United States Department of Agriculture

Offsite Methods for Identifying Wetlands for Food Security Act (FSA) Purposes

USDA-NRCS Caribbean Area
State Technical Committee – 8/25/2020

Wetland Compliance Regulation

- USDA published regulations in 7 CFR Part 12 to implement the HEL and Wetland Conservation (WC) compliance provisions of 1985 Farm Bill, as amended.
- The regulations describe, among other things, NRCS responsibilities.
  - 7 CFR Part 12.30(a) identifies that "NRCS shall……

(4) Develop and utilize off-site and on-site wetland identification procedures."

State Offsite Methods

- Food Security Act (FSA) Wetland Identification Procedures Par. (2-14):
  - Methods developed by the NRCS for the sole purpose of supplementing the offsite methodology in the Corps manual for use in identifying wetlands for FSA purposes.
- Adapted to the available data sources and unique wetland conditions within a state or region.
- Within the Caribbean Region (PR and USVI) the NRCS is proposing to use consistent state offsite methods.

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 Identification Procedures

- A basic three-step process:
  - Step 1: Wetland identification;
  - Step 2: Application of exemption criteria; and
  - Step 3: Determination of size.

Wetland Identification Procedures

- (Part IV) The Indicator-Based Approach as used in the FSA Wetland Identification Methods
  - (4-1) FSA wetlands are identified by direct evidence (observation of conditions under Normal Circumstances (NC)) or indirect evidence (indicators of what the site condition would be under NC)
  - (4-2)…An indicator…may be obtained from remote resources, site visits, or both.
  - (4-3)In the absence of direct evidence, the decision if a site meets a particular diagnostic factor (wetland hydrology, prevalence of hydrophytic vegetation, and a predominance of hydric soils) is assisted by confirmation of the presence of indicators.
  - The **ultimate decision** if a site meets the FSA criteria for any of the 3 diagnostic factors is **made from a preponderance of evidence, best professional judgment, and the FSA definitions, criteria, or both of the 3 diagnostic factors**.

Benefits of SOSM

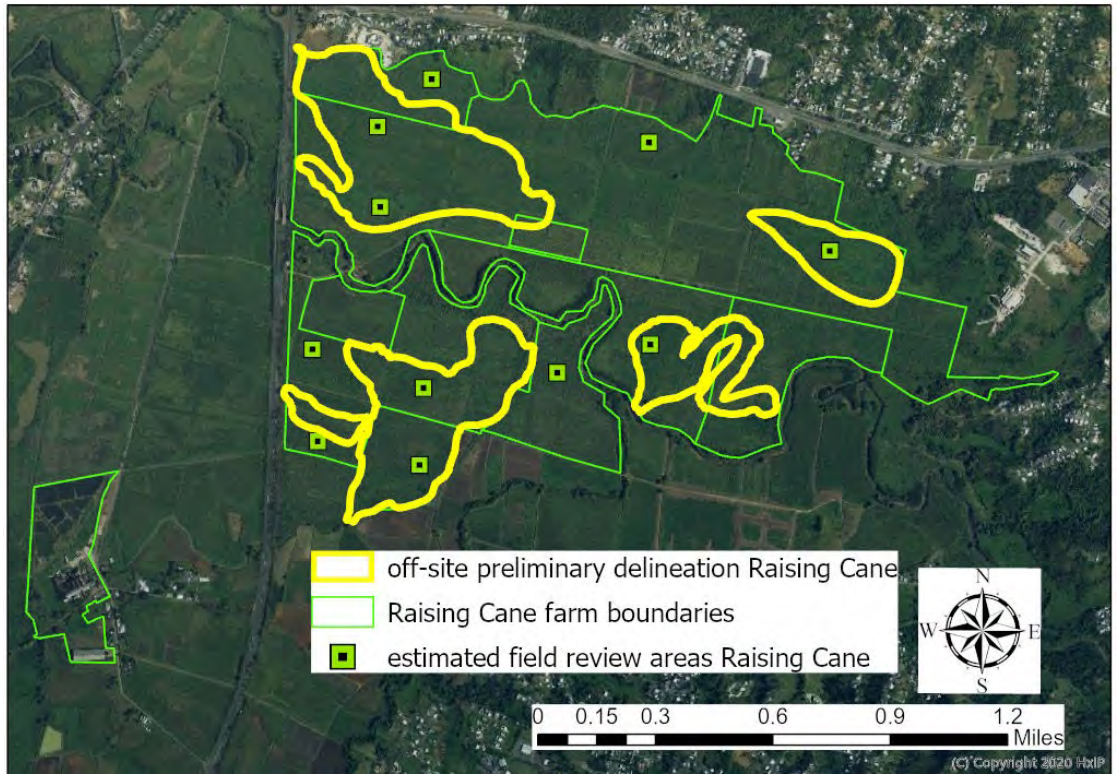
- Improves consistency of wetland determinations among states.
- Incorporates newer remote sensing technology such as Light Detection And Ranging (LiDAR) and CABWET Model into off-site procedures.
- Increases efficiency in completing wetland determinations without sacrificing accuracy.
- Reduces field work and allows determinations to be issued all year.
- Provides staff with more efficient tools to complete wetland work.

OVERVIEW OF SOSM PROCEDURES

Base Map

The first step is to develop a base map.

- The base map needs to be large enough to read and record multiple sampling units in one location (e.g. concentric circles).
- A sampling unit is an area which potentially consists of a wetland
- Data will be obtained and analyzed for each sampling unit



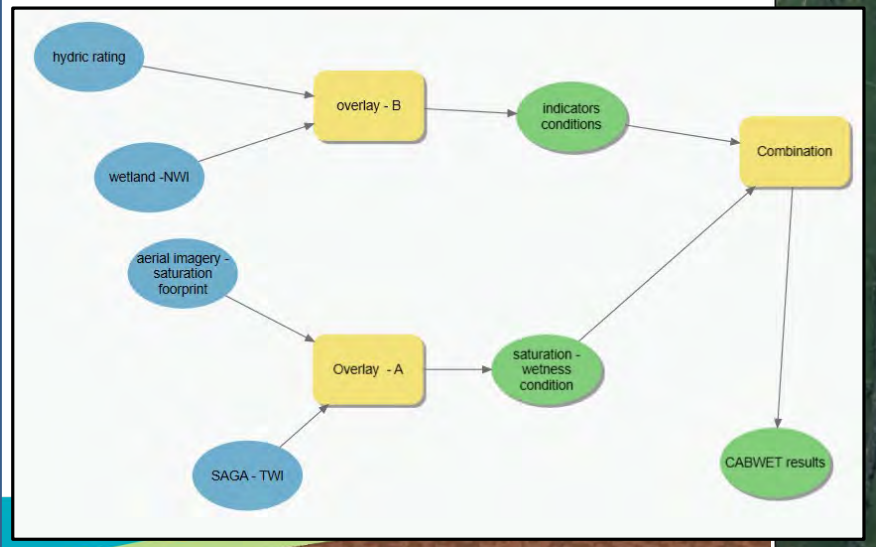
NWI
Soil Survey Data
DEMs
CABWET Model

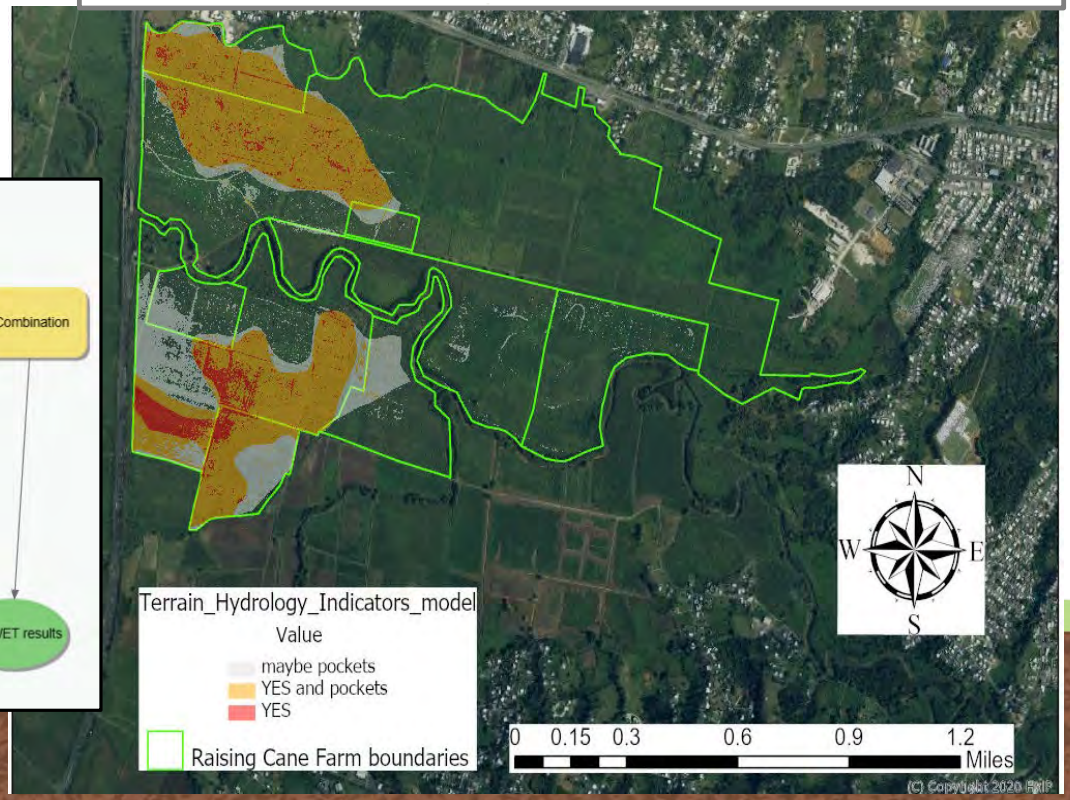
Yellow areas – sampling units
Green square (black dot center) – sampling pits

Base Map CABWET model

Develop and delineate sampling units based on the CABWET model during the overlay of indicators analysis

All indicators: Yes – represent all indicators overlapped within the same area.
Some Indicators: Yes – maybe pockets – a series of indicators overlap and within the terrain location could be pockets of areas. These are areas that would require specific delineation after field assessment.
No indicators – No – potentially no indicators overlap and /or only 1 indicator just overlap but review is required due to the coarse resolution in the Soil and NWI feature classes.





Base Map

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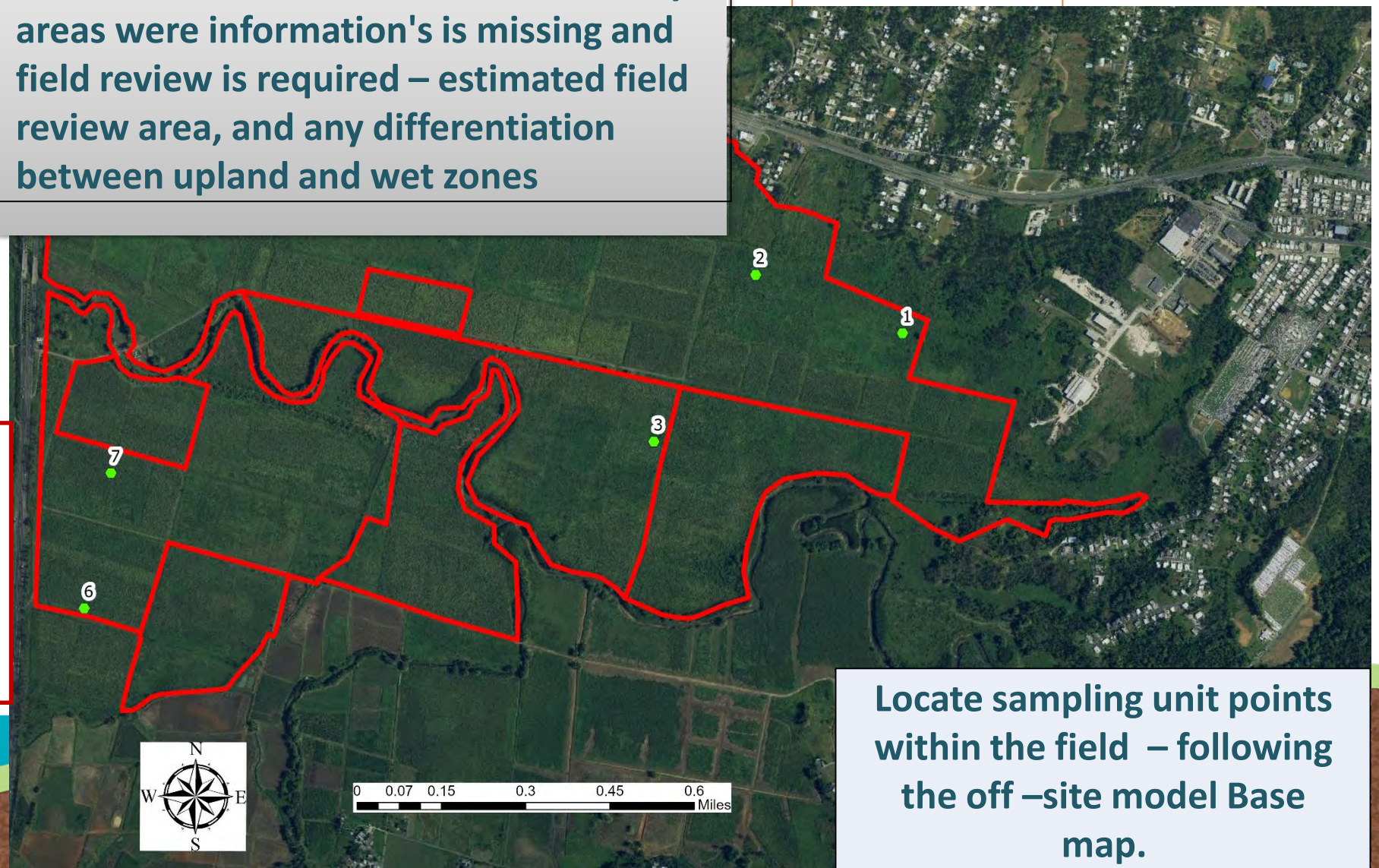
Review all information and then Identify areas were information's is missing and field review is required – estimated field review area, and any differentiation between upland and wet zones

Potential upland – need field review



Estimation of CABWET model accuracy around 80 – 85% - tested at eight project areas

Locate sampling unit points within the field – following the off –site model Base map.

Wetland Determination – Step 1 Identify Hydrology Indicators

- Wetland Hydrology is defined as inundation or saturation of the site by surface or groundwater during a growing season at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation.
- These indicators are found by reviewing Farm Service Agency aerial imagery which has been verified as being acquired during normal precipitation years.
- For sites that do not have pre-Act manipulations, the imagery review will consist of all available normal years.
- The normal imagery will be reviewed for “wetness signatures” of inundation (INU) or color tone (CT).
- Each sampling unit will be evaluated for signatures for each normal year and INU or CT will be recorded, when applicable.

Wetland Determination – Step 1 Identify Hydrophytic Vegetation

- Remote indicators that can be used to indicate that the hydrophytic vegetation definition is met:
  - Ecological Site Descriptions (ESD)
    - ESDs have not yet been developed for Minnesota.
  - Approved NRCS wetland reference site data
  - National Wetland Inventory (NWI) mapping
  - Official Soil Series Descriptions (OSD)

Wetland Determination – Step 1 Identify Hydric Soils

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Hydric soils will be identified through the use of published soil maps

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–ND055-McLean County, North Dakota

Map symbol and map unit name	Component/Local Phase	Comp. pct	Landform	Hydric status	Hydric criteria met (code)
C6A: Tonka-Parnell complex, 0 to 1 percent slopes	Tonka	64	Depressions	Yes	2,3
	Parnell	25	Depressions	Yes	2,3
	Vallers-Saline	5	Flats,depressions	Yes	2
	Hamerly	3	Flats	No	—
	Bowbells	2	Flats	No	—
	Miranda	1	Flats	No	—
C201A: Bowbells loam, 0 to 3 percent slopes	Bowbells	78	Swales	No	—
	Williams	14	Rises	No	—
	Hamerly	3	Flats	No	—
	Tonka	2	Depressions	Yes	2,3
	Bowdle	1	Terraces	No	—
	Noonan	1	Flats	No	—
	Divide	1	Outwash plains	No	—
C210A: Williams-Bowbells loams, 0 to 3 percent slopes	Williams	60	Rises	No	—
	Bowbells	21	Flats	No	—
	Zahl	8	Rises	No	—
	Hamerly	3	Flats	No	—
	Noonan	2	Flats	No	—
	Tonka	2	Depressions	Yes	2,3
	Vallers	2	Flats	Yes	2
	Lehr	1	Rises	No	—
	Parnell	1	Depressions	Yes	2,3
C210B: Williams-Bowbells loams, 3 to 6 percent slopes	Williams	45	Rises	No	—
	Bowbells	33	Rises	No	—
	Zahl	6	Rises	No	—
	Zahill	5	Rises	No	—
	Hamerly	3	Flats	No	—
	Noonan	2	Flats	No	—
	Tonka	2	Depressions	Yes	2,3
	Vallers	2	Flats	Yes	2
	Lehr	1	Rises	No	—
	Parnell	1	Depressions	Yes	2,3

<u>Note</u>: Tonka and Parnell inclusions in depressions

Wetland Determination – Step 2 Assignment of Wetland Labels

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- Record landform: Depressions, which can be determined from imagery, LIDAR, USGS topographic map, or soil survey data.
- Ponding and Saturation will be completed only if a pre-1985 manipulation was documented by using:
  - 1980-1986 FSA aerial imagery
  - Any other 1986 or earlier imagery showing wetness signatures

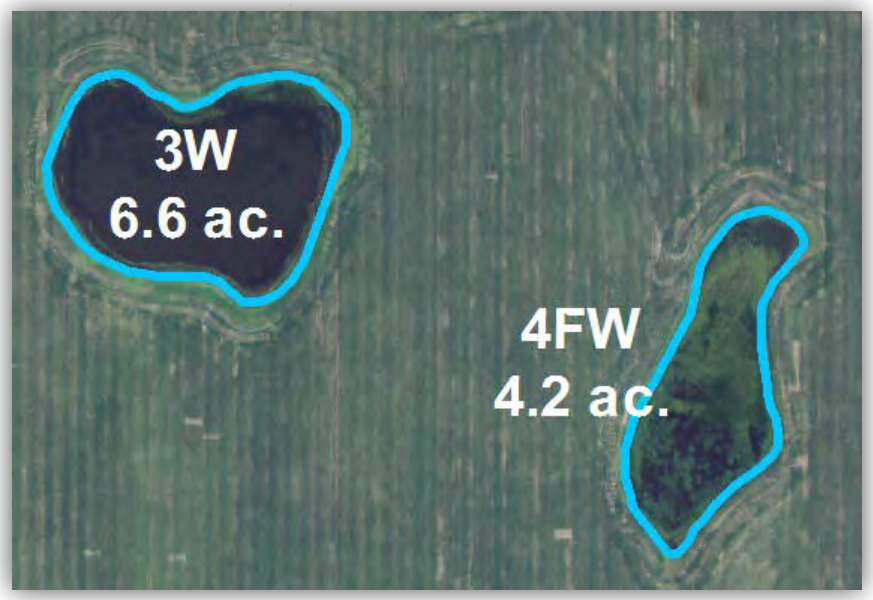
	Step 2							
				Complete only if a pre-85 manipulation has ocurred				
Sampling Unit Number	Pre-1985 Cropping History	Landform	Pre 12/23/85 Manipulation	Ponding	Saturation	Post 12/23/85 Manipulation (N/A may be used)	Year of Post-85 Manipulation	WC Label
1	-	-	-	N/A	N/A	N/A	-	NW
2	-	-	-	N/A	N/A	N/A	-	NW
3	No	Pothole	No	NA	NA	No	-	
4	Yes	Pothole	Yes	Yes	Yes	No	-	
5	-	-	-	N/A	N/A	N/A	-	NW
6	-	-	-	N/A	N/A	N/A	-	NW

Wetland Determination – Step 3

Determination of Size and Development of Certified wetland Determination Map

Labeled wetland polygons on the base map are delineated using GIS as follows:

- Sampling unit and acres will be documented on the Certified Wetland Determination map.
- The Wetland Label will be documented on the Certified Wetland Determination Map



Certified Wetland Determination Map

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Certified Wetland Determination Map

Field Office:
Tract:
Legal Description: SW 36-148-87

Date: 8/27/2014
Agency: USDA-NRCS

Legend

- Certified Boundary
- Wetlands
- Section Lines
- Pre 1985 Drains

0 250 500 1,000 1,500 2,000 Feet

N

See attached documents for additional information.
Year of background imagery is 2010

Summary of Offsite Methods Procedures

- Base map is developed compiling various data sources
- The wetland criteria of hydrology, vegetation, and soils are evaluated with remote resources (indicators)
  - In the Caribbean Area methods will incorporate a Wetland ID modeled using remote sensing and GIS data layers.
- Sampling unit is marked as Y or N signifying wetland status on base map
- Each wetland is labeled, as to type or exemption
- Certified map is developed

State Technical Committee Review

- SOSM Development and Review STEPs:/
  - Draft Offsite Methodology Developed by NRCS Wetland Team (8/21/2020)
  - Reviewed by NRCS Leadership (9/15/2020)
  - Review by State Technical Committee – Wetland Subcommittee (11/22/2020)
  - Document ready for public review at the federal register (12/2020)