Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods

1.0 INTRODUCTION

The Food Security Act (FSA) of 1985, as amended, provides disincentives to farmers and ranchers who produce annually tilled agricultural commodity crops on highly erodible cropland without adequate erosion protection. In addition, these disincentives apply to farmers and ranchers who produce annually tilled agricultural commodities or make possible the production of agricultural commodities on land classified as wetlands.

1.1 Wetland Determination Procedure – General

The National Food Security Act Manual (NFSAM) provides internal agency policy of the 1985 Food Security Act (FSA) as amended. Part 514.7 of NFSAM explains that the FSA wetland determination process requires a technical determination of whether or not the site (sampling unit(s)) is a wetland, then a separate independent determination of whether or not any exemptions to the provisions apply. Based on these two decisions, a certified wetland determination map is prepared with an appropriate Wetland Conservation (WC) label assigned to each sampling unit (sampling units may be combined). The size of each area with a WC label is provided. Thus, the FSA wetland determination decision includes three independent steps:

Step 1: Wetland Identification,
Step 2: Determination or Assignment of WC Labels and
Step 3: Delineation or Sizing or placing a boundary.

To accomplish the first step (wetland identification), the Secretary of Agriculture directed the Natural Resources Conservation Service (NRCS) to develop and utilize offsite and onsite wetland identification procedures (7 CFR 12.30(a)(4)). NRCS responded by providing such procedures in the NFSAM. The NFSAM Part 527 FSA Wetland Identification Procedures directs that NRCS will utilize Paragraph 23 and Part IV: Methods contained in the U.S. Army Corps of Engineers Wetland Delineation Manual (COE WDM) for onsite and offsite determinations. NFSAM explains that the onsite and offsite procedures contained in the COE WDM are supplemented by the U.S. Army Corps of Engineers Regional Supplements and the FSA variances to the Corps Methods, as provided in NFSAM Part 527 FSA Wetland Identification Procedures.

1.2 State Offsite Methods - General

The FSA Wetland Identification Procedures provide that the Corps offsite procedures found in Part IV, Section D, Subsection 1 – Onsite Inspection Unnecessary can be augmented with the development of **Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods**. *The purpose of this document is to provide procedures that NRCS will utilize for rendering decisions when onsite inspection (field indicators) is*

unnecessary. Additionally, this document provides guidance related to the assignment of WC labels and sizing. The **Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods** incorporates by reference the current versions and pertinent sections of the following documents:

1. National Food Security Act Manual (NFSAM)
2. Food Security Act (FSA) Wetland Identification Procedures (NFSAM Part 527 Appendix)
3. 1987 United States Army Corps of Engineers (USACE) Wetland Delineation Manual, Technical Report Y-87-1 ('87 Manual)
4. USACE Regional Supplement Atlantic and Gulf Coastal Plain Region (Version 2.0) to the '87 Manual
5. Title 210 Engineering, National Engineering Handbook (NEH), Part 650, Engineering Field Handbook (EFH), Chapter 19 - Hydrology Tools for Wetland Determination
6. Title 7, Part 12 of the Code of Federal Regulations (CFR)

NRCS presented the **Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods** to the State Technical Committee to solicit feedback and recommendations as required in paragraph (2-14) of the FSA Wetland Identification Procedures. The **Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods** take into account unique regional, state, and local wetland characteristics. As directed by the Secretary of Agriculture, these methods were developed consistently with other states within the Gulf Coastal and Southeastern Region of the United States. This document adheres to regulations and policies in effect as of the date of this document but may be subject to change.

Paragraph (2-14) of the Food Security Act (FSA) Wetland Identification Procedures defines SOSMs **(Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods)** as:

"*Methods developed by NRCS for the sole purpose of supplementing the offsite methodology in the Corp Manual* (decisions made using Level 1 or Level 3) *for use in identifying wetlands for FSA purposes. These methods will replace methods provided for in State Mapping Conventions (SMCs).*"

According to paragraph (3-2) of the FSA Wetland Identification Procedures:

"*This definition is unique to the statute, and all decisions regarding the identification of FSA wetlands must be based on this definition. The statute adds further clarity to the concept of an FSA wetland by defining "hydric soil" and "hydrophytic vegetation" (as those concepts will be applied to the WC provisions) and by the specific direction given to the Secretary as to the hydric soils and hydrophytic vegetation criteria that must be developed by USDA (16 U.S.C. Section 3801(b)(1)).*"

1.3 Normal Circumstances

According to Paragraph (4-4) of the FSA Wetland Identification Procedures:

"*The decision if the site is an FSA wetland is ultimately rendered based on the determination of a presence or absence of each of the three factors under NC. Areas determined to support wetland hydrology, a prevalence of hydrophytic vegetation, and a predominance of hydric soils (all under NC), as each factor is defined by the FSA, are wetlands subject to the WC provisions of the act*."

Wetland identification decisions are based on conditions that are expected to occur under Normal Circumstances. The FSA Wetland Identification Procedures paragraph (2-10) defines Normal Circumstances (NC) as:

"*The soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed (7 CFR section 12.31(b)(2)(i)). For FSA wetland identification purposes, this concept is the consideration of normal and abnormal climate-based site changes and natural and artificial disturbance-based site changes that can create wetland identification challenges. "Normally present" is further explained as the vegetative, soil, and hydrologic conditions that occur under both of these conditions:*

a. *Without regard to whether the site has been subject to drainage actions (see drainage definition) after December 23, 1985, and without regard to whether the vegetation has been removed or significantly altered.*
b. *During the wet portion of the growing season under normal climatic conditions (<u>normal environmental conditions</u>)."*

1.4 Normal Environmental Conditions

The FSA Wetland Identification Procedures paragraph (2-11) defines Normal Environmental Conditions (NEC) as:

"*The climate-based concept of NC, defined as the physical conditions, characteristics (hydrology, soil, and vegetation), or both that would exist in a typical situation (2-12) on a site during the wet portion of the growing season in a normal climatic year.*"

From FSA Procedures paragraphs (3-3) through (3-5), Normal Circumstances as used in the FSA wetland definition requires that decisions be based not on anomalies, but rather what would normally occur on the sampling unit during NEC. In the Corps methods, the concept of "normal" is separated into the disturbance-based concept of normal circumstances (typical/atypical situations) and the climate-based concept of normal circumstances called "normal environmental conditions" (NEC). NRCS adopts this concept that a determination of "normal" is a two-pronged consideration. For FSA purposes the agency expert will determine the normal circumstances (NC) of the sampling unit as those that would be expected to occur:

(1) In the absence of post-12/23/1985 drainage actions that alter the normal soil or hydrologic conditions.
(2) In the absence of an alteration (removal or change) in the plant community such that a decision cannot be made if the site would support a prevalence of hydrophytic vegetation if undisturbed.
(3) During the wet portion of the growing season during a year experiencing normal weather patterns.

1.5 Use of Indicators

FSA Procedures paragraph (4-3) states:

"In the absence of direct evidence, the decision if a sampling unit 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 use of indicators to predict the conditions that would occur under NC is referred to as the "indicator-based approach to wetland identification." The COE, EPA, and NRCS utilize the indicator-based approach to assist in decision-making. The ultimate decision if a site meets the FSA criteria for any of the three diagnostic factors is made from a preponderance of evidence, best professional judgment, and the FSA definitions, criteria, or both, of hydrophytic vegetation, hydric soils, and wetland hydrology."

Indicators can be obtained from remote sensed data sources or onsite visits.

1.6 NRCS Responsibilities

NRCS responsibilities are to provide a certified wetland determination and delineation on agricultural land when requested by a USDA program participant, when:

1. Form AD-1026 and/or NRCS-CPA-038 is received.
2. A potential wetland conservation violation has been reported.
3. Other USDA program policies require a certified wetland determination/delineation.

2.0 Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods

These methods are provided to assist Louisiana NRCS wetland delineators in conducting wetland determinations for the wetland provisions of Subtitle C of the Food Security Act (FSA) when certain conditions and instances make offsite calls available. Having these procedures increase efficiency and effectiveness in staff time for wetland conservation responsibilities,

Certified wetland determinations (CWD) are "official" assessments conducted according to agency protocol, which are of sufficient quality to make a determination of ineligibility. Certified determinations are legally binding and the requester must be made aware of the restrictions that apply if wetlands are determined to be present. All wetland determinations and delineations completed after July 3, 1996, are considered as being certified.

As defined Section 1.1 above, a FSA wetland determination has three steps. For purposes of these Offsite Methods the three terms are defined as:

a. Wetland <u>identification</u> - the technical decision regarding whether or not an area is a wetland.
b. Wetland <u>determination</u> - the entire process of establishing whether or not a wetland is present on a particular tract of land, including preparatory steps, study of all available tools, identification of appropriate wetland type (Wetland Conservation label), size and preparation of a report.

c. Wetland delineation - the process of establishing the boundary between wetland and non-wetland during an evaluation and the placement of this boundary on a map or aerial photograph or the placement of flags on the ground.

A wetland determination includes identification and delineation. Outside of the FSA methods, these terms are often used synonymously.

3.0 WETLAND IDENTIFICATION (Step 1 of the FSA Process)

Certified wetland determinations on agricultural lands will be made by individuals who have been trained and granted job approval authority in the use of the reference documents for that purpose. Currently reference documents include the Statute (16 U.S.C. section 3801), Regulation (7 CFR Part 12), and policy documents including the NRCS National Food Security Act Manual (NFSAM) wetland criteria specifically the FSA Wetland Identification Procedures (2010) transmitted by Circular 6 and located in the NFSAM Appendix, Part 527, the online version of the Corps of Engineers 1987 Wetland Delineation Manual (COE WDM) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0). The Level 1 Determination (cited in the COE 1987 WDM) allows for decisions regarding each of the three diagnostic factors without collecting field data or using onsite indicators. The preponderance of evidence collected from remote resources is then used in deciding if the sample unit supports any of the three diagnostic factors (hydric soils, hydrophytic vegetation, and wetland hydrology).

Within the routine approach, Part IV, Section C of the COE WDM three “Levels” are described. Level 1 – Onsite Inspection Unnecessary – In this level, remote resources (offsite methods and indicators) are used to make a decision on EACH of the three diagnostic factors (vegetation, hydrology, soils) for a sampling unit.

The Level 1 subsection is particularly useful for obvious wetlands and obvious non- wetlands (see Variance 5-15 in the FSA Procedures) where the agency expert may determine that a decision can be rendered for a sampling unit without collecting any onsite data or indicators. A site visit may be conducted for verification of offsite indicators, but no field data is collected.

For each sampling unit the agency expert must decide when applying Section C: Selection of Method of the ’Corps Manual which level is most appropriate.

- Level 1 is rendering a decision using offsite resources for each of the three factors. The assessment of each factor must be independent of the other factors and a different remote data source must be used for each factor. **Note:** A single resource document (tool) can contain multiple data sources. Each can be used as an indicator for a different factor. For example, a soil survey contains multiple

data sources (soils map, hydrology data, vegetative data, and use limitation data). A quadrangle map is a source for elevation data, landuse data, and hydrology data (i.e. water symbols). The mandate is that a single remote data source (i.e. soil map unit) cannot be applied to more than one factor.

- Level 2 is rendering a decision without using remote data sources. The exception is if Section F (Atypical Situation) or G (Problem Area) is needed. Those sections are only applied after a decision is made to use onsite methods (even if remote data sources are eventually used to render a decision).

- Level 3 is rendering a decision using offsite resources (i.e. Soils mapping) for 1 or 2 factors and using on site indicators (i.e. drift lines) for the other factor(s).

Wetland determinations are technical decisions resulting from the determination of whether or not an area is a wetland (wetland ID); including a determination of the appropriate wetland type (WC compliance label) and size (FSA Wetland Identification Procedures paragraph (2-18)). Therefore, the NRCS identifies three unique and separate steps to the wetland determination process. Within the first two steps each of the three wetland diagnostic factors must be assessed independently to determine if a decision can be rendered at the diagnostic factor level using offsite data sources.

NOTES:

- All agency decisions during Step 1 are made at the sampling unit level.

- The term “imagery” refers to all forms of remotely captured imagery or photography, digital or analog, at all resolutions.

- Unless otherwise stated, the use of “1985” in this document refers to December 23, 1985.

Agency experts will use COE 1987 WDM Part IV, section D, subsection 1 with the following Variance (another Variance is listed in the Soils section);
(5-17) States are provided an option of developing and approving additional guidance to a Level-1 determination, as well as using any additional guidance currently in place. This Level-1 additional is this document and is referred to as State Offsite Methods. The *Louisiana Conventions and Procedures for Performing Wetland Delineations (*commonly referred to as State Mapping Conventions) are no longer adequate for wetland determinations. The **Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods** however, provide locally specific remote sensing methods that may be used to address unique problems associated with wetland identification on agricultural landscapes.

The **Guidance for Louisiana Food Security Act Wetland Determinations including Offsite Methods** have been reviewed and accepted by the Louisiana State Technical Committee at the April 23, 2015 Spring meeting.

A preliminary step in the wetland determination/delineation process may include identifying potential wetlands through the wetland inventory process. This process entails a review of off-site inventory tools.

Persons responsible for making wetland determinations must be able to assess all of the following factors:

- Vegetation
- Soils
- Hydrology

Other important considerations relevant to WC labels include:

- Cropping History
- Date of conversion for agricultural purposes
- Date production was made possible
- Hydrologic regime (frequency and duration of inundation, ponding, flooding)

The principle tools useful in preparing to conduct wetland determinations are:

- Web Soil Survey data
- Official Series Descriptions (OSD)
- published U.S. Geological Survey (USGS) maps
- U.S. Weather Service data
- National Wetland Inventory (NWI) maps
- FSA crop compliance slides; black and white aerial photographs
- aerial imagery
- FSA cropping history records
- COE or USGS stream/tide gage data
- NRCS environmental impact statements and/or environmental
- assessments or similar publications
- documents and maps from units of state, parish, and local government
- USGS land use and land cover maps; and personal knowledge of the area
- LiDAR data
- Ecological Site Descriptions

It may not be necessary to obtain information from all of the above sources, since not all of the information may be applicable to a given situation. All of the resources should be considered, however, in order to develop the most complete record possible.

Most agricultural lands lend itself well to analysis by remote sensing techniques. Wetlands on agricultural lands are relatively unobstructed and provide signatures on photographs and other types of imagery that are relatively easy to identify by personnel who are trained in remote sensing techniques.

4.0 DEVELOP A BASE MAP

As directed in the COE WDM Section B. Preliminary Data Gathering and Synthesis (page 40) once all remote resources are reviewed STEP 1 – Identify

the project area on a map. The recognized Arc GIS utilized for conservation planning should be utilized.

STEP 2 states a base map will be prepared. Project area boundaries will be located on the map. In addition, either the landowner's or person's name responsible for initiating the wetland determination (e.g. tenant, etc.) should be listed on the map. Also the location (GPS coordinates) and date should be on the map.

Procedures outlined in the COE WDM will continue as written until Section C. Selection of a Method. If the decision is made to utilize Subsection 1 Level 1- Onsite Inspection Unnecessary or for the offsite portion of Level 3 – Combination of Level 1 and 2 –, Louisiana LiDAR and Ecological Site Description data should be utilized both for development of sampling units and characterization, analysis and synthesis of the three diagnostic factors within each sampling unit of the project area. Users will graphically subdivide the project into sampling units on a base map image using resources A through E (as available) below as indicated. 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 will only be recorded once. Sampling unit boundaries do not need to match exactly between resources, and whenever possible the sampling unit boundary from resource B will be used. The agency expert determines sampling unit validity. Sampling units will be located using the following remote resources:

A. Review the NRCS wetland inventory maps **OR** previous determinations, if available. Each previously identified polygon may be a sampling unit.

B. Review appropriate imagery. Each signature listed below not matching resource A above is a sampling unit:

- Hydrophytic vegetation
- Surface water
- Saturated conditions
- Flooded or drowned-out crops
- Stressed crops due to wetness
- Differences in vegetation due to different planting or replanting dates
- Inclusions of wet areas as set-aside or idled land
- Circular or irregular areas of unharvested crops within a harvested field
- Isolated areas that are not farmed with the rest of the field
- Areas of greener vegetation (especially during dry years)

Note: The term "appropriate" means that the agency expert will select the imagery year or years that best represents Normal Circumstances, including "Normal Environmental Conditions" to identify and size sampling units. To the extent possible, agency expert will include at least 3 years of designated imagery determined to reflect Normal Environmental Conditions for any given geographic location.

For sampling units without pre-1985 manipulations:
Base map development will include use of the imagery year which best reflects Normal Environmental Conditions as defined in the FSA Wetland Identification Procedures.

For sampling units with pre-1985 manipulations:
When developing the Base Map, the agency expert must determine and utilize imagery which reflects Normal Circumstances with consideration of when the manipulation was installed and the best drained condition of the sampling unit. To determine the best drained condition, the agency expert must review imagery dated immediately following the approximate manipulation year and/or use other resources such as producer submitted drainage worksheets, drainage equations, watershed maps, road culvert elevations and/or Parish drainage maps to determine the presence or absence of sampling units and their size.

C. Review the National Wetland Inventory (NWI) maps online. Each NWI polygon not matching resources A or B above is a sampling unit.

D. Review the soil survey and the Parish hydric soils list. Identify listed hydric soil map units, map units with hydric soils as part of their name, or soils with hydric inclusions, and map units with conventional wetland symbols. Each soil survey feature not matching resources A, B, or C above may be a sampling unit.

E. Review other inventory tools, if available. Note sampling units as applicable.

5.0 DETERMINE REMOTE INDICATORS FOR HYDROPHYTIC VEGETATION

The remote data sources listed above will be utilized to gather dominant vegetation data per strata per sampling unit. If available Ecological Site Descriptions should be utilized in gathering vegetative species data that typically occupy the ecotype identified as the Representative Observation Point (ROP) for each sampling unit. Ecological Site Descriptions, Soil Surveys, existing wetland determinations on the same hydric map unit and similar hydrologic regime, National wetland Inventory maps and high resolution/quality aerial photography can be used in the selection of dominant species. Once vegetative species data is collected remotely the indicators should be applied in the sequence presented in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0). All vegetative data collected remotely should be documented on the Data Form as indicated in the COE WDM and Regional Supplement.

The term hydrophytic vegetation “means a plant growing in (A) water; or (B) a substrate that is at least periodically deficient in oxygen during a growing season as a result of excessive water content” (16 U.S.C. section 3801(a)(13)). The site must support a prevalence of hydrophytic vegetation under normal circumstances. Refer to Part V, subpart C, paragraphs (5-41) through (5-48), of the FSA Wetland Identification

Procedures for further information and allowable variances from the Corps methods in identification of hydrophytic vegetation.

The following remote indicators are suggestive (indicates) that the hydrophytic vegetation definition (plants growing in water or growing in a reduced substrate) is met.

1. Ecological Site Descriptions (ESD).

2. Approved NRCS wetland reference site data.

3. National Wetland Inventory (NWI) mapping.

4. Official Soil Series Descriptions (OSD).

5. Prior land-based (on the ground) photography.

6. Atypical procedures found in the Corps Manual and Chapter 5 Problematic Vegetation Procedures of the appropriate Regional Supplement to the Corps Manual.

5.1 Hydrophytic Vegetation (no pre-1985 drain) Decision Threshold (the factor is met if):

A. ESD – the Historic Plant Climax Community (or Reference Community) plant composition table indicates the sampling unit is composed of plants that meet the definition (Prevalence Index (PI) < 3.0). Refer to Attachment A for further information.

B. NWI Mapping – mapped as emergent, shrub vegetation, forested, or aquatic bed on an NWI map (e.g. PEM, PSS, PFO, or PAB) indicating the site is dominated by plants that meet the hydrophytic vegetation definition.

C. OSD – Use Official Soil Descriptions only if Ecological Site Description is not available for the area in question. Use and Vegetation must indicate the site is dominated by plants that meet the hydrophytic vegetation definition.

D. Prior land-based (on the ground) photography – At least 2 sources/dates show plants growing in water under NC.

5.2 Hydrophytic Vegetation (with pre-1985 drain) Decision Threshold (factor is met if):

This decision threshold can only be applied to sampling units if remote indicators of hydric soil and wetland hydrology are present (or are absent due to disturbance or other problem situations such as “Wetlands that Periodically Lack Indicators of Wetland Hydrology”). Therefore, ***proceed to Section 6.0 and Section 7.0 before determining this factor.***

Prior land-based (on the ground) photography can be used to determine if the decision threshold is met but at least 2 sources/dates must be available showing plants growing in water under NC.

The agency expert must verify that the sampling unit is in a landscape position that is likely to collect or concentrate water (refer to Chapter 5 – Problematic Vegetation Procedure (2)). The landscape position does not include the ditch itself, if applicable. If the drain no longer allows the sampling unit to "collect or concentrate water" then this factor cannot be met.

For grazed sites;
The Corps Methods, Regional Supplement Chapter 5 – Problematic Vegetation Procedure "[Atlantic and Gulf Coastal Plain Region (Version 2.0) (b)] Areas affected by grazing," approach (4) is used.

> Approach (4) states, "*if an appropriate ungrazed area cannot be located or if the ungrazed vegetation condition cannot be determined, make the wetland determination* (Step 1) *based on indicators of hydric soils and wetland hydrology*."

For managed plant sites;
The Corps Methods, Regional Supplement Chapter 5 – Problematic Vegetation Procedure "[Atlantic and Gulf Coastal Plain Region (Version 2.0) (d)] Managed plant communities,"approach (5) is used.

> Approach (5) states, "*if the unmanaged vegetation condition cannot be determined, make the wetland determination* (Step 1) *based on indicators of hydric soils and wetland hydrology*."

For drained non-wetland sampling units, the ESD or OSD remote indicators may still be used as these sampling units would not have had prevalence of hydrophytic vegetation in their undrained condition.

6.0 DETERMINE REMOTE INDICATORS FOR HYDRIC SOILS

The term "hydric soil" means soil that, in its undrained condition, is saturated, flooded, or ponded long enough during a growing season to develop an anaerobic condition that supports the growth and regeneration of hydrophytic vegetation" (16 U.S.C. section 3801(a)(12)). Refer to NFSAM Part 527, subpart C, paragraphs 5-49 through 5-55, of the FSA Wetland Identification Procedures for further information and allowable variances from the Corps methods.

Title 7 CFR § 12.31(a)(1) states, "NRCS shall identify hydric soils through the use of published soil maps which reflect soil surveys completed by NRCS or through the use of onsite reviews."
Title 7 CFR § 12.31(a)(2) states, "NRCS shall determine whether an area of a field or other parcel of land has a predominance of hydric soils that are inundated or saturated as follows:"

- "If a soil map unit has hydric soil as all or part of its name, that soil map unit or portion of the map unit related to the hydric soil will be determined to have a predominance of hydric soils."

- "If a soil map unit is named for a miscellaneous area that meets the criteria for hydric soils (i.e., riverwash, beaches, or water) the soil map unit will be determined to have a predominance of hydric soils."

- "If a soil map unit contains inclusions of hydric soils, that portion of the soil map unit identified as hydric soil will be determined to have a predominance of hydric soils."

For some sampling units, a soil survey may be sufficient to determine that the site supports a predominance of hydric soils (Variance 5- 18). This use of soils mapping and hydric soils lists is supported by Regulation (7 CFR section 12.31(a) as a sole indicator for a determination of a predominance of hydric soils.

The following remote indicators are suggestive (indicates) that the hydric soils definition is met.

1. Soils Maps (data).
   The NRCS Web Soil Survey houses digital soil survey map data for all Louisiana parishes. The Web Soil Survey can generate hydric soil maps for any selected area. The link for the Web Soil Survey is http://websoilsurvey.nrcs.usda.gov/app/. The Hydric Soil Map is generated through the path… "Soil Data Explorer/Suitabilities and Limitations for Use/Land Classification/Hydric Rating by Map Unit".

2. County (Parish) Hydric Soils Lists (All Components)

   The Hydric Soil List is generated through the path… "Soil Reports/Land Classification/Hydric Soils". The report generated lists only soil map units that include hydric soils.

   Note: All soil data collected remotely should be documented as indicated in the COE WDM and Regional Supplement.

Hydric Soils Decision Threshold (the factor is met if):

1. The sampling unit meets 7 CFR § 12.31(a)(2) as described above. If a soil map unit has hydric soil as part of its name or contains a hydric inclusion, that portion of the hydric component (major or minor) in the soil survey can be verified by either:
   a. Identifying that the landform of the sampling unit is consistent with the landform (relative landscape position, closed depression or swale) of the hydric component or inclusion; **or**,
   b. Using the soil series.

Note: If a field visit based on offsite evidence is required for a map unit that is non-hydric, including minor components, then hydric soil indicator documentation is required.

7.0 DETERMINE REMOTE INDICATORS FOR WETLAND HYDROLOGY

Wetland hydrology is defined in NFSAM Part 527, Part V, subpart C, paragraph (5-59):

"The FSA wetland hydrology criterion is derived from the statutory wetland definition as: Under NC the site would be inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation."

Refer to NFSAM Part 527, Part V, subpart C, paragraphs (5-56) through (5-62), of the FSA Wetland Identification Procedures for further information and allowable variances from the Corps methods.

NFSAM Part 527, Part II – Definitions, paragraph (2-14) defines SOSMs as:

"Methods developed by NRCS for the sole purpose of supplementing the offsite methodology in the Corps manual for use in identifying wetlands for FSA purposes….The use of "Hydrology Tools for Wetland Determination" contained in Title 210, National Engineering Handbook (NEH), Chapter 19, Part 650 shall be considered to be an offsite method. The offsite method must contain the objective criterion that defines wetland hydrology for each of the hydrology tools in Chapter 19."

In order to comply with this requirement the objective criterion for two of the seven hydrology tools is Chapter 19 will be established below. The remaining five hydrology tools (Runoff Volumes, DRAINMOD, Scope and Effects equations, NRCS Drainage Guides, and Observation Wells) are not approved for off-site methods at this time, however these tools can be used by a person who has previously demonstrated to be competent in this software/calculations as supporting documentation for Level 2 determinations. The State Conservation Engineer must approve the use of this tool prior to its use.

<u>Section 650.1901 Use of Stream and Lake Gages</u>

Objective Criteria: The hydrology of a sample unit meets the frequency requirement if data verifies that the sampling unit was inundated for 10 consecutive days during the wet part of the growing season in most years (50% chance or more).

Supplemental Procedures/Information:

a. Gage data shall be compared to elevation data from:
    1. On-site surveys
    2. LiDAR data (United States Geological Survey (USGS) NED 1/9 Arc Second, three meter resolution). LIDAR accuracy is measured in terms of "RMSE" (Root –mean-square error) which is 15-30 cm RMSE and will support contours of 1 foot vertical map accuracy standards.

b. Corrections should be made, if necessary, to ensure that the gage and site data are on the same vertical datum and geoid. If this data is not available than this hydrology tool will not be allowed.

Section 650.1903 Supplemental data for Remote Sensing

Objective Criteria: The hydrology of a sample unit meets the frequency requirement if wetness signatures are found on at least 50 percent of the imagery reviewed.

Supplemental Procedures/Information:

a. The imagery review will consist of all available years that are determined to be "normal" as identified through the National Weather Service Climate station Rainfall Normalization Tables (WETS).
b. If a post-1985 conversion (e.g. ditch) is observed, then the wetness signature reviewed must occur from the date of conversion to at least 1980.
c. If a pre-1985 conversion is observed, the agency expert must determine Normal Circumstances in consideration of when the manipulation was installed and the best drained condition of the sampling unit. To determine the best drained condition, the agency expert must review available imagery years immediately following the approximate manipulation year up to 1985. The agency expert must consider lack of maintenance and recent maintenance when reviewing imagery years.
d. Wetness signature abbreviations include INU (inundation) and CT (Color Tone difference).
e. Wetness signatures are present if:
    1. Imagery showing surface water inundation (INU) by ponding or flooding under NC.
    2. Imagery showing a Color Tone difference (CT) due to wetness that is reflective of NC 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. A CT is any hydrology signature listed in the remote sensing methods. Color tones provide clear distinctions in the condition of the sampling unit compared to the condition in the surrounding field including but not limited to, size and color. Color tones may include:
        i. Hydrophytic vegetation
        ii. Surface water
        iii. Saturated condtions
        iv. Flooded or drowned-out crops
        v. Stressed crops due to wetness
        vi. Differences in vegetation due to different planting or replanting dates
        vii. Inclusions of wet areas as set-aside or idle land
        viii. Circular or irregular areas of unharvested crops within a harvested field
        ix. Isolated areas that are not farmed with the rest of the field

x. Areas of greener vegetation (especially during dry years)

f. Users are advised that sampling units and wetness signatures in field(s)/tract(s) with perennial vegetative cover (such as pasture, CRP and woodlands) may not be readily visible. In such cases, field verification may be necessary.

8.0 FINALIZING BASE MAP

Examine all three diagnostic factor sections for whether or not FSA wetland criteria is met per factor. If the entire project area (all sampling units) presently or normally meets the FSA wetland definition for all three wetland factors (hydrophytic vegetation, wetland hydrology, hydric soils), the entire project area is a wetland and the base map for the entire project area would be labelled “YES” or “W”. If the entire project area (all sampling units) presently or normally does not meet the FSA wetland definition for all three wetland factors (hydrophytic vegetation, wetland hydrology, hydric soils), the entire project area is a non-wetland and the base map for the entire project area would be labelled “NO” or “N”. If some sampling units within the project area presently or normally meets FSA wetland definition for all three wetland factors (hydrophytic vegetation, wetland hydrology, hydric soils), and other sampling units within the project area do not meet the FSA wetland definition for all three wetland factors (hydrophytic vegetation, wetland hydrology, hydric soils), label the sampling units that do meet as “YES” or “W” and those that do not as “NO” or “N”. If immediately adjacent, sampling units with the same label can be combined to finalize the base map.

The agency expert will analyze the sampling unit in the proceeding Steps and address the following;

- If all three factor answers are yes (the factors are met) for a sampling unit then record a “Y” (yes) on the base map for the sampling unit.
- If any factor answer is no (a factor is not met) for a sampling unit then record an “N” (no) on the base map for the sampling unit.
- Provide a copy of the final base map to the case file.
- This final base map will be used to complete Section 3 and Section 4.

9.0 ASSIGNMENT OF WC LABELS (Step 2 of the FSA Process)

Sampling units identified as a “Y” (wetland) or “N” (non-wetland) in Section 2 will be assigned the appropriate WC compliance label as determined by any exemptions which apply from the current version of the NFSAM.

9.1 VERIFICATION OF PRE- 1985 CROPPING HISTORY

a. The following are suggestive (indicates) that pre-1985 cropping history (“an agricultural commodity was produced at least once before 1985” (7 CFR 12.2)) is met.

b. Imagery (pre-1985) shows cropping and/or attempted cropping. Imagery (pre-1985) shows woody vegetation removal <u>AND</u> the sampling unit is on a soil and/or landform that historically supported native woody vegetation (e.g. woody vegetation is native to the ESD/OSD).

c. Farm Service Agency records indicate pre-1985 cropping history (crop must have been planted – does not include other records) and imagery concurs.

<u>Cropping History Decision Threshold (met if):</u>
Pre-1985 cropping history appears on at least one remote indicator.

9.2 VERIFICATION OF PRE-DECEMBER 23, 1985 MANIPULATION(S)

Manipulations are defined as an activity that drains, dredges, fills, levels, or otherwise manipulates (including the removal of woody vegetation or any activity that results in impairing or reducing the flow and circulation of water) for the purpose of or to have the effect of making possible the production of an agricultural commodity.

<u>Responsibility to provide evidence</u> (7 CFR 12.5(b)(7)) states, "*It is the responsibility of the person seeking an exemption related to converted wetlands under this section to provide evidence such as receipts, crop-history data, drawings, plans or similar information, for purposes of determining whether the conversion or other action is exempt in accordance with this section.*" It is the NRCS responsibility to see if the producer provided records can be confirmed.

The following remote indicators are suggestive (indicates) that pre-1985 manipulation(s) could be confirmed.

- 1985 or earlier aerial photography showing a manipulation(s) and the best drained condition
- Pre-1985 NRCS records showing a verified manipulation(s).
- Pre-1985 land-based photographs showing a manipulation (e.g., drainage ditch, etc.)

<u>Pre-1985 Manipulation Decision Threshold (the factor is met if):</u>

1. The manipulation appears on at least one indicator.

9.3 VERIFICATION OF POST-1985 POTENTIAL CONVERSION

The following remote indicators are suggestive (indicates) that post-1985 a potential conversion occurred.

- Post-1985 imagery/aerial photography showing a manipulation(s)
- Post-1985 NRCS or Farm Service Agency records showing a manipulation(s).
- Post-1985 producer provided records showing a manipulation(s).
- Post-1985 land-based photographs showing a manipulation (e.g., drainage ditch, etc.)
- Post-1985 removal of woody vegetation
- United States Geological Survey (USGS) NED 1/9 Arc Second LIDAR data showing a manipulation.

<u>Post-1985 Potential Conversion Decision Threshold (the factor is met if):</u>

A. The manipulation appears on at least one indicator that is not LIDAR.

B. The manipulation appears on LIDAR and a second dated indicator.

*A site visit is required for all potential wetland violations.

1. For a determination of non-compliance, 1986 and prior imagery must be reviewed for wetness signatures indicating inundation.
2. A slide review of 1985 and before aerial photography must be done to determine if a crop was planted.
3. If this review indicates a predominance of drier (non-wetland), conditions based on crop history existing at some time prior to 12-23-1985, the decision will be for a label of PC, NW or PC/NW. If the review is inconclusive, bullet 5 (below) will be performed.
4. 1986 aerial photography to the present will be reviewed to determine if a post 12-23-1985 conversion has occurred.
5. As required, results of analytical techniques (such as drainage equation(s)) show that inundation would not be removed from the sampling unit within 15 days.

9.4 VERIFICATION OF CONSECUTIVE LENGTH (DURATION) OF INUNDATION AND/OR SATURATION DURING THE GROWING SEASON ON DECEMBER 23, 1985 IN MOST YEARS (50% CHANCE OR MORE)

COMPLETE THIS STEP ONLY IF A MANIPULATION WAS DOCUMENTED IN VERIFICATION OF pre-December 23, 1985 manipulation(s)

The following remote indicators are suggestive (indicates) that the duration required to meet the criteria for a specific WC compliance label is met.

1. 1980 through 1985 Farm Service Agency aerial imagery (taken during the growing season as defined in Part 514.2 of the NFSAM) showing wetness signatures on the area in question.

2. Any other 1985 or earlier aerial photography such as high altitude black and white photos of suitable scale and quality (taken during the growing season as defined in Part 514.2 of the NFSAM) showing wetness signatures on the area in question.

3. NRCS record showing field verified manipulation with an assessment of duration such as drainage equations found in NEH Chapter 19.
    - The saturation indicators as discussed below are indicative of soils having groundwater within 12 inches of the soil surface within the sampling unit. Inundation is defined as the presence of surface water at any depth within the sampling unit.

9.5 DETERMINATION OF THE REQUIRED CONDITIONS FOR THE FOLLOWING WC LABELS

Refer to Part 514 of the NFSAM, 7 CFR 12.2 and 7 CFR 12.5 for full detail of the requirements for various exemptions. The WC Label Assignment Table can be used to assist in determining if the required conditions for the following WC labels are met as defined in the references mentioned above.

Wetland Conservation Label Assignment Table

Step 1			Step 2					
Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Pre-1985 Cropping History	Pre 12/23/85 Manipulation	Post 12/23/85 Manipulation	Ponding Duration	Saturation Duration	Possible WC Label
Y for ALL factors			Y or N	N	N	n/a	n/a	W
			Y	Y	N	Y or N	Y	FW
			Y	Y	N	Y	n/a	FW
			Y	Y	N	N	n/a	NW
			N	Y	N	Y or N	Y	FWP
			N	Y	N	Y	n/a	FWP
Y	Y	Y or N	Y	Y	N	N	N	PC
Y	Y	Y or N	Y	Y	N	N	n/a	PC
N[1]	Y	Y	Y	Y	N	Y or N	Y	NW
N[1]	Y	Y	Y	Y	N	Y or N	n/a	NW
Y for ALL factors			Y or N	Y or N	Y only if 12/23/1985 to 1990	Y or N	Y	CW
			Y or N	Y or N	Y only if 12/23/1985 to 1990	Y	n/a	CW
			Y or N	Y or N	Y (any year)	Y or N	Y	CW
			Y or N	Y or N	Y (any year)	Y	n/a	CW
			Y or N	Y or N	Y	Y or N	Y	CW + yr
			Y or N	Y or N	Y	Y	n/a	CW + yr
N for any factor			Y or N	N	N	N	N	NW
			Y or N	N	N	Y	Y	NW
			Y or N	N	N	Y	Y	NW
			Y or N	N	N	N	N	NW
			Y or N	N	N	Y	Y	NW
			Y or N	N	N	N	N	NW

*For potential converted wetlands (CW and CW+year), an onsite investigation must be conducted and "making commodity crop production possible or more possible" must be determined.

9.6 DETERMINATION OF SIZE AND DEVELOPMENT OF CERTIFIED WETLAND DETERMINATION MAP (Step 3 of the FSA Process)

TRANSFERRING BASE MAP SAMPLING UNITS TO WC COMPLIANCE LABELED POLYGONS

The agency expert will, as appropriate, further divide or combine the sampling units identified in the FSA Wetland Identification process into labeled polygons for the certified wetland determination map. This decision is based on the answers to the steps in the Assignment of WC labels process (based upon cropping history, manipulation, hydrology duration, etc.).

For example, a sampling unit has the following characteristics:

- Step 1 - Meets all 3 factors
- Step 2 - Has pre-1985 cropping history on the west half and no pre-1985 cropping history on the east half (in grass); has a pre-1985 manipulation in it; meets saturation duration.

The sampling unit has different pre-1985 cropping history on the east and west halves, yet all other characteristics (Step 1 and 2 answers) apply to the entire sampling unit. Therefore, the sampling unit should be divided into two labeled polygons for the certified wetland determination map.

If the area outside of the polygons does not meet the FSA wetland definition, the non-wetland polygon will represent the remainder of the project area acres.

9.7 CERTIFIED WETLAND DETERMINATION (CWD) MAP

All certified wetland delineations conducted by NRCS will be placed on an official wetland map filed in the Parish USDA Service Center. Wetland mapping symbols described in NFSAM Part 514 will be used to label all areas addressed with a “yes” or no” for Step 1 Wetland Identification on maps on agricultural land. Like sampling units can be combined similarly as in **8.0 FINALIZING BASE MAP** (above) however the agency expert must insure all like areas meet the specific criteria of each label or exemption per the NFSAM.

The agency expert is reminded that size of an area is not part of the wetland criteria; there is no minimum size threshold. NRCS determined that the labeled polygons on the Certified Wetland Determination map are delineated using desktop digitizing methods the same as for basic conservation planning requirements (stated as follows in the LA General Manual).

LA409.06 Conservation Plan Map format requirements in Louisiana.

(a) Conservation practices and other features on the conservation plan map in the official NRCS client folder will be displayed on either color or black and white aerial imagery.
(b) Official NRCS practice symbols, when available in Customer Service Toolkit, will be used on conservation plan maps.
(c) Planned practice symbols may be any color clearly visible on plan map, except RED, which is reserved for applied engineering practices.

The suggested CWD map size is 1 square mile (section) on 8.5” by 11” paper as long as the map components are clearly legible depending on the size of the area. Site number and acres will be labeled on the CWD map. Areas designated as wetlands will be sized using the year or years of imagery most appropriate to clearly depict the area. Scale will be defined on the map. A separate site map, at a higher quality scale, may be provided in addition to the labeled CWD map for clarity.

APPENDIX

ATTACHMENT A

ECOLOGICAL SITE DESCRIPTION (ESD) INFORMATION

Where to find ESDs (when available):

1. LA FOTG: 1) Select Section II; 2) Select Ecological Site Descriptions; 3) Select MLRA; 4) Select ESD Folder; 5) Select ESD (Verify under "Supporting Information" of the approved ESD; "State Correlation" includes LA.)

2. Web Soil Survey: 1) define area of interest; 2) Select Soils Data Explorer Tab; 3) Select Ecological Site Assessment Tab; 4) Select ESD

3. Ecological Site Description System / ESIS website: http://esis.sc.egov.usda.gov/Welcome/pgReportLocation.aspx?type=ESD

Ecological Site Descriptions are based on relative weight of component species, rather than the percent cover measure cited in the Corps Methods. Both measures are viable for determining the ecological significance of the species comprising the plant community. Relative weight is arguably a better measure but was not specified in the Corps Methods because it is not a rapid assessment technique. Applying the hydrophytic vegetation indicator tests to the ESD data is allowed by the Corps Manual, paragraph 23, flexibility provisions.