

**United States
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Agriculture**

Natural
Resources
Conservation
Service

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WETLAND MAPPING CONVENTIONS

Caribbean Area Second Edition

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Caribbean Area

Wetland Mapping Conventions

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WETLAND MAPPING CONVENTIONS

CARIBBEAN AREA

INTRODUCTION

The information contained in this document is provided to assist NRCS field offices and wetland mapping teams in completing individual wetland determinations and delineations on "agricultural lands". Procedures are also provided to make off-site wetland determinations on "non-agricultural" lands when requested by a USDA program participant. Wetland determinations and delineations for the swampbuster provisions of the Food Security Act (FSA), the 1990 Food and Agricultural Conservation Trade Act (FACTA), and section 404 of the Clean Water Act (CWA) shall be completed using these approved mapping conventions.

Wetland mapping conventions are a set of accepted practices or procedures used to guide the wetland delineator in making offsite wetland determinations on agricultural lands. It is a policy that all wetland determinations/delineations be conducted/verified on-site using all appropriate tools including methodologies in the approved mapping conventions by properly trained staff. Those determinations which require on-site visits are also included in APPENDIX B to supply NRCS field offices with a comprehensive list of FSA determinations.

These mapping conventions were developed by the Natural Resources Conservation Service (NRCS), the Corps of Engineers (CDE), the Environmental Protection Agency (EPA), and the Fish and Wildlife Service (FWS). They are to be used, along with other appropriate information in the National Food Security Act Manual (NFSAM) and the CDE 1987 Wetland Delineation Manual, for the following activities:

1. To make wetland determinations/delineations on agricultural lands.

Initial wetland determinations may be made using off-site wetland mapping conventions employing approved tools. The initial off-site determination will need an on-site determination, as stated by policy. In all cases involving appeals, converted wetlands, notice of intent to

manipulate, or where adequate off-site convention tools are not available, NRCS will make on-site determinations and delineations as appropriate.

2. To determine and/or delineate wetlands on non-agricultural land, including narrow bands adjacent to or small pockets interspersed among agricultural land.

A **"wetland determination"** is an approximate wetland boundary, indicating the presence of wetland. See instructions listed under procedures for making OFF-SITE DETERMINATIONS ON NON-AGRICULTURAL LANDS, page 12. When this method is used, the following statement will be included with the NRCS-CPA-026:

"This determination is an indication of approximate wetland boundaries, or that wetland may be present within the area. Any proposal of manipulation, which includes alteration of hydrology and/or the removal of woody vegetation, will require an on-site delineation of wetlands and may subsequently require contact with the Corps of Engineers for a section 404 permit."

A **"wetland delineation"** is any determination of the presence of wetlands and their boundaries. Wetland delineations, once certified (see NFSAM 514.51a) will meet the requirements of both the Food Security Act (FSA) and Clean Water Act (CWA) jurisdiction. Wetland delineations on nonagricultural lands (other than narrow bands and small pockets within agricultural lands) require an on-site delineation of wetland boundaries using procedures in the 1987 COE Wetland Delineation Manual. **Only individuals who have been trained in use this manual may make delineations on non-agricultural lands.**

NRCS personnel, when trained, may also identify "other Waters of the U.S." for purposes of section 404 of the Clean Water Act (CWA), in coordination with the COE, on lands in which NRCS is otherwise engaged in making wetland delineations and/or determinations. See instructions listed under conventions and procedures for OTHER WATERS OF THE UNITED STATES, page 14.

The tools available to conduct wetland inventories and determinations will vary between localities in the Caribbean Area. It is imperative that the best and most complete data be used to make inventories and individual determinations. These data may consist of soils surveys, hydric soil list, photographs, satellite imagery, national wetland inventory maps, USGS maps and surveys, flood data and maps, weather records, Department of Natural and

Environmental Resources (DNER) records, and knowledge of individuals. (see exhibit 1) Sufficient data must be obtained to enable the delineator to document that the area in question is properly identified.

Agricultural lands for purposes of these conventions are those lands as defined in the NFSAM, Third Ed., Amend 2 part 513.22a. For agricultural lands, the signatory agencies will use the procedures for delineating wetlands as described in the National Food Security Act Manual (NFSAM), Third Edition, Amend 2.

Agricultural lands include cropland, hayland, pastureland, orchards, vineyards and other lands managed or used for the production of food or fiber to the extent that the natural vegetation has been removed and cannot be used to determine whether the area meets applicable hydrophytic vegetation criteria. An agricultural commodity is an annual crop planted by the tilling of the soil or sugarcane.

Areas which have recently been used for the production of food or fiber and which do not meet abandonment criteria are considered agricultural lands, notwithstanding the fact that natural vegetation may occur on such lands. Areas that are abandoned and not used for agricultural purposes are non-agricultural lands despite the fact they were cropped in the past.

Abandonment for purposes of these conventions is defined by the NFSAM, part 525. For FSA purposes, the enrollment of the area in a USDA set aside program or similar program of conservation use is considered to be the same as cropped and abandonment does not occur despite the fact that production has not occurred for a five-year period.

NRCS will contact the COE or EPA as appropriate, consult with FWS, and provide an opportunity for review, comment and coordination of approval of the findings prior to NRCS making a final delineation. The COE or EPA will review the proposed delineation and respond to NRCS regarding its acceptability for CWA section 404 within 45 days of receipt of all necessary information. NRCS will not issue a final delineation until agreement is reached between NRCS and the COE or EPA, as appropriate. See exhibit 2 for further guidance on procedures.

NRCS will maintain and strong coordination with the FWS to ensure that these provisions are carried out in a technically defensible and timely manner and seek assistance as appropriate.

Definitions for terms used in these mapping conventions are located in the glossary in APPENDIX A.

The growing season in the Caribbean Area is year-round. For the purposes of these mapping conventions, references to the growing season were deleted from standard definitions as unnecessary and redundant.

GENERAL INFORMATION - ALL CONVENTIONS

1. Wetland determinations/delineations will be made on all agricultural lands upon receipt of form NRCS-CPA-038. Only individuals who have been trained in application of the NFSAM may make determination on agricultural lands. Only mapping conventions concurred upon by all signatory agencies will be used for making determinations on agricultural lands.

Determinations/delineations should be made on narrow bands (less than 100 feet wide) of non-agricultural lands immediately adjacent to agricultural land and on small pockets (less than 3 acres) of non-agricultural lands within agricultural fields. It is particularly important that these areas be delineated if they are thought to contain wetlands and the potential for conversion is apparent. Delineations of narrow bands and small pockets will be made using procedures in the 1987 COE wetland Delineation Manual. Periodic review of these delineations will be conducted under the provisions of the interagency MOA.

Determinations/delineations may also be made on nonagricultural areas when requested by USDA program participants and on which an NRCS-CPA-038 has been received. Wetland delineations on non-agricultural lands require an on-site delineation of wetland boundaries using procedures in the 1987 COE Manual. Wetland delineations made by NRCS on non-agricultural lands which do not meet the criteria of narrow bands or small pockets must be coordinated with the COE or EPA, and in consultation with the FWS.

Only individuals who have been trained in application of the 1987 Corps of Engineers (COE) manual may make determinations on non-agricultural lands.

2. Artificial wetlands are often difficult to determine by remote sensing methods. Generally, impoundments and dugout ponds placed on undrained hydric soils, or in existing wetlands, will remain wetlands after construction. Those ponds constructed on non-wetlands will constitute artificial wetlands.
3. Size of an area is not part of the wetland criteria. However, areas large enough to detect, when interpreting aerial photography, will be mapped.

4. All of the steps for each convention will be followed in order to complete a wetland determination. At any point that the reviewing person or mapping team is satisfied that the area either is, or is not, a wetland, the investigation may be stopped. Decisions and the supporting material will be documented according to what is required in each step of these guidelines. Frequent field checking must be used until the reviewing person has become proficient at photo interpretation in each resource area.
5. Wetland determinations/delineations will be placed on an appropriate base. Orthophotography which will enable future digitizing and provide a basis for future updating is the preferred base. USGS topographic quadrangles, soil survey atlas sheets, and color infrared enlargements are an appropriate substitute for interim use.
6. Any wetland on the National wetland Inventory (NWI) maps that are not verified as wetlands by mapping conventions or on-site procedures will be identified on a copy of the NWI map. A copy of the complete determination package will be forwarded to the FWS Caribbean Field Office.

METHODS AND TOOLS:

The following procedure takes into consideration both above normal and below normal precipitation years. The principle tools used to make the wetland determination are: soil survey, USGS quads, weather data, NWI maps, NASA color infrared photos, the National Aerial Photography Program (NAPP), and black and white aerial photos such as those flown along highway corridors. Other maps showing flooded or flood prone areas may be used.

Contact the Corps of Engineers for information on any prior jurisdictional determinations. Any CWA determination that is valid will not be duplicated or abridged by these procedures. See exhibit for identifying the Caribbean COE Regional project manager.

Review the field office (soil survey area) hydric soil list and soil survey. Review of the soil map units which have hydric soils may help identify which areas of the field have potential for wetlands. Determine if the site is a hydric soil map unit or a map unit with hydric inclusions or any wet miscellaneous areas or spot symbols such as depressional areas, riverwash, and beaches, or water areas that meet hydric water table, ponding, or flooding criteria. See field office hydric soils list for specific hydric soil criteria. Field verification for hydric soil map unit or map unit with hydric inclusions is needed.

Review the *Farm Service Agency* photo copy received with the AD-1026 form. Where quality of photocopy provided by *Farm Service Agency* is poor refer to original photo.

Review USGS quad sheets. These provide information regarding for drainage and other cultural water features (ponds, canals, drainage ditches, etc.) Depending upon the vintage of quad sheets, altered vs. natural drainage conditions may be determined from recent photography.

Review NWI maps. NWI maps will give an overview of the wetlands in the area. All wetlands on the NWI map will be considered wetlands for these conventions unless review of the aerial photography, other tools, or local information fails to confirm the area as meeting wetland criteria. Reasons for non-wetland calls will be well documented. This could happen for the following reasons:

1. Review of the photography does not show basin~ as having water, hydrophytic vegetation, drowned out crops, or different crop colors during abnormally dry or wet years.

2. The wetland has been drained or protected from inundation since the NWI photos were taken. Look for manipulation such as ditches, new dikes, or levees.

NOTE: Many wetlands are excluded on NWI maps because of the Fish and Wildlife Service's policy on mapping wetlands in agricultural areas. Care must be taken in that not all wetlands were identified in agricultural lands.

Review other available *Farm Service Agency* or *NRCS* photographs; such as, 1:20,000 black and white or colored infrared photographs, or other imagery that is available.

Obtain and review weather data. Review weather data for the 2 to 3 months previous to the date of the photographs.

Determine if rainfall is consistent with a normal year by comparing with long term climate data.

Using the following procedures,-review the climate data to determine that the adopted conventions are reflective of long term hydrological conditions.

1. Obtain the month and year of aerial photography. A minimum of 5 years precipitation and aerial-photos should be used.
2. Obtain the monthly precipitation for each flight. The precipitation data can be obtained from the National Climate Data Center liaison.
3. Determine if that monthly total is plus or minus 3 year in 10 year precipitation for the 30 year normal for that month. A wet month is when the precipitation is greater than the 3 year in 10 year precipitation. A dry month is when the precipitation is less than the 3 year in 10 year precipitation.
4. If the signature occurred in only wet years, more detailed hydrologic analysis is needed. If the signature occurs in both wet and dry years, the hydrology of the site has been confirmed. If possible, select an equal number of wet and dry years.
5. If there is not a conclusive indication that the signatures occurred in both wet and dry years,

alternative detailed analysis are appropriate as explained in the NRCS Hydrology Tools for Wetland Determination.

SCOPE AND EFFECT

Scope and effect provides guidance for determining the existing hydrologic manipulations and processing requests for approval of maintenance of those manipulations including the maintenance of a natural waterway operated and maintained as a drainage outlet for drainage systems.

Documentation of the site hydrology with the original and with the current drainage system may be documented when the initial wetland determination is made; to respond to an AD-1026 for maintenance of an existing drainage system or installation of new drainage systems; to respond to complaints; or during appeals.

Scope and effect documentation must consist of written records for each site. Tools used to support scope and effect documentation may consist of any existing easements supplied by the person or FWS; persons records of the existence, location and extent of hydrologic manipulations installed before December 23, 1985; interviews of landowners, operators, contractors, neighbors; application-of computer models; probing of existing drains; aerial photographs; satellite imagery; historical rainfall records; engineering analysis of hydrology; and any combination of these tools. The important element is that written documentation of scope and effect be developed and attached to the site records.

**PROCEDURE FOR MAKING OFF-SITE WETLAND
DETERMINATIONS ON NON-AGRICULTURAL LANDS**

This procedure will be used as a basis for making off-site wetland determinations on non-agricultural lands (other than narrow bands or small pockets). Determinations made following this procedure will be considered approximate wetland boundaries, or an indication that wetland may be present within the area of interest. Determinations made using this procedure are not considered to be final wetland delineations and will not meet the requirement of FSA or CWA jurisdiction.

When this procedure is used, NRCS should notify the landowner and/or operator that any "manipulation" of wetland will first require an on-site wetland delineation. Wetland delineations on non-agricultural lands must be made following procedures in the COE 1987 Wetland Delineation Manual.

FOR NON-AGRICULTURAL LAND

Step 1: Review the appropriate mapping tools.

Step 2: Determine if the area is naturally vegetated.

Step 3: Determine if hydric soils or areas with hydric inclusions are present.

Step 4: If hydric soils and/or hydric inclusions are present and hydrophytic vegetation is likely, label the area as wetland (W).

Step 5: Verify the determination with on-site investigation.

Step 6: Return the CPA-026 to the landowner and/or operator with the following statement attached:

"This determination is an indication of approximate wetland boundaries, or that wetland may be present within the area. Any proposal of manipulation, which includes alteration of hydrology and/or the removal of woody vegetation, will require an on-site delineation of wetlands and may subsequently require contact with the Corps of Engineers for a section 404 permit".

NOTE: This procedure cannot be used to make a finding of non-wetland (NW). All non-agricultural lands labeled as NW must be delineated using the 1987 COE Wetland Delineation Manual.

Coordination with COE or EPA, and consultation with the FWS may be required (see exhibits 2 and 3).

OTHER WATERS OF THE UNITED STATES**MAP SYMBOL (OW)**

NRCS in the Caribbean Area may also identify "other Waters of the U.S." for purposes of section 404 of the Clean Water Act (CWA), in coordination with the COE, on lands on which NRCS is otherwise engaged in making wetland delineations and/or determinations. See exhibit 4 for OW definition according to 33 CFR 328.

"Other Waters" would include all the following which are identified in blue on USGS 1:20,000 and 1:24,000 topographic maps:

- Intermittent streams Perennial streams Lakes
- Ponds
- Rivers

Note: These exclude areas labeled as "AW"

Areas which meet the above criteria are labeled as OW.

In order to maintain your USDA program eligibility and comply with the Clean Water Act, contact the US Corps of Engineers prior to performing any activity involving "other waters of the United States" as define above.

MAPPING CONVENTION 1 - Non-Wetland

Definition: Non-wetland is land that under natural conditions does not meet wetland criteria. 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.

FSA MAP SYMBOL (NW)

Non-Wetlands include areas that:

- under natural conditions never did and currently do not meet wetland criteria; or
- were converted wetlands that did not meet wetland criteria as of December 23, 1985, and
 - o were not cropped before 12/23/85, and
 - o wetland criteria has not returned, and
 - o area has not been abandoned.

FOR AGRICULTURAL LAND

Step 1: Review the soil survey for hydric soils or possible inclusions of hydric soils.

Step 2: Review soil survey, black and white and/or infrared aerial photography, and NWI maps to determine if and when the site was drained or manipulated, or had the woody vegetation removed. Determine cropping history with both *Farm Service Agency* participants and non-program participants.

Step 3: Determine from past photography or *Farm Service Agency* records if the site has been abandoned.

Step 4: Use the appropriate hydrology tools to confirm that the site does not flood or pond for 15 consecutive days under average conditions (50% chance occurrence).

Step 5: Outline area on a suitable base map with documentation in the case file.

MAPPING CONVENTION 2 - Prior Converted Cropland

Definition: Prior converted croplands is a converted wetland where the conversion occurred prior to December 23, 1985, an agricultural commodity had been produced at least once before December 23, 1985, and as of December 23, 1985, the converted wetland did not support woody vegetation and met the following hydrologic criteria: Inundation was less than 15 consecutive days under average conditions (50% chance of occurrence).

FSA Map Symbol (PC)

To be considered prior converted cropland, soils must meet all of the following conditions:

- manipulation of the wetland:
 - occurred before December 23, 1985
 - was for the purpose, or had the effect of making the production of an agricultural commodity possible. See NFSAM Part 514.20d
- an agricultural commodity was produced at least once prior to December 23, 1985;
- as of December 23, 1985, the area does not meet:
 - farmed wetland criteria;
 - farmed wetland pasture criteria; or
 - wetland criteria.
- the site remains in agricultural use.

Farm Service Agency records may be used to determine if an agricultural commodity (annually planted crop or sugar cane) was produced prior to 1985. In the absence of *Farm Service Agency* records and for non-program participants, documentation of cropping history should be based on aerial photography, crop expense or receipt records, and other suitable documentation.

Making production possible means the use of any practice that results in the growth of an agricultural commodity by subjecting the land to intensive management such that the natural hydrophytic vegetation is suppressed.

Step 1: Review the soil survey to confirm a hydric soil or inclusion of hydric soil exists on the site.

Step 2: Review soil survey, black and white and/or infrared aerial photography, and NWI maps to determine if and when the

site was drained or manipulated, or had the woody vegetation removed.

Step 3: Determine cropping history with both *Farm Service Agency* participants and non-program participants. Determine from past photography or *Farm Service Agency* records if the site remains in agricultural use.

Step 4: Use the appropriate hydrology tools to confirm that the site does not flood or pond for 15 consecutive days under average conditions (50% chance occurrence).

Step 5: Outline area on a suitable base map with documentation in the case file.

MAPPING CONVENTION 3 - Farmed Wetland

Definition: 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 wetland hydrology criteria.

FSA Map Symbol (FW)

To be considered farmed wetlands all the following criteria must be met:

- the area is seasonally ponded or flooded for at least 15 consecutive days, under average conditions (50% chance of occurrence);
- production was not possible before the manipulation; an agricultural commodity has been produced at least once prior December 23, 1985;
- the area has not been abandoned;
- does not meet farmed wetland pasture (FWP) criteria.
- if the site met FW criteria on December 23, 1985.

Farm Service Agency records may be used to determine if an agricultural commodity (annually planted crop or sugar cane) was produced prior to 1985. In the absence of *Farm Service Agency* records and for non-program participants, documentation of cropping history should be based on aerial photography, crop expense or receipt records, and other suitable documentation.

CAUTION: Changes in label may be needed as a result of significant hydrological events which alter the landscape.

Step 1: Review the soil survey to confirm a hydric soil or inclusion of hydric soil exists on the site.

Step 2: Review soil survey, black and white and/or infrared aerial photography, and NWI maps to determine if and when the site was drained or manipulated, or had the woody vegetation removed.

Step 3: Determine cropping history with both *Farm Service Agency* participants and non-program participants. Determine from past photography or *Farm Service Agency* records if the site has been abandoned.

- Step 4: Use the appropriate hydrology tools to confirm that the site does not flood or pond for 15 consecutive days under average conditions (50% chance occurrence).
- Step 5: Review aerial photography in 1985 and present to determine if site has been altered or manipulated since December 23, 1985, beyond the scope and effect of original drainage.
- Step 6: Document the scope and effect of existing drainage systems or other hydrological manipulations. This requires an on-site visit.
- Step 7: Outline area on a suitable base map with documentation in the case file.

MAPPING CONVENTION 4 - Farmed Wetland Pasture or Hayland

Definition: Farmed wetland pasture or hayland are wetlands that were manipulated and used for pasture or hayland (includes native pasture or hayland) prior to December 23, 1985, still meet specific wetland hydrology criteria, and are not abandoned, or is in agricultural use and met FWP criteria on 12/23/85.

FSA MAP SYMBOL (FWP)

Farmed wetland pasture is land that meets wetland criteria and either;

- was not planted to an agricultural commodity in any year from December 23, 1980 through December 23, 1985, although an agricultural commodity may have been planted prior to 12/23/80; or
- has not been planted to an agricultural commodity in the past five years, but has been used for pasture or hay production.

An area meets hydrology criteria for FWP if it is inundated for 7 consecutive days or saturated for 14 consecutive days.

FWP is considered abandoned if pasture and/or hayland production ceases for a five consecutive years.

Farmed wetland pasture that has not been abandoned can be used as it was before December 23, 1985, as long as woody vegetation is not removed and the drainage or other hydrological manipulations can be maintained, but not improved beyond the original scope and effect.

CAUTION: Changes in label may be needed as a result of significant hydrological events which alter the landscape.

Step 1: Review the soil survey to confirm a hydric soil or inclusion of hydric soil exists on the site.

Step 2: Review soil survey, black and white and/or infrared aerial photography, and NWI maps to determine that the area was not planted to a commodity crop from 1981 to 1985, and that the area has been used for pasture or hayland for the past 5 years.

Step 3: Use the appropriate hydrology tools to confirm that the site does not flood or pond for 7 consecutive days or saturated for 14 consecutive days under average conditions

(50% chance occurrence).

- Step 4: Review aerial photography in 1985 and present to determine if site has been altered or manipulated since December 23, 1985, beyond the scope and effect of original drainage. If the area has been altered, it may meet the converted wetland criteria.
- Step 5: Document the scope and effect of existing drainage systems or other hydrological manipulations. This requires an on-site visit.
- Step 6: Outline area on a suitable base map with documentation in the case file.

MAPPING CONVENTION 5 - Converted Wetland

Definition: Converted wetland is land that meets all of the following criteria:

- was a wetland, FW or FWP under natural conditions; but 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
- woody hydrophytic vegetation, including stems and stumps, was removed; and
- the production of an agricultural commodity was made possible or increase production was made possible such as:
 - (1) Making an area farmable in more years than it previously was.
 - (2) Increasing yield because of reduced crop stress due to wetness.

FSA MAP SYMBOL (CW or CW+YEAR)

The 1985 Act provided that persons shall be ineligible for USDA benefits if an agricultural commodity is planted on wetland that was converted after December 23, 1985. The 1990 amendments placed additional restrictions were imposed for land converted after November 28, 1990. For this reason, NRCS is required to determine whether a wetland was converted before or after November 28, 1990. Conversions made after 11/28/90, are labeled CW+YR.

Manipulation is the alteration of hydrology and/or the removal of woody vegetation, and includes any action which removes water from a wetland.

Converted wetlands can occur on naturally vegetated wetlands (W), farmed wetlands (FW), and farmed wetland pastures (FWP). When significant alteration has occurred, wetland determinations for converted areas with predominantly (>50%) natural vegetation should be conducted using the guidance in the 1987 COE manual.

Step 1: Review the soil survey to confirm a hydric soil or inclusion of hydric soil exists on the site.

Step 2: Review soil survey, black and white and/or infrared aerial photography, USGS quad sheets, NWI maps, climate

data, and appropriate hydrology tools to determine the area was in natural vegetation and that long term hydrological conditions were met for the site before the conversion.

Step 3: Review aerial photography in 1985, 1990 and present or other appropriate methods (e.g., interviews, bills receipts, tax records) to confirm when the manipulation occurred.

Step 4: Outline area on a suitable base map with documentation in the case file.

MAPPING CONVENTION 6 - Wetland

Definition: FSA wetlands are areas that meet wetland criteria under natural conditions and typically have not been manipulated by altering hydrology and/or removing woody vegetation. Wetlands include areas that have been abandoned (NFSAM Part 514.25).

FSA MAP SYMBOL (W)

Wetlands (W) may be used to produce an agricultural commodity under natural conditions after December 23, 1985, so long as all of the following requirements are met:

- production is made possible as a result of a natural condition, such as drought; and
- water regimes are not manipulated, and
- woody vegetation is not removed; and
- normal tillage practices are used that do not fill, level, or otherwise cause conversion of the wetland.

NOTE: Removal of herbaceous vegetation is not considered manipulation.

NOTE: Wetland determinations for areas which support natural vegetation must be made by individuals trained in the application of the 1987 COE manual and conform to the requirements of that manual. NRCS personnel will make determinations for inclusions in agricultural lands and on adjacent areas supporting natural vegetation which have high potential for conversion. NRCS will also make determinations on areas supporting natural vegetation when specifically requested to do so by a USDA Program participant. Such determinations will be made in accordance with provisions of the interagency memorandum of agreement (see exhibit 2).

Step 1: Review the soil survey to confirm a hydric soil or inclusion of hydric soil exists on the site.

Step 2: Review soil survey, black and white and/or infrared aerial photography, USGS quad sheets, NWI maps, climate data, and appropriate hydrology tools to determine the area is in natural vegetation and that long term hydrological conditions are met for the site.

Step 3: Review aerial photography in 1985, 1990 and present to check for a wetland manipulation or conversion.

Step 4: Outline area on a suitable base map with documentation in the case file.

MAPPING CONVENTION 7 - Manipulated Wetland

Definition: Manipulated wetlands are wetlands that have been manipulated after December 23, 1985, and the manipulation was not for the purpose of, and did not make production of agricultural commodity possible.

FSA MAP SYMBOL (WX)

WX areas mayor may not meet wetland criteria depending on type and degree of manipulation. These areas, by definition, are not capable of producing an agricultural commodity. If an agricultural commodity is ever produced on the wetland, or if production is later made possible, change the determination from WX to CW+YR.

Examples:

- an open ditch constructed through a forested wetland removed the hydrology, but the trees were not removed and the manipulation does not make production possible;
- trees cut with stumps left in place, no manipulation of hydrology, and manipulation of the area does not make production possible;
- piles of trees, stumps, and soil covered areas which is not croppable without added land clearing activities. (NOTE: This may be a CWA violation.)

NOTE: Wetland determinations for areas which support natural vegetation must be made by individuals trained in the application of the 1987 COE manual and conform to the requirements of that manual. NRCS personnel will make determinations for inclusions in agricultural lands and on adjacent areas supporting natural vegetation which have high potential for conversion. NRCS will also make determinations on areas supporting natural vegetation when specifically requested to do so by a USDA Program participant. Such determinations will be made in accordance with provisions of the interagency memorandum of agreement.

Step 1: Review the soil survey to confirm a hydric soil or inclusion of hydric soil exists on the site.

Step 2: Review soil survey, black and white and/or infrared aerial photography, USGS quad sheets, NWI maps, climate data, and appropriate hydrology tools to determine the area was in natural vegetation and that long term

hydrological conditions existed on site.

Step 3: Document the scope and effect of existing drainage systems or other hydrologic manipulations that have altered the wetlands.

Step 4: Outline area on a suitable base map with documentation in the case file.

MAPPING CONVENTION 8 - Artificial and Induced Wetlands

Definition: Land that was formerly non-wetland under natural conditions, but now exhibits wetland characteristics because of human activities.

These areas are not subject to the WC provisions of the 1985 Act:

- artificial wetlands can be drained, removed or manipulated without causing ineligibility for USDA benefits
- enhancement of hydrology on areas meeting wetland criteria under natural conditions does not make the area AW
- removal of enhanced hydrology is allowed as long as natural wetland hydrology

NOTE: CWA and state permits may apply.

FSA MAP SYMBOL (AW)

A shallow farm pond, constructed on non-hydric soils is an example of an artificial wetland. These areas may be difficult to determine by remote sensing techniques. Farmer information or an on-site visit may be necessary.

Artificial enhancement of the hydrology on existing wetland does not make such wetland an AW. Removal of enhanced hydrology is allowed as long as the original wetland hydrology is not removed. An irrigation-induced wetland that has been created by irrigation or seepage from an irrigation delivery system is considered an artificial wetland.

Artificial wetlands may be created for purposes such as, but not limited to:

- Livestock watering
- Fish production Irrigation
- Rice production
- Flood control
- Recreation
- wildlife habitat
- Gravel pits
- Borrow pits
- Other

NOTE: Artificial wetlands as described above may not be exempt from provisions of the CWA.

Step 1: Review the soil survey to confirm a hydric soil or inclusion of hydric soil existed on the site.

step 2: Review soil survey, black and white and/or infrared aerial photography, USGS quad sheets, and NWI maps to determine if the area was in fact caused by human activities. Document conclusions.

Step 3: Outline area on a suitable base map with documentation in the case file.

EXHIBIT 1

INVESTIGATION TECHNIQUES

<u>Information Needed</u>	<u>Possible Sources</u>
Hydric Soil	<ol style="list-style-type: none"> 1) County List 2) Soil survey - map unit descriptions, wet symbols, streams, springs, etc. 3) USGS quadrangles 4) Climate data *5) Landowner interview *6) site investigation *7) Take soil scientist on-site 8) Flood maps or inventories
Prevalence of hydrophytes	<ol style="list-style-type: none"> 1) NWI maps 2) NRCS black and white or color infrared photos 3) Soil survey vegetative information in soil survey report *4) site investigation - including similar non-cropped areas
Altered or manipulated?	<ol style="list-style-type: none"> 1) Any existing easements supplied by the person or FWS 2) Persons records of existence, location and extent of hydrologic manipulations installed before December 23, 1985 *3) Conservation assistance notes in the case file 4) Verify accuracy of existing wetland determinations or complete new determinations 5) Site investigation including field borings to define original construction limits 6) NWI maps 7) NRCS black and white or color infrared photos 8) USGS quadrangles 9) Data provided by landowner and contractor 10) Field surveys or tile plans 11) Depth and duration of ponding due to 50 percent chance event 12) Duration of flooding due to 50 percent chance event 13) Depth to water table 14) any other available information relating to systems installed before December 23, 1985
Planted prior 12/23/85	<ol style="list-style-type: none"> 1) FSA records prior to 12/23/85 *2) Case file 3) Photo interpretation 4) Employee knowledge *5) Landowner interview

- Abandoned?
- 1) FSA records for the last 5 years
 - 2) NRCS photos
 - *3) Case file
 - *4) Landowner interview
 - *5) On-site inspection
- Flooding or ponding duration
- 1) Soil survey map unit data
 - 2) NWI
 - *3) On-site field inspection
 - *4) Landowner interview
 - *5) Case file
 - *6) Flood hazard study
 - *7) Watershed investigations
 - 8) Climate data
 - *9) Flooded crops, stressed crops, long term use as forage vs cropland

* Sources which off-site team mappers may not have available and may require field office assistance or site visit.

EXHIBIT 2

Scope of NRCS Determinations and/or Delineations

Follow this table to determine which agency makes the determination and/or delineation and the procedure to be used.

DETERMINATIONS AND/OR DELINEATIONS ON AGRICULTURAL LANDS		
IF...	THEN...	MOA Reference
A wetland determination and/or delineations needs to be made on agricultural lands	NRCS will use the NFSAM or 1987 COE Manual.	IV.D
NRCS has not made a final written determination and/or delineations and the Corps or EPA is pursuing a potential CWA violation	The COE or EPA as appropriate makes the determination and/or delineation for CWA purposes. NRCS accepts this determination and/or delineation for Swampbuster purposes.	IV.K
The COE or EPA is pursuing a potential CWA violation on land subject to an ongoing NRCS appeal	The COE or EPA as appropriate makes the determination and/or delineation for both CWA and Swampbuster in consultation with NRCS and FWS to arrive at a single determination and/or delineation. NRCS will use that determination and/or delineation to complete an appeal process.	IV.K
In all other situations on agricultural land	NRCS makes the wetland determination and/or delineation. The COE or EPA accepts this determination for CWA purposes.	IV.A
Changes in a wetland determination and/or delineation on agricultural land is contemplated, as a result of an appeal.	As per 519.14h, NRCS notifies the COE/EPA of current determination and/or delineation, proposed determination, location, and reason for the change. The COE/EPA has 45 days to respond on their concurrence or non-concurrence and whether the change can be used for CWA purposes. If there is no agreement at the field office level, the NRCS representative shall refer the materials to the State Conservationist for action.	V.D & VLA 519.14h

DETERMINATIONS AND/OR DELINEATIONS ON NON-AGRICULTURAL LANDS		
IF...	THEN...	MOA Reference
A wetland determination and/or delineation needs to be made on non- agricultural lands	NRCS will use the COE 1987 Wetland Delineation Manual to make determinations see 513.0 c.	IV.D
On narrow bands either immediately adjacent to or small pockets interspersed among agricultural lands	NRCS makes the determination for both Swampbuster and CWA using COE 1987 Wetland Delineation Manual.	IV.A
When a USDA participant requests a determination and/or delineation on non-agricultural land	NRCS makes the determination for both Swampbuster and CWA in coordination with the COE or EPA.	IV.A and B
A determination and/or delineation is needed for "other waters"	If appropriate local procedures and guidance have been developed. NRCS makes the determination for both Swampbuster and CWA in coordination with the COE or EPA. NRCS only makes these determinations on an incidental basis when it is otherwise engaged in wetland determinations for Swampbuster purposes.	IV.C
In all other situations	COE or EPA makes the determination for CWA. NRCS will accept these determinations for FSA.	IV.J
NOTE: The information in this table does not apply to special case areas as designated by COE or EPA. Refer to table in Paragraph C for information on special case areas.		

EXHIBIT 3

510.44

U.S. Fish and Wildlife Service (FWS) Responsibilities

a
Fish and Wildlife
Responsibilities

FWS will:

- upon request, provide technical assistance to NRCS for:
 - regulations
 - mitigation plans
 - wetland identification procedures
 - abandonment
 - minimal effect determinations
 - training
 - wetland function and value assessment
- serve on the State Technical Committee.
- Provide local NRCS and FSA offices with up-to-date maps of areas in the county with FWS easements.

NOTE: Site-specific assistance will be based upon an on-site visit.

(180-V-NFSAM, Third Ed., Amend. 2, Nov. 1996)

510-35

EXHIBIT 4

514.26

Other Waters (OW)

a

Definition of Other Waters

Taken directly from 33 CFR 328:

- (a) The term "waters of the United States" means*
- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
 - (2) All interstate waters including interstate wetlands;*
 - (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters;*
 - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
 - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
 - (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;*
 - (4) All impoundments of waters otherwise defined as waters of the United States under the definition;*
 - (5) Tributaries of waters identified in paragraphs (a) (1) - (4) of this section;*
 - (6) The territorial seas;*
 - (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.*
- Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.*

b

NRCS Role

In certain locations where NRCS and COE concur, NRCS will be the lead agency for determining and/or delineating "other waters" of the US as specified in local operating procedures as approved by the State Conservationist.

c

Delineating and Recording OW Determinations

Refer to Part 523.22 for delineating and recording OW determinations on the NRCS-CPA-026E using FOCS.

514-30

(180-V-NFSAM, Third Ed., Amend 2, Nov. 1996)

APPENDIX A**GLOSSARY**

Abandonment - The cessation for 5 consecutive years of management or maintenance operation related to the use of commenced conversion (CC), farmed wetland (FW), or farmed wetland pasture and hayland (FWP). Land considered to be abandoned must meet wetland criteria. {NFSAM Third Ed. Amend.2)

Agricultural commodity - Any crop planted and produced by annual tilling of the soil, including tilling by one-trip planters, or sugarcane.

Agricultural lands - Land that is intensively used and managed for the production of food or fiber. Examples are cropland, hayland and pastures, including native pastures and rangeland, orchards, vineyards, areas which support wetland crops (e.g. dasheens or rice), other lands used to produce or support the production of livestock, and small tree farms.

Farm Service Agency - The Farm Service Agency

COE - The U.S. Army Corps of Engineers.

CWA - The Clean Water Act, particularly Section 404 that regulates the discharge of dredged and fill material into waters of the United States.

FACTA - The Food, Agriculture, Conservation, and Trade Act of 1990.

Flooded - A condition in which the soil surface is temporarily covered with flowing water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, inflow from high tides, or any combination of sources.

FSA - The Food Security Act of 1985.

FWS - The U.S. Fish and Wildlife Service.

Inundation - The ground is covered by water due to ponded, flowing, or flooded water.

Long duration - Hydrologic term that describes a period of inundation from a single event that ranges from 7 days to 1 month.

Manipulation - The alteration of hydrology and/or the removal of woody vegetation (including stems and stumps) on a wetland. (NFSAM Third Ed. Amend.2)

MOA - 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.

Normal circumstances - The soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed.

NWI - The National Wetlands Inventory conducted by the U.S. Fish and Wildlife Service, utilizing mostly remote sensing techniques. Published on 7.5 minute quadrangles.

Other Waters of the U.S. - This term is defined in 33CFR 328 and is used in Clean Water Act regulations. "The term Waters of the United States means, all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide: All interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce •••••

Ponded - A condition in which water stands in a closed depression. The water is removed only by percolation, evaporation, or transpiration.

NRCS - The Natural Resources Conservation Service.

State - A term which also includes territories and commonwealths of the United States.

USDA Program Participant - Individual landowners or operators who are eligible to receive USDA program benefits covered under Title XII of the Food Security Act of 1985 (the 1985), as amended by the Food, Agriculture, Conservation, and Trade Act of 1990 (the 1990 Act), and the Federal Agricultural Improvement and Reform Act of 1996 (the 1996 Act). For purposes of the MOA, a USDA program participant is a client that has an ADD1026 (Highly Erodible Land and Wetland Conservation certification) form on file with the Farm Services Agency (FSA - formerly the Agricultural Stabilization and Conservation Service).

Very long duration - A duration class in which inundation for a single event is more than 1 month.

Wetlands - An area that has a predominance of hydric soils and that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances does support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions, except lands in Alaska identified as having a high potential for agricultural development and a predominance of permafrost soils. (NFSAM Third Ed. Amend.2)

APPENDIX B**NRCS ON-SITE FSA WETLAND DETERMINATIONS:**

CMW	Categorical Minimal Effect Wetland
CWNA	Converted Wetland for Non-Agricultural Purposes
CWTE	Converted Wetland Technical Error
MIW	Mitigation Wetland
MW	Minimal Effect Determination
TP	Third Party Conversion
W-R	Wetland-Restored

Categorical Minimal Effect Wetland

ON-SITE WETLAND DETERMINATION

Definition: A wetland, farmed wetland, or farmed wetland pasture that was drained, filled, or manipulated to make agricultural production possible or more possible and loss of the functions and values of this wetland were determined to have minimal effect on the functions and values of the wetlands in the area and activity to be taken fit the criteria of a published categorical minimal effect exemption.

FSA MAP SYMBOL (CMW)

Based on the fact that in the Caribbean Area we have not previously approved minimal effect determinations, a listing of practices or activities which would be considered as categorical minimal effect exemptions, is not recommended at this time.

Converted Wetland Non-Agricultural Use

ON-SITE WETLAND DETERMINATION

Definition: Converted wetlands for non-agricultural use are conversions of wetlands that make production possible for purposes other than commodity or forage production and are exempt from provision of FACTA.

FSA MAP SYMBOL (CWNA)

Conversion of wetland for non-agricultural purposes may include conversions for any of the following:

- Fruit trees
- Trees
- Vineyards
- Shrubs
- Fish, mollusk, and crustacean production
- Roads (includes roads for irrigation travel systems with a top width of less than 6' wide)
- Buildings
- Agricultural waste management structures Irrigation reservoirs
- Livestock ponds
- Fire control
- Other non-agricultural uses

Use only on-site procedures in making this determination. Specific conditions and limitations of this exemption are contained in the NFSAM. Prior to granting CWNA, NRCS will notify the COE. The COE will advise NRCS if the CWA applies to the proposed conversion within 45 days of all requests for CWNA. The FWS is to be consulted as a technical advisor.

Converted Wetland Technical Error

ON-SITE WETLAND DETERMINATION

Definition: A converted wetland technical error (CWTE) occurs if NRCS makes a wetland determination that is incorrect or a misinformed decision is rendered from *Farm Service Agency* and results in a person taking action that would be a violation.

FSA MAP SYMBOL (CWTE)

Use only on-site procedures in making this determination. Only the Director of the Caribbean Area can approve a CWTE determination, in consultation with the FWS. The new determinations become effective when made; however, no person shall lose USDA benefits or be adversely affected by actions based on a prior determination.

Exception: CWTE does not apply to obvious wetlands and may not apply to incorrect information from the person.

Minimal Effect Determination

ON-SITE WETLAND DETERMINATION

Definition: A minimal effect exemption is a determination that an activity for a proposed conversion of a wetland will have an insignificant effect on the functions and values of the wetlands in the area. The conversion activity may impact only a portion or all of a wetland and may require additional conditions or mitigation for function and values either on or off site.

FSA MAP SYMBOL (MW)

In the Caribbean Area, the following requirements must be met in order to receive a minimal effect determination:

- only the Director can approve the MW determination in consultation with FWS, and
- the landowner agrees to and signs a minimal effect agreement.

Use only on-site procedures in making this determination. Consult the NFSAM for detailed information on the minimal effect agreement.

Notify the COE of any requests for the MW determination.

Mitigation

ON-SITE WETLAND DETERMINATION

Definition: Mitigation is the term used when the wetland functions and values are lost on a converted wetland or planned to be lost on a wetland, farmed wetland or farmed wetland pasture are compensated for through wetland restoration, enhancement or creation. Easement may be required.

FSA MAP SYMBOL (MIW)

The mitigation plan may be a single document or it may be a component of a natural resource conservation plan created voluntarily by the program participant. An easement may be required.

Mitigation can only be used to regain USDA benefits for future crop years.

All wetlands to be mitigated will be evaluated using a functional assessment procedure known as HGM. If this procedure is not available, a procedure will be established by the Director of the Caribbean Area in consultation with the State Technical Committee.

Consult the NFSAM for details concerning this determination.

Third party Conversion

ON-SITE WETLAND DETERMINATION

Definition: Third party exemptions apply where wetlands are converted after December 23, 1985, by actions of persons other than the person applying for USDA program benefits.

FSA MAP SYMBOL (TP)

Farm Service Agency, in consultation with FWS, COE and NRCS, will determine whether a third party is responsible for converting a wetland. The third party exemption should be filed before planting an agricultural commodity on the wetland converted by the third party.

NOTE: If *Farm Service Agency* determines the conversion was part of a scheme or device to avoid wetlands provisions of the 1985 Act, *Farm Service Agency* will not grant the third party exemption.

Use only on-site procedures in making this determination. Consult the NFSAM for details concerning this determination.

Wetland-Restored**ON-SITE WETLAND DETERMINATION**

Definition: A previously converted wetland that is restored to pre-conversion conditions to mitigate for wetland functions and values lost when another wetland was converted to cropland. An easement is required on this wetland.

FSA MAP SYMBOL (W-R)

Use only on-site procedures in making this determination. Consult the NFSAM for detailed information on the wetland restored.