

Welcome

USDA NRCS
State Offsite Methods
For Wetland Determinations
Prairie Pothole Region

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SCHEDULED TOPICS

1. Wetland Compliance Background
2. State Offsite Methods
3. Demonstrate Offsite Procedures

Wetland Compliance Background

Title XII of the Food Security Act of 1985 encourages participants in USDA programs to adopt land management measures by linking eligibility for USDA program benefits to farming practices on highly erodible land and converted wetlands.

Offsite Wetland Procedures

All states were recently directed to review their offsite procedures and if needed take steps to update and revise them.

NRCS has utilized offsite wetland procedures in some form since the late 1980s.

Wetland Compliance Prairie Pothole Region

Has experienced a surge of producer interest in drainage

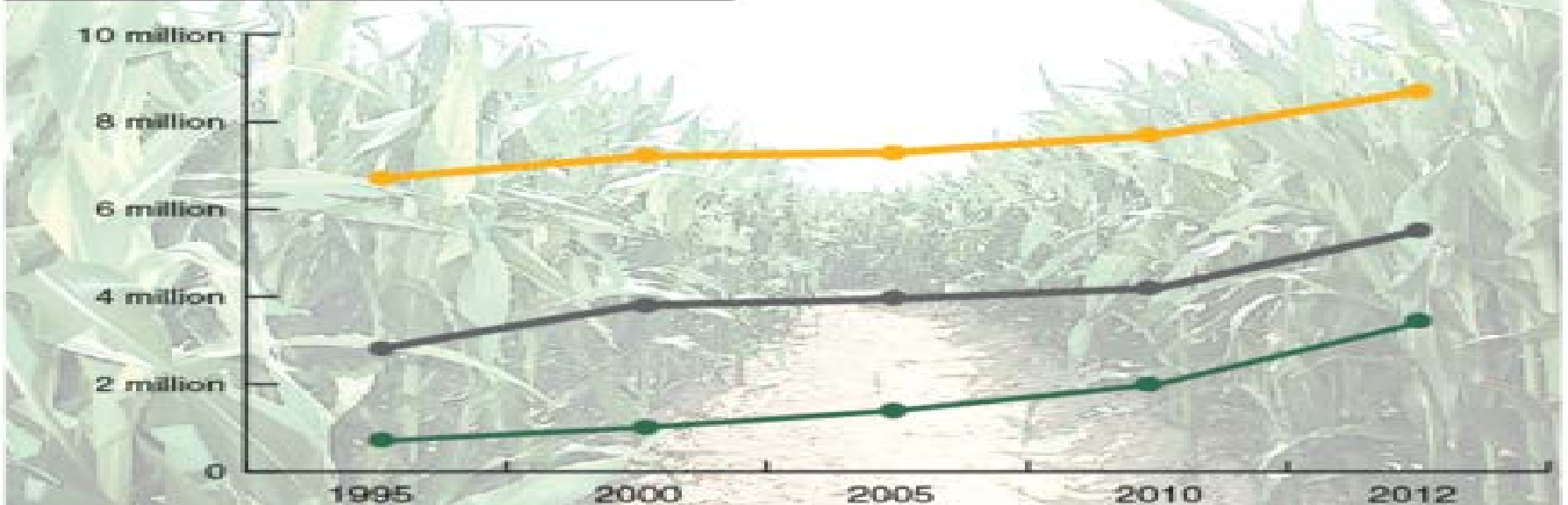
- Changing economic conditions for agriculture
- Changes in crop production technology.
- Increased demand for corn and soybeans used in ethanol and biodiesel production.
- Improved technology and machinery used in on-farm drainage systems
- Expiration of land contracted in the Conservation Reserve Program (CRP) and its return to crop production.

U.S. farmers keep planting more corn

U.S. corn acreage continues to rise, with North Dakota, Minnesota and South Dakota accounting for much of the increase. Combined, the three states account for nearly half of all additional corn acres nationally in the past two years.

— Minnesota — South Dakota — North Dakota

Corn acres planted



	Minnesota	South Dakota	North Dakota	United States
1995	6.7 million	2.8 million	700,000	71.5 million
2000	7.2 million	3.8 million	1 million	79.5 million
2005	7.3 million	3.95 million	1.4 million	81.8 million
2010	7.7 million	4.2 million	2 million	88.2 million
2012	8.7 million	5.5 million	3.4 million	95.9 million

Agweek graphic

Wetland Compliance Prairie Pothole Region

NRCS experienced a corresponding surge in requests for wetland determinations

Wetland Determinations Requests

FY 2009	8,000
FY 2010	10,000
FY 2011	14,000
FY 2012	15,000
FY 2013	11,000
TOTAL	58,000

Wetland Compliance Existing Regulation

USDA has developed and published regulations in 7 CFR Part 12 to implement the HEL and wetland compliance provisions.

Regulations describe the technical WCC criteria

- for determining a wetland,
- for determining a converted wetland,
- the allowable uses of wetlands and converted wetlands

Wetland Compliance Existing Regulation

Off-site procedures

Section 12.30(a)(4) identifies that "NRCS shall.....

(4) Develop and utilize offsite and onsite wetland identification procedures."

State Offsite Methods

Offsite procedures

Offsite procedures are adapted to the type of wetland conditions and available data within a State. Within the Prairie Pothole Region of Iowa, Minnesota, North Dakota, and South Dakota, NRCS is proposing to use consistent state offsite methods for use in completing wetland determinations.

Wetland Determinations

NRCS staff may consult four different sources of information when making a decision whether an area would, under normal circumstances, meet the Food Security Act definition of wetland, including

- 7 CFR Part 12,
- the 1987 Corps of Engineers Wetland Delineation Manual,
- the Corps' regional supplements to the Corp Manual, and
- the Food Security Act procedures, located in the National Food Security Act Manual Appendix.

State Offsite Methods

SOSM are defined as Methods developed by the NRCS for the sole purpose of supplementing the offsite methodology in the Army Corps Manual for use in identifying wetlands for FSA purposes.

These methods may replace or supplement methods provided for in State Mapping Conventions.

Wetland Determinations

USDA and CWA

The WCC provisions contain specific definitions, exemptions, and guidance for its implementation. These provisions can differ from those in the 1987 Corps of Engineers Wetland Delineation Manual.

NRCS clearly identifies in its wetland determinations that the determinations are for purposes of the WC provisions only, and that the producer should contact the Army Corps of Engineers for clarification about whether a particular activity will require a Clean Water Act Section 404 permit.

Wetland Determination Process

NRCS procedures for making a wetland determination follow a basic three-step process:

- 1) Wetland identification;
- 2) Application of exemption criteria; and
- 3) Determination of size on which to assign the wetland label regarding its exemption status.

Wetland Determination Process

Normal circumstances are those conditions (vegetation, soils, and hydrologic conditions) that would occur

- in the absence of any post-1985 drainage actions,
- without regard to whether the vegetation has been removed or significantly altered, and
- during the wet portion of the growing season under normal climate conditions.

Wetland Determination Process

The Corps and NRCS utilize an indicator-based approach to complete wetland identification. In the absence of direct evidence, the decision if a site meets wetland criteria for each factor (wetland hydrology, prevalence of hydrophytic vegetation, and a predominance of hydric soils) is verified by the presence of indicators.

The verification or lack of indicators can be determined either offsite (using remotely sensed data sources) or through onsite observations.

Benefits of SOSM

- Significantly improves the consistency of wetland determinations across state lines.
- Allows the agency to incorporate the use of evolving remote sensing technology such as Light Detection And Ranging (LiDAR) into off-site procedures.
- Increases agency efficiency in completing wetland determinations without sacrificing accuracy
- Reduces the field work associated with wetland determinations.

Benefits of SOSM

- The more detailed procedures contained in the revised SOSM will minimize the potential for erroneous decision-making by agency field staff.
- Improves the accuracy of wetland determinations.
- Provides staff making wetland determinations with more efficient tools to complete wetland determination work.

Offsite Wetland Determination

EXAMPLE

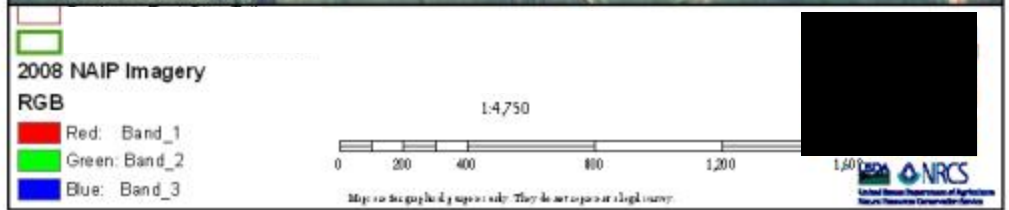
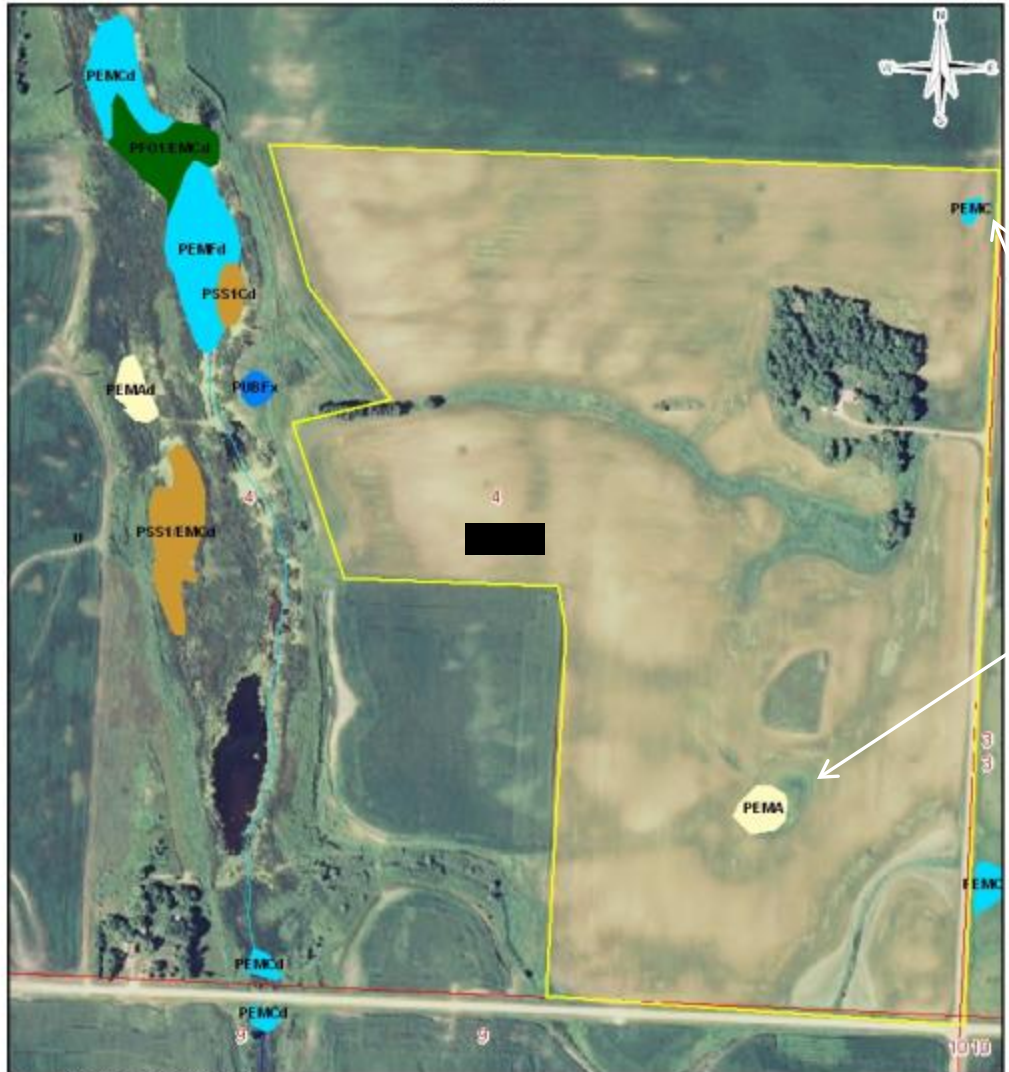
Gather Offsite References

- National Wetland Inventory (NWI)
- Soil Survey
- LiDAR or USGS Topographic Maps
- Aerial Imagery
 - Rainfall Station
 - WETS Data

Tract -

Title

Mar 21, 2011



NWI Map

2 areas identified

Soils Map

Hydric Soils

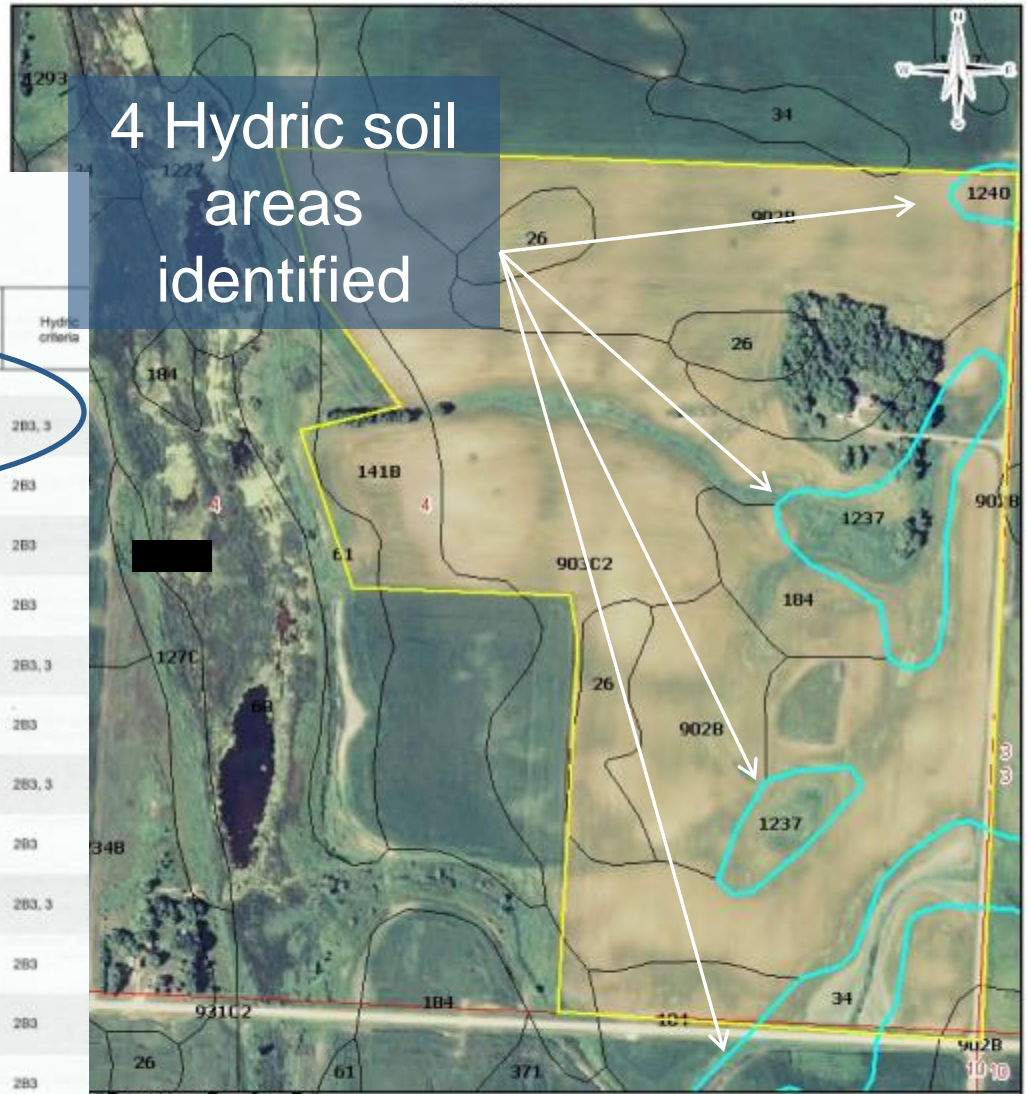
Otter Tail County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
34: Parnell silty clay loam, depressional	Parnell, depressional	90	Depressions, Moraines	Yes	2B3, 3
46: Borup loam	Borup	90	Lake plains, Swales	Yes	2B3
61: Arvason loam	Arvason	90	Lake plains, Swales	Yes	2B3
63: Rockwell loam	Rockwell	90	Swales, Till-floored lake plains	Yes	2B3
65: Arvason loam, depressional	Arvason, depressional	90	Depressions, Lake plains	Yes	2B3, 3
107: Winger silt loam	Winger	90	Swales, Till-floored lake plains	Yes	2B3
187: Haug muck	Haug	95	Depressions, Moraines	Yes	2B3, 3
191: Epoufette sandy loam	Epoufette	90	Outwash plains, Swales	Yes	2B3
335: Urness mucky silt loam	Urness	90	Depressions, Moraines	Yes	2B3, 3
375: Forada loam	Forada	90	Outwash plains, Swales	Yes	2B3
418: Lamoure silty clay loam, occasionally flooded	Lamouré, occasionally flooded	85	Flood plains, Moraines	Yes	2B3
481: Kratka fine sandy loam	Kratka	85	Lake plains, Swales	Yes	2B3
540: Seelyville muck	Seelyville	95	Depressions, Moraines	Yes	1, 3
541: Rifle mucky peat	Rifle	95	Depressions, Moraines	Yes	1, 3
544: Cathro muck	Cathro	90	Depressions, Moraines	Yes	1, 3

Tract -

Title

Mar 21, 2011



4 Hydric soil areas identified

AIP Imagery

Band_1
Band_2
Band_3

1:4,750

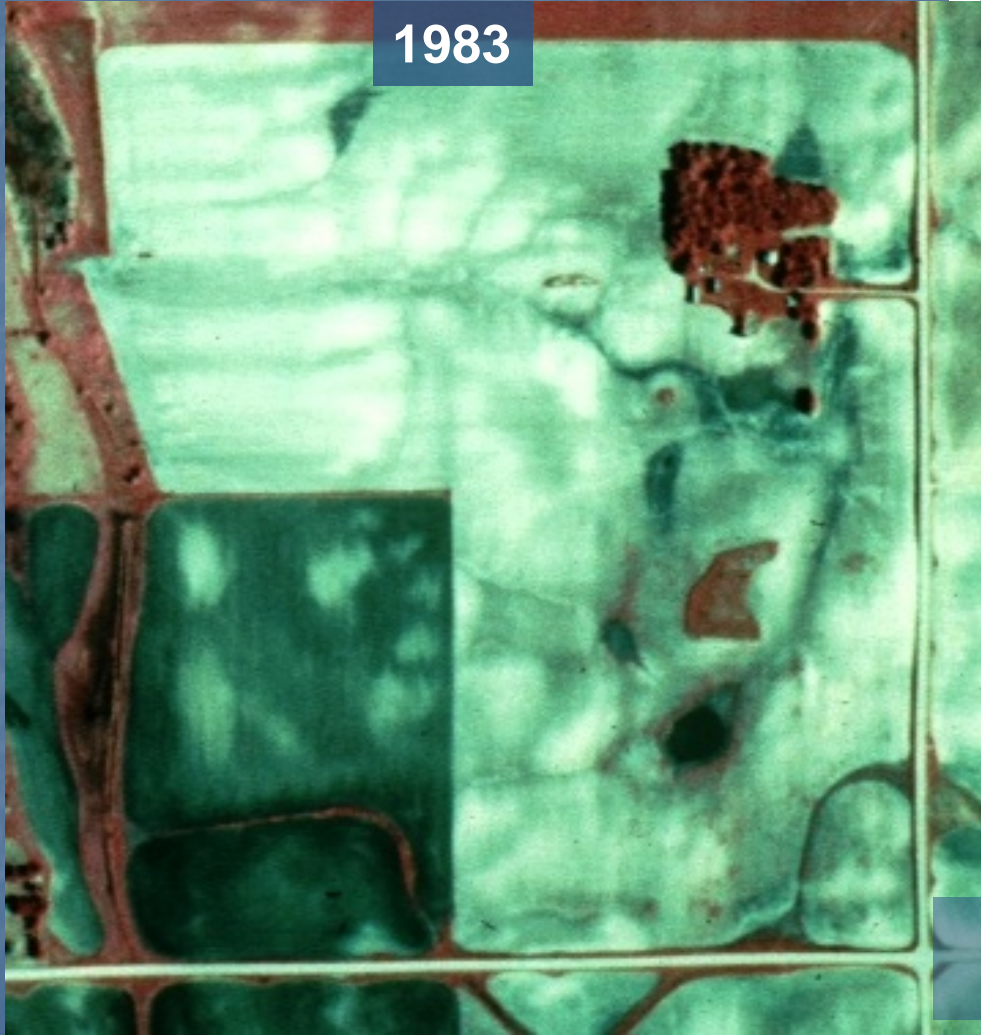


Map is for general purposes only. They do not represent a legal survey.



Slide Review

1983

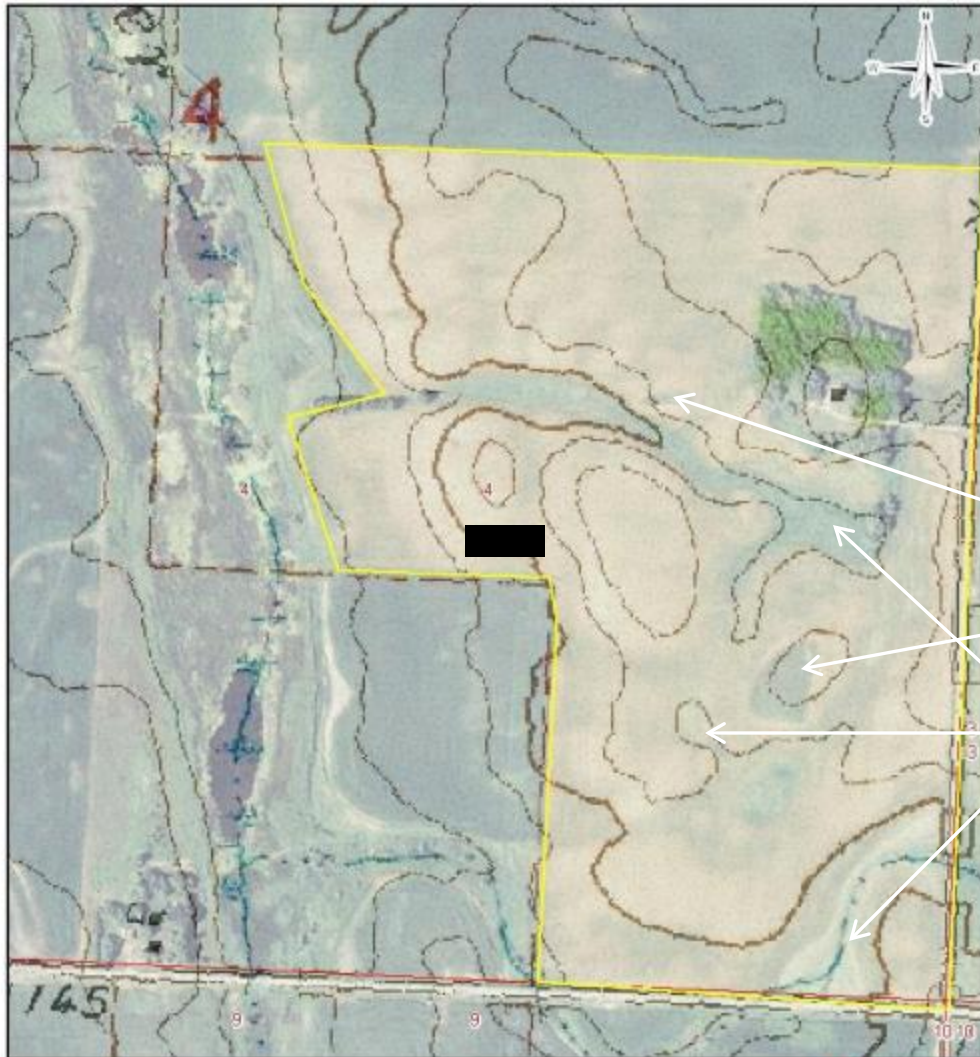


2006



Tract -

Mar 21, 2011



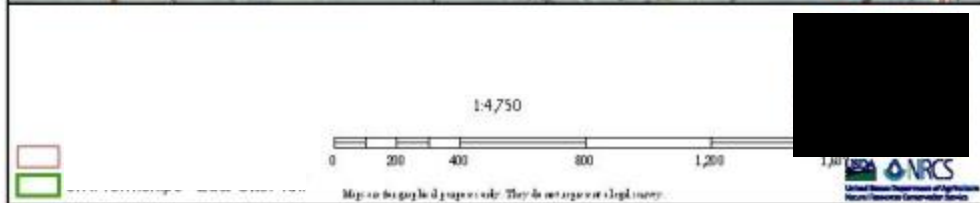
Topographic Map

Are sampling units
Located on...

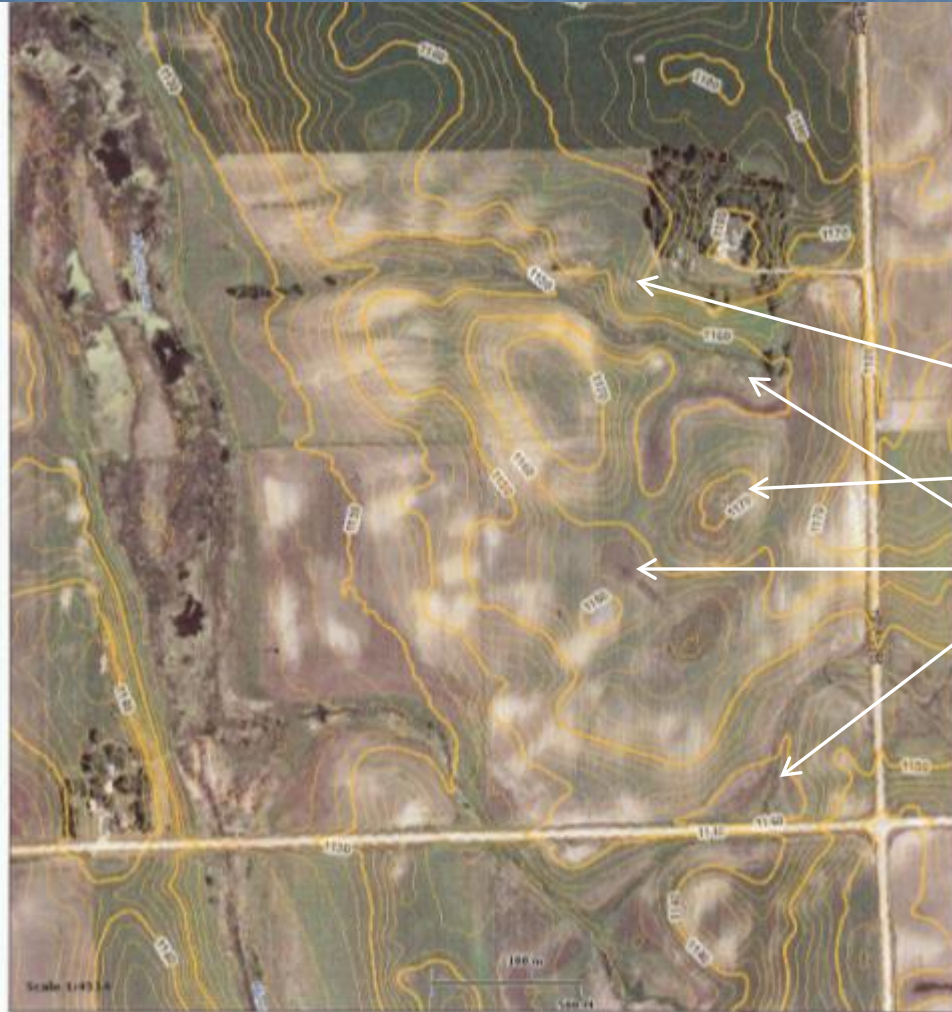
A side hill?

A hilltop?

In a depressional
area?

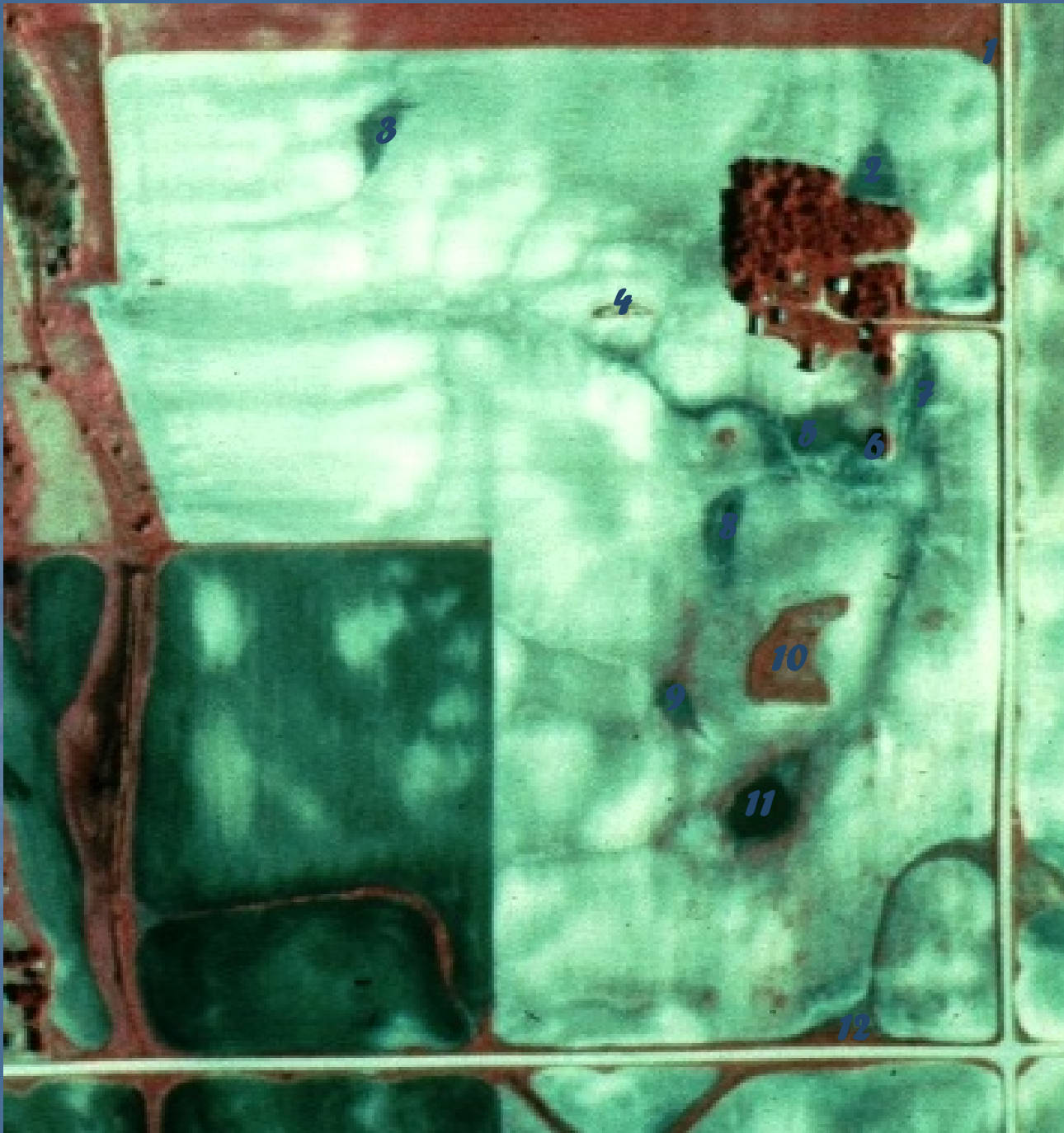


Topographic Map - Lidar



2 foot (or smaller)
contours makes it
easy to see
topography
Side hill
Hilltop
Depressional area

Create Base Map Identify Sampling Units



DETERMINE REMOTE INDICATORS FOR HYDROPHYTIC VEGETATION

These remote indicators are used as evidence that the hydrophytic vegetation definition (plants growing in water or growing in a reduced substrate) is met. For un-drained sites only.

- Ecological Site Descriptions (ESD) PI ≤ 3.0 .
- Approved NRCS wetland reference site data PI ≤ 3.0 .
- National Wetland Inventory (NWI) mapping – PEM, PSS, PFO, or PAB.
- Official Soil Series Descriptions (OSD).
- Prior land-based (on the ground) photography.

DETERMINE REMOTE INDICATOR FOR HYDRIC SOILS

The sampling unit meets criteria when located within a soil map unit having hydric soil as part of its name or containing a hydric inclusion. That portion of the hydric component can be verified by:

- Identifying that the landform (such as pothole/playa or non-pothole/playa) of the sampling unit is consistent with the landform (such as closed depression or swale) of the hydric component or inclusion.

DETERMINE REMOTE INDICATORS FOR WETLAND HYDROLOGY

The following remote indicators indicate that the wetland hydrology definition is met:

- Imagery showing surface water inundation by ponding or flooding under Normal Circumstances.
- Imagery showing a Color Tone difference (CT) due to wetness that is reflective of Normal Circumstances that:
 - a) was occurring on the date of the imagery, or
 - b) that occurred previous to the imagery but the evidence of this wetting event remains evident.

DETERMINE REMOTE INDICATORS FOR WETLAND HYDROLOGY

Color tones provide clear distinctions of the wetness condition of the sampling unit compared to the surrounding field including size and color. Color tones include:

- Hydrophytic vegetation
- Saturated soil conditions
- Stressed crops due to wetness
- Differences in vegetation due to different planting dates
- Inclusion of wet areas as set-aside or idled
- Circular or irregular areas of unharvested crops within a harvested field
- Isolated unfarmed areas within a crop field

Aerial Imagery Review

Identify and record the presence or absence of wetness signatures based on a review of the photographic images that are representative of "normal" year precipitation

NRCS-CPA-32 Wetland Documentation Record, Remotely Sensed Data Summary

U.S. Department of Agriculture
Natural Resources Conservation Service

NRCS CPA-32
12-99

WETLAND DOCUMENTATION RECORD
REMOVED SENSITIVE DATA SUMMARY
(UPDATED 7/2010)

1. Name of Location
2. County Name
3. State Name
4. FSA Number
5. Section Number
6. Township, Range, North/South

1. FSA COLOR SLIDE DATA

Date Mo./Yr.	Climate Condition Wet/Dry/Normal	Interpretation - List of Signatures Observed [e.g. Dry: dry cropped (DC) [e.g. Wet: wet crop stress (CS); wet drowned out (DO); wet non-cropped (NC); standing water (SW)]					
		Site #	Site #	Site #	Site #	Site #	Site #
1981	Normal						
1982	Normal						
1983	Dry						
1984	Normal						
1985	Normal						
1986	Wet						
1987	Normal						
1988	Normal						
1989	Normal						
1990	Normal						
1991	Wet						
1992	Wet						
1993	Wet						
1994	Normal						
1995	Dry						
1996	Normal						
1997	Normal						
1998	Wet						
1999	Wet						
2000	Normal						
2001	Wet	NO PHOTO AVAILABLE					
2002	Normal	NO PHOTO AVAILABLE					
2003	Wet						
2004	Normal						
2005	Wet						
2006	Normal						
2007	Wet	NO PHOTO AVAILABLE					
2008	Normal						
2009	Normal						
Soil Classification							
National Wetland Inventory (NWI) Classification							
2. Number of years observed that have wet signatures. (Partial Growing Seasons [PGS])							

Identify Sampling Units

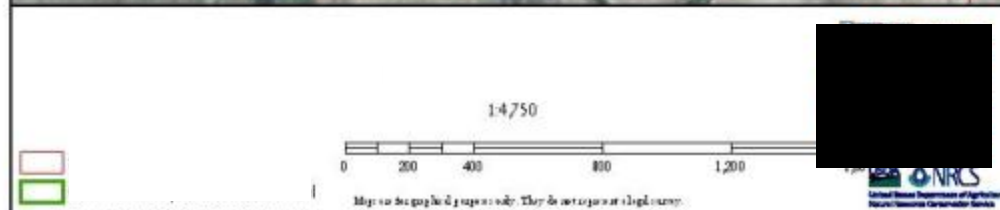
Sampling Unit areas get numbered on the CPA-032 form

Tract -

Mar 21, 2011



2009



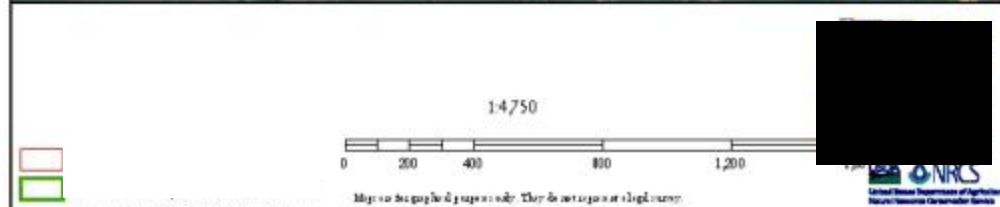
Tract -

Title

Mar 21, 2011



2008



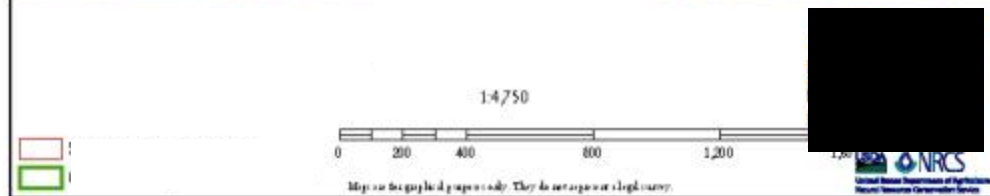
Tract -

Title

Mar 21, 2011



2006





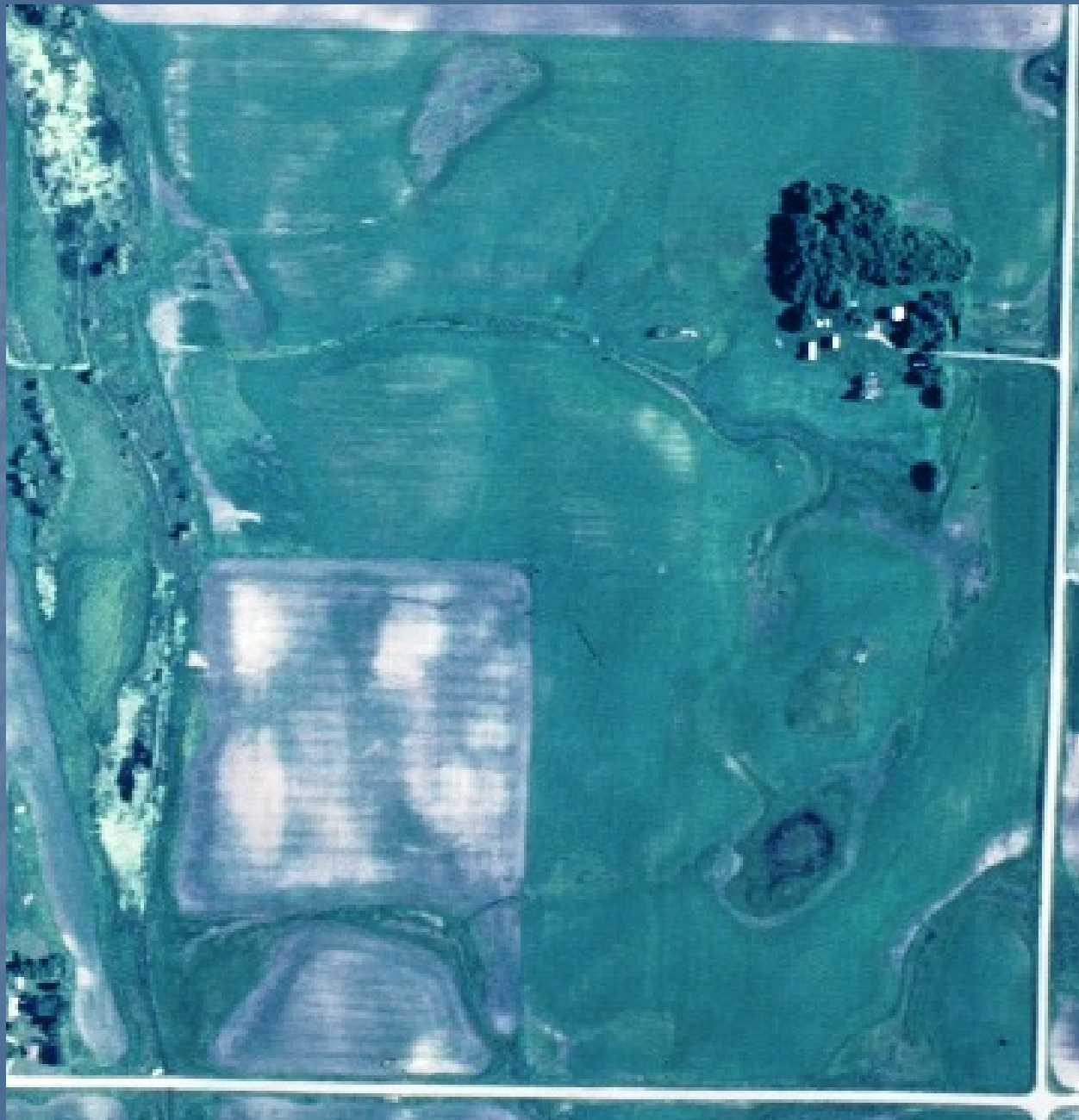
1997



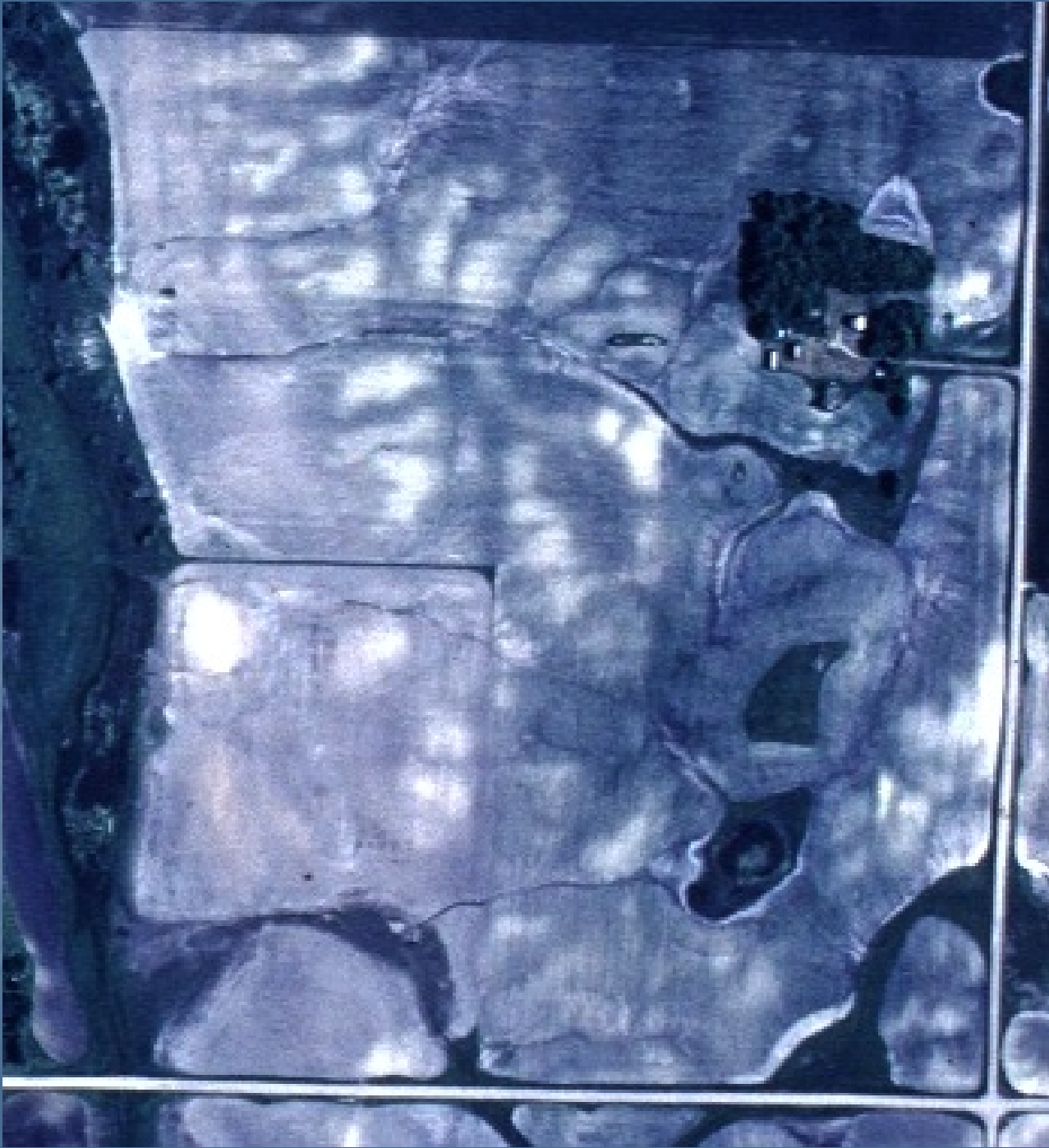
1996



1987



1986



1985



1984



1982



1981

NRCS-CPA-32 Wetland Documentation Record, Remotely Sensed Data Summary

U.S. Department of Agriculture
Natural Resources Conservation Service

NRCS CPA-32
12-89

Investigator: **JOE FARMER**
 Date: **3/1/11**
 Location: **NICE TOWNSHIP, SECTION 7**
 T 11111, E 1111
 1. FSA COLOR SLIDE DATA

WETLAND DOCUMENTATION RECORD
 REMOTELY SENSED DATA SUMMARY
 (UPDATED 7/2010)

Date Mo./Yr.	Climate Condition Wet/Dry/Normal	Interpretation - List of Signatures Observed (e.g. Dry: dry cropped (DC)) (e.g. Wet: wet crop stress (CS); wet drowned out (DO); wet non-cropped (NC); standing water (SW))					
		Site # 1	Site # 2	Site # 3	Site # 4	Site # 5	Site # 6
1981	Normal	NC-W	DC	DC	NC	CS	NC-W
1982	Normal	NC-W	DC	DC	NC	DC	CS
1983	Dry	NC-W	DO	DO	NC	DO	SW
1984	Normal	NC-W	CS	CS	NC	DO	SW
1985	Normal	DO	CS	DC	NC	NC-W	NC-W
1986	Wet	NC-W	DO	NC	NC	CS	NC-W
1987	Normal	NC-W	CS	DC	NC	NC-W	NC-W
1988	Normal	DC	DC	DC	NC	DO	DO
1989	Normal	NC-W	DC	DC	NC	NC-W	NC-W
1990	Normal	CS	DC	CS	NC	CS	NC-W
1991	Wet	NC-W	DC	DC	NC	DO	DO
1992	Wet	NC-W	DC	DC	NC	NC-W	NC-W
1993	Wet	DO	DC	CS	NC	NC-W	NC-W
1994	Normal	CS	DC	DO	NC	NC-W	DO
1995	Dry	CS	DC	DC	DC	CS	CS
1996	Normal	DC	DC	DC	NC	NC-W	NC-W
1997	Normal	CS	DC	DC	NC	NC-W	NC-W
1998	Wet	CS	CS	CS	NC	NC-W	NC-W
1999	Wet	CS	CS	DC	NC	NC-W	NC-W
2000	Normal	CS	DC	DC	NC	NC-W	NC-W
2001	Wet	NO PHOTO AVAILABLE					
2002	Normal	NO PHOTO AVAILABLE					
2003	Wet	CS	CS	CS	NC	NC-W	NC-W
2004	Normal	DC	CS	CS	NC	NC-W	NC-W
2005	Wet	DO	DO	DO	NC	NC-W	NC-W
2006	Normal	DC	SW	SW	NC	NC-W	NC-W
2007	Wet	NO PHOTO AVAILABLE					
2008	Normal	DC	CS	CS	NC	NC-W	NC-W
2009	Normal	CS	CS	CS	NC	NC-W	NC-W
Soil Classification		12A HYDRIC	902B	26	903C2	12B HYDRIC	12B HYDRIC
National Wetland Inventory (NWI) Classification		2					
2. Number of years observed that have wet signatures. (Partial Growing Seasons (PGS))		11/16 69%	7/16 44%	7/16 44%	10/16 NC 100%	15/16 94%	16/16 100%

Documentation Record, Remotely Sensed Data Summary

NRCS CPA-32
12-89

Investigator: **JOE FARMER**

ON RECORD
COUNTY
A SUMMARY

Date: **3/1/11**
 Location: **NICE TOWNSHIP, SECTION 7**
 T 11111, E 1111
 1. FSA COLOR SLIDE DATA

Interpretation - List of Signatures Observed (e.g. Dry: dry cropped (DC)) (e.g. Wet: wet crop stress (CS); wet drowned out (DO); wet non-cropped (NC); standing water (SW))							
Site # 7	Site # 8	Site # 9	Site # 10	Site # 11	Site # 12		
DC	CS	DC	NC	CS	DC		
DC	DC	DC	DC	DO	DC		
DO	DC	DO	NC	SW	DO		
CS	CS (DPR)	CS	NC	SW	CS		
NC-W	CS	CS	NC	SW	NC-W		
CS	CS	CS	NC	NC/SW	NC-W		
CS	CS	CS	DC	NC/SW	CS		
CS	CS	CS	NC	CS	DC		
DC	DC	DO	NC	SW	CS		
DC	DC	DC	NC	DC	CS		
DC	CS	DC	NC	DO	DO		
DC	DC	DC	NC	DC	NC-W		
CS	CS	CS	NC	DO	NC-W		
DC	CS	CS	NC	CS	CS		
CS	CS	CS	DC	DO	DC		
NC	DC	DC	DC	CS	NC-W		
DC	DC	DC	DC	CS	NC-W		
DC	CS	DC	DC	NC-W	NC-W		
DC	CS	DC	DC	NC-W	NC-W		
DC	DC	DC	DC	NC-W	NC-W		
NO PHOTO AVAILABLE							
NO PHOTO AVAILABLE							
CS	CS	CS	CS	NC-W	NC-W		
DC	DC	DC	CS	CS	CS		
DC	CS	DC	DC	NC-W	NC-W		
DC	CS	CS	CS	NC-W	NC-W		
NO PHOTO AVAILABLE							
CS	CS	DC	DC	NC-W	CS		
CS	CS	CS	CS	NC-W	CS		
Soil Classification		12A HYDRIC	902B	902B	903C2	12B HYDRIC	12B HYDRIC
National Wetland Inventory (NWI) Classification							PEMA
2. Number of years observed that have wet signatures. (Partial Growing Seasons (PGS))		6/16 38%	9/16 56%	7/16 44%	16/16 100%	15/16 94%	13/16 81%

DETERMINE REMOTE INDICATORS FOR WETLAND HYDROLOGY

Sampling units and wetness signatures in field(s)/tract(s) with perennial vegetative cover may not be readily visible. In such cases, **field verification is required**

DETERMINE REMOTE INDICATORS FOR WETLAND HYDROLOGY

Wetland Hydrology the factor is met when:

- Wetness signatures are found on at least 50 percent of imagery reviewed which has been verified as representing **normal** precipitation.

Wetland Hydrology (with pre-1985 drainage)

- Adjustments to signatures are made when the producer provides drainage records indicating the location, type (ditch or tile), depth, outlet, and extent of drainage that has been maintained.
- Factor is met when wetness signatures are found on at least 50 percent of all imagery reviewed.

ADDITIONAL VERIFICATIONS

NRCS procedures also require evaluation or verification of these factors in making a wetland determination:

- VERIFICATION OF PRE-1985 CROPPING HISTORY
- VERIFICATION OF PRE-1985 DRAINAGE IMPROVEMENTS AND MANIPULATION
- ASSESSMENT OF POST-1985 ACTIVITY

EVALUATION OF DATA

- LABEL EACH SAMPLING UNIT AREA
- DETERMINE THE SIZE OF EACH WETLAND AREA
- CREATE A CERTIFIED WETLAND DETERMINATION MAP

ISSUE THE DETERMINATION

- ❑ RECORD INFORMATION ON CPA-026 FORM, CREATE MAP, AND DEVELOP NOTIFICATION LETTER
- ❑ DETERMINATIONS ARE EITHER SENT VIA CERTIFIED MAIL OR HAND DELIVERED
- ❑ ALL TECHNICAL DETERMINATIONS HAVE APPEAL RIGHTS

Next Steps

- ❑ COPIES OF THE DETAILED PROCEDURES ARE AVAILABLE FROM YOUR NRCS STATE OFFICE
- ❑ DURING THE PUBLIC COMMENT PERIOD EACH STATE CONSERVATIONIST WILL HOLD A STATE TECHNICAL COMMITTEE MEETING TO REVIEW THEIR REVISED PROCEDURES
- ❑ FOLLOWING THE PUBLIC COMMENT PERIOD ALL NEW COMMENTS WILL BE CONSIDERED PRIOR TO IMPLEMENTATION OF THE NEW PROCEDURES

Questions and Comments

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