

# **MICHIGAN WETLAND MAPPING CONVENTIONS**

**FOR**

**1985 FOOD SECURITY ACT,**

**1990 FOOD AND AGRICULTURE CONSERVATION TRADE ACT AND**

**1996 FEDERAL AGRICULTURE IMPROVEMENT AND REFORM ACT**

## **INTRODUCTION**

This document outlines the off-site methods and procedures the Natural Resources Conservation Service (NRCS) will use in Michigan to make wetland determinations for the Food Security Act of 1985 (FSA) as amended. Public Law 99-198 as amended contains the legislative authority for Natural Resources Conservation Service wetland determinations, while the National Food Security Act Manual contains implementation policy and procedures. These off-site procedures will be used in conjunction with on-site methods when identifying and delineating wetlands for Clean Water Act purposes and in accordance with the Inter-Agency Memorandum of Agreement signed on January 6, 1994.

Mapping conventions are a set of procedures used to guide the trained staff in making off-site wetland determinations of agricultural lands. These conventions are not intended to state or document federal policy. They are designed to ensure consistent interpretations between field offices throughout the state and within ecological regions. Because the criteria for making off-site (i.e., office) wetland determinations vary according to the landscape features being reviewed, different mapping conventions have been developed. These conventions are intended to conform to FSA definitions and procedures. The definitions of terms used in this document are contained in Exhibit 4.

Listed below are the landscape features which will be used in Michigan.

1. Potholes and other depressional areas. Depressions are low areas in the landscape which may exhibit wetland characteristics. Potholes are depressions in glaciated areas.
2. Flooded or ponded soils <sup>1/</sup> that are inundated during the growing season <sup>2/</sup>. These conditions may exist along streams, rivers, lakes or in depressional areas where hydrology is mainly derived from surface inundation.
3. Hydric soils that meet only the water table (saturation) criteria. This condition can apply any place in Michigan where hydrology is mainly derived from saturation and does not meet items 1 or 2 above.

### **GENERAL INFORMATION**

The size of a wetland is not a factor in the wetland determination process. All areas which meet the determination criteria and are large enough to detect when using these conventions will be mapped as wetlands. The Memorandum of Agreement concerning the delineation of wetlands for purposes of Section 404 of the Clean Water Act and Subtitle B of the Food Security Act allows Natural Resources Conservation Service determinations made on narrow bands immediately adjacent to or small pockets interspersed among agricultural lands to be used by the Environmental Protection Agency or Army Corps of Engineers. These conventions, along with on-site investigations, may be used to determine wetland pockets interspersed in agricultural land or narrow bands between agricultural land that are less than 50 feet wide. Determinations in these areas will follow the procedures outlined in the 1987 Corps' Manual. For purposes of these conventions, "small pockets" and "narrow bands" are to be considered those areas which are: (a) less than 5 (five) acres in size; and (b) not contiguous with a larger wetland area.

These conventions will be used as the basis for completing all off-site wetland determinations and wetland inventories in accordance with established definitions and policy.

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<sup>1/</sup> Ponding can occur anywhere, while flooding is restricted primarily to areas adjacent to perennial streams.

<sup>2/</sup> The growing season may be estimated by approximating the number of frost-free days. 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<sup>o</sup> F) in the spring to the average date of the first killing frost (28<sup>o</sup> F) in the fall (see Exhibit 3).

**MICHIGAN WETLAND MAPPING CONVENTIONS**  
**FOR**  
**POTHOLES AND OTHER DEPRESSIONAL AREAS AND**  
**SATURATED SOIL CRITERIA**

Wetlands in these areas will be determined using the following procedure. These conventions will be used as the basis for making all off-site (office) determinations of wetlands within these regions. They take into consideration above-normal and below-normal precipitation periods. The principal tools used to make the wetland determination are: (1) National Wetland Inventory (NWI) maps prepared by the U.S. Fish and Wildlife Service (FWS); (2) Natural Resources Conservation Service (NRCS) soil survey maps; (3) NOAA climatological data; and (4) Farm Service Agency (FSA) 35 mm color slides and aerial photographs. USGS topo maps, drainage maps and other tools may also be used.

**STEP 1: Review NWI Maps Where Available**

NWI maps will give an overview of the wetlands in the area. All wetlands on the NWI maps will be considered wetlands for this step and transferred to the base map<sup>3/</sup>.

**Note:** Many wetlands were not included on NWI maps because of FWS conventions on mapping wetlands in agricultural areas.

**STEP 2: Review The Soil Survey**

Review of the soil survey will help identify which areas have potential for wetlands.

What to look for:

1. Map units which are listed as hydric soils for the county.
2. Map units with hydric soils as part of their name.
3. Map units with hydric soils as inclusions.
4. Areas on soil maps denoted by conventional water feature symbols such as marsh or swamp, wet spots, reservoirs, lakes, ponds, streams, etc.

Transfer to the base map the boundaries of all soil units which have potential for wetlands. In most cases, map units with no hydric soils will not contain wetlands; however, all units should be reviewed for possible wetlands.

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<sup>3/</sup> The base map is the FSA aerial photograph for the section. Usually, this photo is at a scale of 8 inches to the mile.

### **STEP 3: Review Climatological Data - Determine “Normal” Years**

Use climatological data from the Climatic Data Access Facility or the National Climatic Data Center.

1. Determine the nearest climatological station with at least 30 years of records, the years of available FSA compliance slides and the dates of the flights.
2. Contact the state hydrologist. Supply the information from #1 to the hydrologist. The hydrologist will use the procedures outlined in the “Hydrology Tools Handbook” to identify a “normal”, “wet” or “dry” flight year. This determination is based upon the monthly precipitation for the three months preceding the date of the aerial photograph.

“Normal” monthly precipitation, as identified by the U.S. Weather Service, implies that, on the average, 7 out of 10 years would be within the “normal” range. This is approximately the range identified by one standard deviation.

3. A minimum of five (5) years of “normal” year slides, as identified in Step 2, is needed for this process. Additional “normal” year slides are to be used if available. If five “normal” years of slides are not available, an even number of “wet” and “dry” year slides will be added until a minimum number of seven years of slides is reached. “Wet” and “dry” year slides will be ranked according to the amount of precipitation, with those most closely approaching “normal” added first. If five “normal” years of slides, or seven slides from “normal”, “wet” and “dry” years are not available, the on-site process will be used.

#### **STEP 4: Review FSA Slides**

All available FSA slides will be reviewed systematically by section for the presence of wetland signatures as listed below:

1. Hydrophytic vegetation.
2. Surface water.
3. Saturated conditions.
4. Flooded or drowned-out crops (mud flat).
5. Stressed crops due to wetness (yellowish color).
6. Differences in vegetation due to different planting dates.
7. Greener crop in dry years.
8. Inclusions of wet areas in set-aside program.
9. Unharvested crops in otherwise harvested areas.
10. Isolated areas that are not farmed with rest of field.

The following process will be used when reviewing FSA slides:

1. Place a clear overlay on an eight (8) inch per mile planning map or on a projection table, if available.
2. Review the FSA slide for the first available “normal” year. Circle the wetland areas with a dry, erasable marker for that year.
3. Go to the next year's slide, circle all new wetland areas and place a check-mark next to those wetlands which have reoccurred.
4. Repeat this process for all “normal” year slides, and “wet/dry” years as necessary.

**Note:** An alternative to Steps 2-4 is to identify possible wetland signatures and review each signature through all the years of slides. The frequency of occurrence is determined for each signature before reviewing the next potential signature. As a minimum, all information transferred from the NWI and soils maps is considered for possible wetland signatures.

5. Divide the total number of occurrences by the total number of slides utilized in Steps 2 and 4. This number is the percentage of occurrence.
6. Review any remaining “wet/dry” year slides to provide additional insight about wetland presence and approximate boundaries.
7. Always check all slides for manipulation <sup>4/</sup> of wetland areas which would result in a possible Converted Wetland (CW). Record observed manipulations.

<sup>4/</sup> Manipulation includes clearing, draining, dredging, filling, leveling or any on-site or off-site activity that results in impairing or reducing the flow, circulation or reach of water.

## **STEP 5: Making The Determinations**

1. If the percentage of occurrence of the circled area on the FSA slides is greater than or equal to 50 percent, the area is marked as a wetland (or with the appropriate FSA symbol as described in Step 6), regardless of the NWI map indications.
2. If the percentage of occurrence of the circled area on the FSA slides is equal to or greater than 30 percent but less than 50 percent of the FSA slides, and is verified by the NWI map, the area is marked as a wetland (W or other appropriate FSA symbol).
3. If the percentage of occurrence of the circled area on the FSA slides is equal to or greater than 30 percent but less than 50 percent of the FSA slides, and is not verified by the NWI map, the area is a potential wetland. An on-site investigation will be required for final verification.
4. If the circled area occurs on less than 30 percent of the FSA slides, but is verified by the NWI map, the area is a potential wetland. An on-site investigation will be required for final verification.
5. If the circled area occurs on less than 30 percent of the FSA slides, and cannot be verified by the NWI map, the area is marked as Prior Converted Cropland (PC) if hydric soils are present, and marked as Non-Wetland (NW) if hydric soils are not present.

The approximate wetland boundary will be determined from slides from year with “normal” precipitation. The boundary will be drawn by determining the wettest of the area containing the wetland signature(s) indicated on these selected slides. The “wettest” boundary will be transferred to the base map. Wetland areas, within these boundaries, will be marked with the appropriate FSA symbols.

## **STEP 6a: Labels for Areas That Are Potholes Or Depressions**

In addition to the criteria previously described, wetland determinations within pothole and depressional areas will be labeled, as indicated below, based on the FSA definitions.

1. Potholes, or other depressional areas, which were not manipulated prior to December 23, 1985 and which have hydrophytic vegetation, or potholes and depressions farmed under natural conditions, are Wetlands. These areas will be marked with a “W” (see **#1 of Exhibit 2**).
2. Potholes, or other depressional areas, which: (a) are located in crop fields where manipulation is evident <sup>5/</sup> before December 23, 1985; (b) have not been completely drained and still meet the wetland criteria; (c) were used for crop production; and (d) have been abandoned (areas with certified wetland determinations are exempt from abandonment), and are identified as Wetlands. These areas will be marked “W” (see **#2 of Exhibit 2**).
3. Potholes, or other depressional areas, which (a): are located in crop fields where manipulation is evident before December 23, 1985; (b) have not been completely drained and still meet the wetland criteria; (c) have not been abandoned (areas with certified wetland determinations are exempt from abandonment); and (d) are used for crop production, are identified as Farmed Wetlands. These areas will be marked “FW” (see **#3 of Exhibit 2**).
4. Potholes, or other depressional areas, which: (a) are located in crop fields where manipulation activity is evident before December 23, 1985; (b) have not been completely drained and still meet the wetland criteria; (c) do not have a crop history; (d) have not been abandoned (areas with certified wetland determinations are exempt from abandonment); but (e) were used for pasture, hay or other forage production, are identified as Farmed Wetland Pasture. These areas will be marked “FWP” (see **#4 of Exhibit 2**).
5. Potholes, or other depressional areas, which: (a) are located in crop fields where manipulation activity is evident before December 23, 1985; (b) have not been completely drained and still meet the wetland criteria; (c) do not have a crop history; and (d) were not used for pasture, hay or other forage production, are identified as Wetlands. These areas will be marked “W” (see **#5 of Exhibit 2**).
6. Potholes, or other depressional areas, which are located in crop fields where manipulated activity is evident before December 23, 1985, and have been drained to the degree that they no longer meet the wetland criteria, are identified as Prior Converted Cropland. These areas will be marked “PC” (see **#6 of Exhibit 2**).

5/ Mere evidence of drainage structures is not proof that the hydrology has been altered. Look for wetland signatures.

7. Potholes, or other depressional areas, which: (a) met the wetland criteria prior to December 23, 1985; (b) show evidence of manipulation between December 23, 1985 and November 28, 1990; and (c) made production of an agricultural commodity possible are identified as Converted Wetlands. These areas will be marked “CW” (see #7 of Exhibit 2).
8. Potholes, or other depressional areas, which: (a) met the wetland criteria prior to December 23, 1985; (b) show evidence of manipulation between December 23, 1985 and November 28, 1990; but (c) did not make production of an agricultural commodity possible, will be marked “WX” (see #8 of Exhibit 2).
9. Potholes, or other depressional areas, which: (a) met the wetland criteria prior to December 23, 1985; but which (b) show evidence of manipulation after November 28, 1990; and (c) make production of an agricultural commodity possible, are identified as Converted Wetland plus the year of conversion. These areas will be marked “CW + YR” (see #9 of Exhibit 2).
10. Potholes, or other depressional areas, which: (a) met the wetland criteria prior to December 23, 1985; but which (b) show evidence of manipulation after November 28, 1990; but (c) do not make production of an agricultural commodity possible, will be marked “WX” (see #10 of Exhibit 2).
11. Land that: (a) was formerly non-wetland in its natural state, or was Prior Converted cropland (PC); and (b) that now exhibits wetland characteristics because of human activities (i.e., livestock watering, fish production, irrigation, etc.) are identified as Artificial Wetlands. These areas are marked “AW”.
12. Crop field areas, and non-cropped areas, with non-hydric soil map units which are not labeled with any of the above descriptions, are to be considered Non-Wetland areas. These areas are marked “NW”.
13. Crop fields with a combination of “PC” and “NW” areas will be marked as appropriate.

**See Exhibit 2**

## STEP 6b: Labels For Areas That Are Saturated

In addition to the criteria previously described, wetland determinations within areas of hydric soils that only meet saturated conditions will be labeled based on the criteria listed below.

1. Hydric soils that meet only the saturation criteria, which were not manipulated prior to December 23, 1985, are Wetlands. These areas will be marked with a “W”.
2. Hydric soils that meet only the saturation criteria, which are located in crop fields where manipulation is evident before December 23, 1985, but did not make production of an agricultural commodity possible<sup>6/</sup>, are identified as Wetlands. These areas will be marked “W”.
3. Hydric soils that meet only the saturation criteria, which (a): are located in crop fields where manipulation is evident before December 23, 1985; (b) have made production of an agricultural crop possible; and (c) have not been abandoned (areas with certified wetland determinations are exempt from abandonment), are identified as Prior Converted Cropland. These areas will be marked “PC”.
4. Hydric soils that meet only the saturation criteria, which: (a) are located in crop fields where manipulation is evident before December 23, 1985; (b) have made production of an agricultural commodity possible; (c) have been abandoned; and (d) were not used for pasture, hay or other forage production, are identified as Wetlands. These areas will be marked “W”.
5. Hydric soils that meet only the saturation criteria, which: (a) are located in crop fields where manipulation is evident before December 23, 1985; (b) have made production of an agricultural commodity possible; (c) have not been abandoned (areas with certified wetland determinations are exempt from abandonment); and (d) were used for pasture, hay or other forage production, are identified as Farmed Wetland Pasture. These areas will be marked “FWP”.
6. Hydric soils that meet only the saturation criteria, which: (a) meet the wetland criteria prior to December 23, 1985; (b) show evidence of manipulation between December 23, 1985 and November 28, 1990; and (c) made production of an agricultural crop possible; are identified as Converted Wetlands. These areas will be marked “CW”.
7. Hydric soils that meet only the saturation criteria, which: (a) met the wetland criteria prior to December 23, 1985; and which (b) show evidence of manipulation after November 28, 1990, are identified as Converted Wetlands plus the year of conversion. These areas will be marked “CW + YR”.

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<sup>6/</sup> Removal of woody vegetation is considered an action which makes production of an agricultural commodity possible.

8. Land that: (a) was formerly non-wetland in its natural state, or was Prior Converted cropland (PC); and (b) that now exhibits wetland characteristics because of human activities (i.e., livestock watering, fish production, irrigation, etc.) are identified as Artificial Wetlands. These areas are marked "AW".
9. Crop field areas, and non-cropped areas, with non-hydric soil map units which are not labeled with any of the above descriptions, are to be considered Non-Wetland areas. These areas are marked "NW".
10. Crop fields with a combination of "PC" and "NW" areas will be marked as appropriate.

**MICHIGAN WETLAND MAPPING CONVENTIONS**  
**FOR**  
**FLOODED OR PONDED AREAS**

Wetlands in these areas will be determined using the same procedures as used for Potholes and Depressional Areas and Saturated Hydric Soil Areas with the following addition of Step 3a and modifications of Step 6. Hydrology criteria for Flooded or Pounded Areas is met: (a) when there is a 50 percent chance of the area being seasonally flooded or ponded for at least 15 consecutive days during the growing season (or 10 percent of the growing season, whichever is less, under normal growing conditions) for manipulation areas; or (b) where the area is seasonally flooded or ponded for seven (7) consecutive days or saturated for 14 or more consecutive days during the growing season for natural areas (NFSAM 514.22-23).

**STEP 3a: Review Flood Hazard Study Maps And Other Information**

1. Review flood hazard study maps. Flood elevation boundaries are delineated on flood hazard study maps for some areas. These boundaries were derived from historical and stream gauge data.
2. Review other available information including flow regiments and stream gauge information. The new “NRCS-National Hydrology Handbook” contains procedures on using other information to estimate flooding and ponding extents. These procedures will be used to estimate extent and duration of flooding and ponding.
3. Transfer the boundaries of the area identified in #1 and #2 above to the base map.

## **STEP 6c: Labels For Flooded And Poned Areas**

In addition to the criteria previously described, wetland determinations within the flooded or poned areas will be labeled based on the criteria listed below.

1. Flooded or poned areas, which were not manipulated prior to December 23, 1985, and which have hydrophytic vegetation, or were farmed under natural conditions, are Wetlands. These areas will be marked with a “W”.
2. Flooded or poned areas, which: (a) are located in crop fields where manipulation is evident before December 23, 1985; (b) have not been completely drained and still meet the wetland criteria; (c) were used for crop production; and (d) have been abandoned (areas with certified wetland determinations are exempt from abandonment), and are identified as Wetlands. These areas will be marked “W”.
3. Flooded or poned areas, which: (a) are located in crop fields where manipulation is evident before December 23, 1985; (b) have not been completely drained and still meet the wetland criteria; (c) have not been abandoned (areas with certified wetland determinations are exempt from abandonment); and (d) are used for crop production, are identified as Farmed Wetlands. These areas will be marked “FW”.
4. Flooded or poned areas, which: (a) are located in crop fields where manipulation is evident before December 23, 1985; (b) have not been completely drained and still meet the wetland criteria; (c) do not have a crop history; (d) have not been abandoned (areas with certified wetland determinations are exempt from abandonment); but (e) were used for pasture, hay or other forage production, are identified as Farmed Wetland Pasture. These areas will be marked “FWP”.
5. Flooded or poned areas which: (a) are located in crop fields where manipulation is evident before December 23, 1985; (b) have made production of an agricultural commodity possible; (c) have not been abandoned (areas with certified wetland determinations are exempt from abandonment); and (d) were used for pasture, hay or other forage production, are delineated as Farmed Wetland Pasture. These areas will be marked “FWP”.
6. Flooded or poned areas, which are located in crop fields where manipulation is evident before December 23, 1985, and have been drained to the degree that they no longer meet the wetland criteria, are identified as Prior Converted Cropland. These areas will be marked “PC”.
7. Flooded or poned areas, which: (a) met the wetland criteria prior to December 23, 1985; (b) show evidence of manipulation between December 23, 1985 and November 28, 1990; and (c) made production of an agricultural commodity possible, are identified as Converted Wetlands. These areas will be marked “CW”.

8. Flooded or ponded areas, which: (a) met the wetland criteria prior to December 23, 1985; (b) show evidence of manipulation between December 23, 1985 and November 28, 1990; but (c) did not make production of an agricultural commodity possible; will be marked “WX”.
9. Flooded or ponded areas, which: (a) met the wetland criteria prior to December 23, 1985; but which (b) show evidence of manipulation after November 28, 1990; and (c) make production of an agricultural commodity possible, are identified as Converted Wetland plus the year of conversion. These areas will be marked “CW + YR”.
10. Flooded or ponded areas, which: (a) met the wetland criteria prior to December 23, 1985; but which (b) show evidence of manipulation after November 28, 1990; but (c) do not make production of an agricultural commodity possible, will be marked “WX”.
11. Land that: (a) was formerly non-wetland in its natural state, or was Prior Converted cropland (PC); and (b) that now exhibits wetland characteristics because of human activities (i.e., livestock watering, fish production, irrigation, etc.) are identified as Artificial Wetlands. These areas are marked “AW”.
12. Crop field areas, and non-cropped areas, with non-hydric soil map units which are not labeled with any of the above descriptions, are to be considered Non-Wetland areas. These areas are marked “NW”.
13. Crop fields with a combination of “PC” and “NW” areas will be marked as appropriate.

## SIGNATURE PAGE

These conventions will take effect on the date of the last signature below and will continue in effect until modified or revoked by agreement of all signatory agencies, or revoked by any of the signatory agencies alone upon 90 days written notice. Modifications to these conventions may be made by mutual agreement and approval by all the signatory agencies.

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Natural Resources Conservation Service  
U.S. Department of Agriculture

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Fish and Wildlife Service  
U.S. Department of the Interior

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Date

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Date

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U.S. Environmental Protection Agency

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Corps of Engineers  
U.S. Department of the Army

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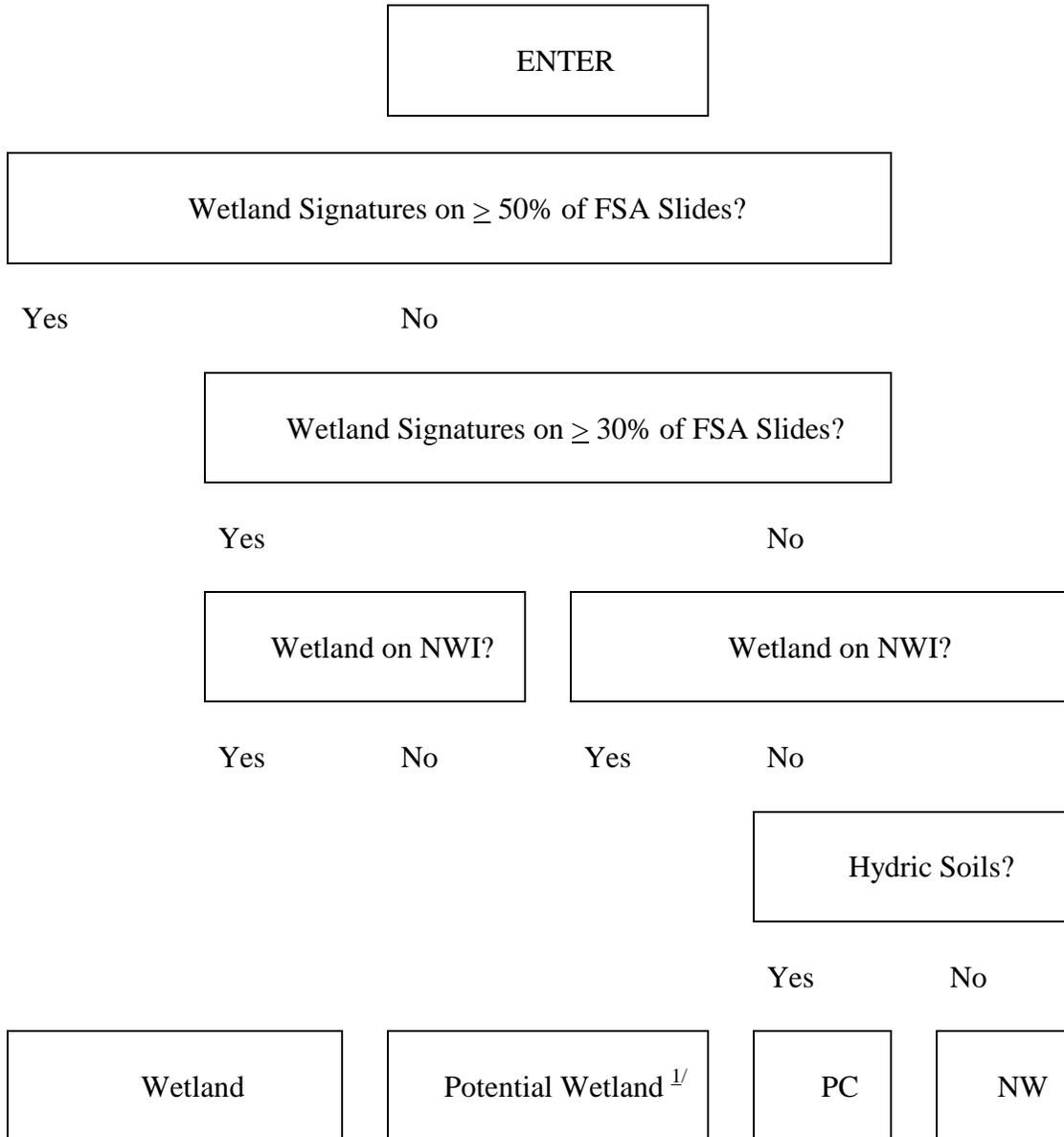
Date

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Date

# EXHIBIT 1

## GUIDELINES FOR WETLAND DETERMINATIONS

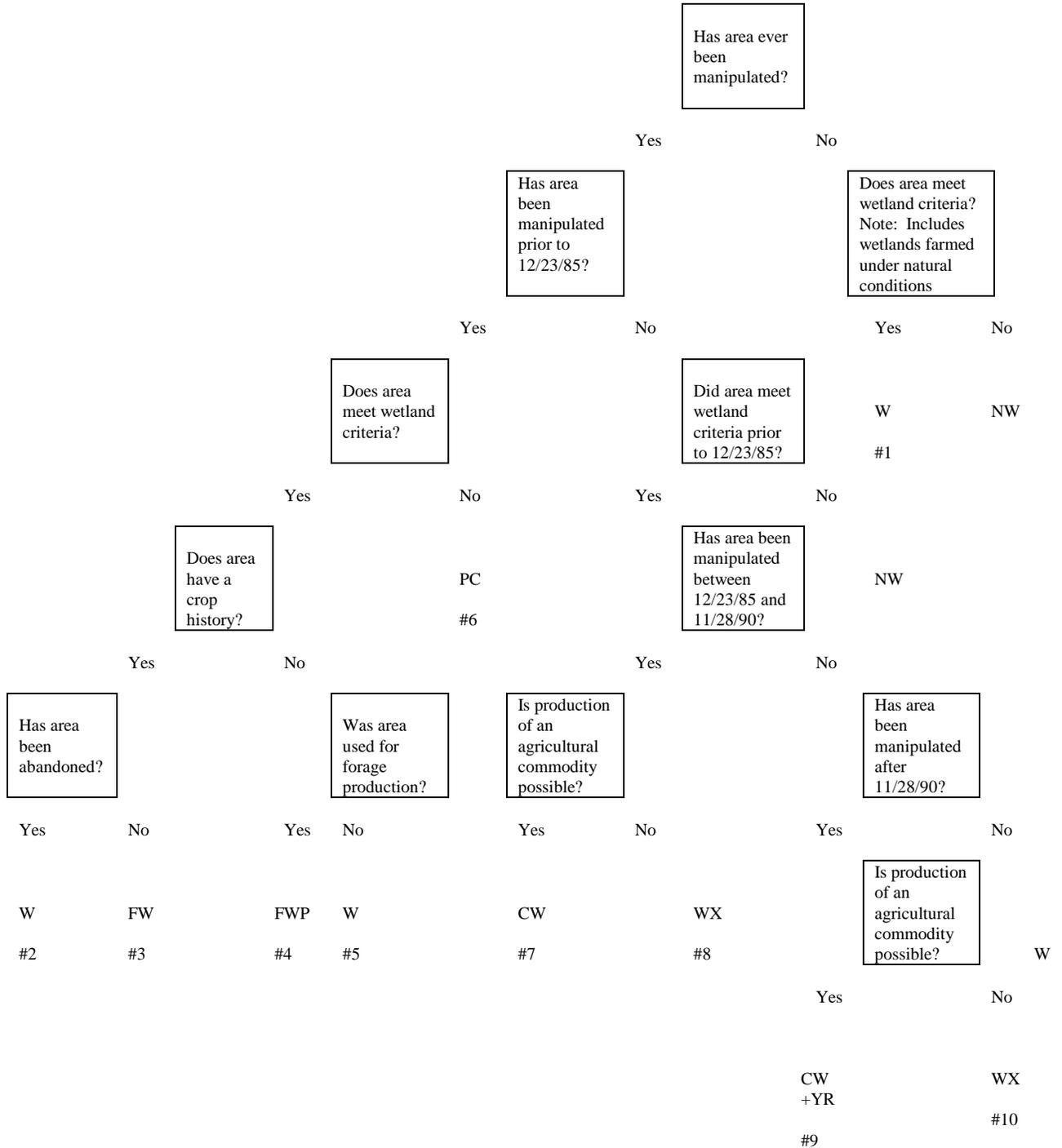


1/ An on-site investigation will be required for final verification.

# EXHIBIT 2

## WETLAND CONVENTIONS

ENTER



<sup>1/</sup> Converted wetland plus year of violation applies only to year crop was produced.

## **EXHIBIT 3**

## EXHIBIT 4

### DEFINITIONS

**ABANDONMENT:** The cessation of cropping, forage production or management operation, for 5 consecutive years, on prior converted cropland (PC), farmed wetland (FW), farmed wetland pasture and hayland (FWP) or wetland that was converted to the extent that it did not meet wetland criteria before December 23, 1985, but was not cropped (NW). Furthermore, land considered to be abandoned must have reverted back to wetland and meet wetland criteria. The area may also be considered abandoned if the landowner provides written intent to abandon. Areas with certified wetland determinations are exempt from abandonment. (National Food Security Act Manual (NFSAM) 525.0)

**AGRICULTURAL COMMODITY:** An annual crop planted by the tilling of the soil or sugarcane. (NFSAM 525.0)

**ARTIFICIAL WETLAND (AW):** Land that was formerly non-wetland under natural conditions, but now exhibits wetland characteristics because of human activities. Examples include, but are not limited to, artificial wetlands created for livestock watering, fish production, irrigation, rice production, flood control, recreation, wildlife habitat, gravel pits and borrow pits. NOTE: Wetlands created by beaver activity are not artificial wetlands. (NFSAM 514.33; 525.0)

**CONVERTED WETLAND (CW):** Converted wetland is land that meets all the following criteria: (a) was wetland, FW or FWP under natural conditions; but (b) after December 23, 1985, has been drained, dredged, filled, leveled or otherwise manipulated, including any activity that results in impairing or reducing the flow, circulation or reach of water; and/or (c) woody vegetation, including stems and stumps, was removed; and (d) the production of an agricultural commodity was made possible. (NFSAM 514.24; 525.0)

**DELINEATION:** An on-site method to identify and locate the wetlands upper boundary accurately.

**DETERMINATION:** An off-site method using mapping conventions to define wetland presence and the approximate wetland boundary.

**FARMED WETLAND (FW):** Farmed wetlands are wetlands that were drained, dredged, filled, leveled or otherwise manipulated before December 23, 1985, for the purpose of, or to have the effect of, making the production of an agricultural commodity possible, and continue to meet specific hydrologic criteria. This definition applies if: (a) such production was not possible before the manipulation; and (b) an agricultural commodity has been produced at least once prior to December 23, 1985; and (c) the area has not been abandoned to agricultural production. (NFSAM 514.22; 525.0)

**FARMED WETLAND PASTURE:** Farmed wetland pastures or hayland are wetlands that: (a) were manipulated and used for pasture or hayland prior to December 23, 1985, still meet wetland criteria, and are not abandoned; or (b) were FW that have not been cropped for five (5) successive years, but were used for forage production during that time, and have not been abandoned; or (c) were PC that meet wetland criteria, have not been cropped for five (5) successive years, but were used for forage production during that time and have not been abandoned. (NFSAM 514.23; 525.0)

**HYDROPHYTIC VEGETATION:** Plants growing in water or in a substrate that is at least periodically deficient in oxygen during the growing season as a result of saturation or inundation by water. (NFSAM 525.0)

**MAKING PRODUCTION POSSIBLE:** Making production possible means: (a) manipulation which allows or would allow production of an agricultural commodity where such production was not previously possible; or (b) making an area farmable more years than previously possible; or (c) manipulation which reduces crop stress and allows increased crop yields; or (d) manipulation after November 28, 1990 that allows forage production or pasture and hayland use. (NFSAM 514.20)

**MANIPULATION:** Manipulation is the alteration of the hydrology and/or the removal of woody vegetation (including stems and stumps) on a wetland. Hydrologic alterations that are considered manipulation may result from: dams, dikes, ditches, diversions, subsurface drains, pumps, terraces and dredge and fill. NOTE: These measures may alter hydrology even if installed off-site from the affected wetlands. (NFSAM 514.20; 525.0)

**MAPPING CONVENTIONS:** Mapping conventions are a set of accepted practices or procedures used to guide the wetland delineator in making off-site wetland determinations on agricultural lands. Each state develops and field tests its own mapping conventions with concurrence from the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service. (NFSAM 514.30; 525.0)

**NON-WETLANDS (NW):** Non-wetland is land that under natural conditions does not meet wetland criteria (sometimes called an upland). Non-wetland also includes wetlands which were converted to the extent that wetland criteria was not present prior to December 23, 1985, but were not cropped. NOTE: Non-wetland areas are not subject to any wetland restrictions except abandonment. (NFSAM 514.37; 525.0)

**POTHOLE:** A depression, generally circular, elliptical or linear in shape, occurring in glacial outwash plains, moraines, till plains and glacial lake plains. (NFSAM 525.0)

**PRIOR CONVERTED CROPLAND (PC):** Prior converted croplands are wetlands that were drained, dredged, filled, leveled or otherwise manipulated, including the removal of woody vegetation, before December 23, 1985 for the purpose of, or having the effect of, making the production of an agricultural commodity possible, and an agricultural commodity was planted or produced at least once prior to December 23, 1985. Prior converted croplands converted before December 23, 1985 are exempt from the FSA and CWA provisions. (NFSAM 514.31; 525.0)

**WETLANDS (W):** FSA wetlands are wetlands that typically have not been manipulated and have not had the water regime altered or woody vegetation removed. Wetlands include areas that have been abandoned. Areas with certified determinations are exempt from abandonment. Wetlands are lands that : (a) have a predominance of hydric soil; and (b) are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions; and (c) under normal circumstances\* do support a prevalence of hydrophytic vegetation. (NFSAM 514.21)

\* Normal circumstances refers to the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed. (NFSAM 513.11; 525.0)

**“WX” WETLANDS:** “WX” areas are wetlands that have been manipulated after December 23, 1985, but the manipulation did not make production of agricultural commodities possible. “WX” areas may or may not meet wetland criteria depending on type and degree of manipulation. (NFSAM 514.38)