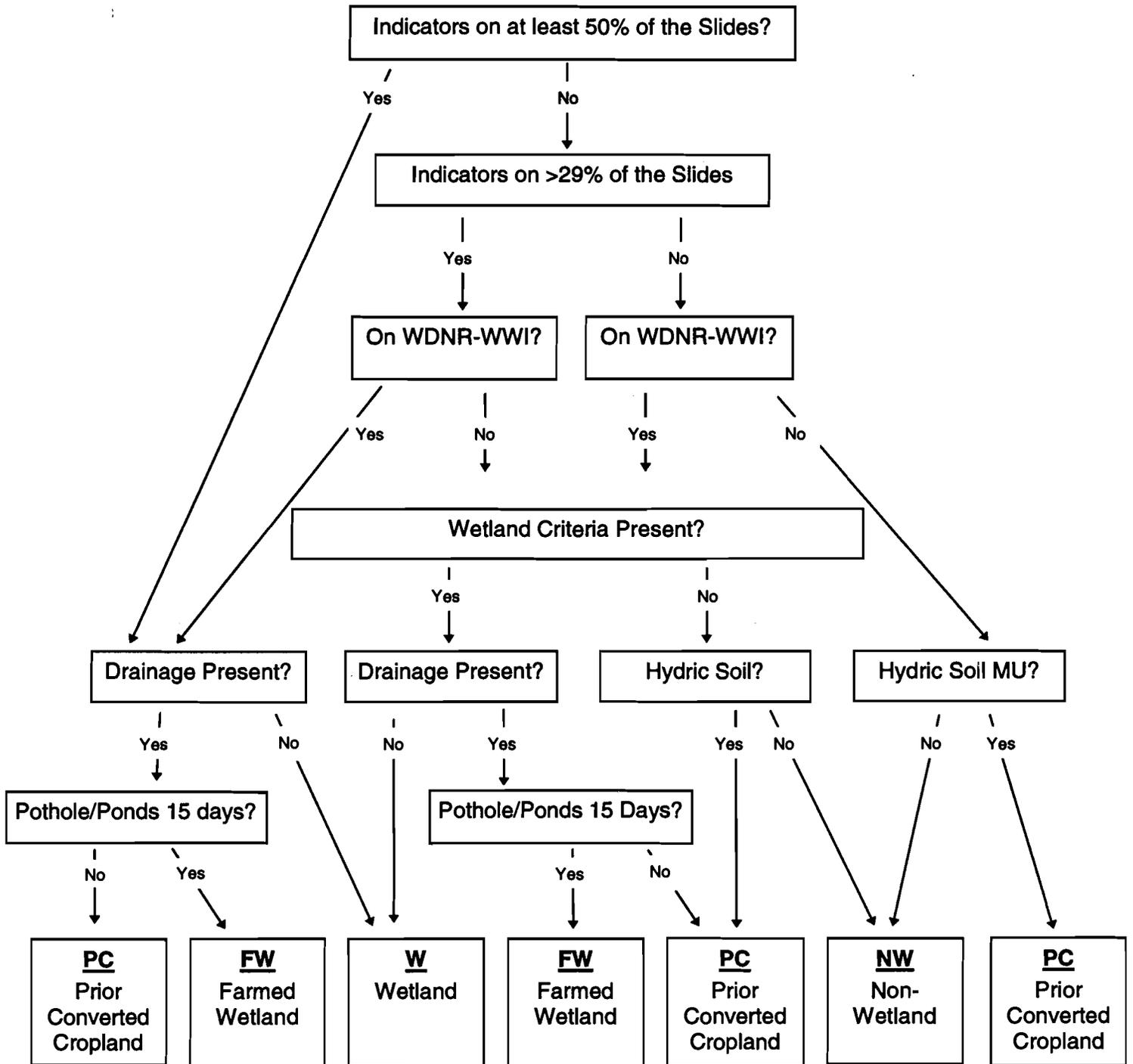


LEGEND

-  End Moraines
-  Ground Moraine
-  Outwash, unpitted
-  Outwash, pitted
-  Lake Basins
-  Drumlin Trends

After Thwaites, 1956

FSA Wetland Determination on Cropland by Aerial Slide Review*



*On-site verification is required for final determination/delineation.