UNITED STATES DEPARTMENT OF AGRICULTURE
Farm Service Agency
Washington, DC 20250

Geospatial Information Systems 1-GIS	Amendment 2

Approved by: Deputy Administrator, Farm Programs

Amendment Transmittal

A Reason for Amendment

Subparagraph 37 G has been amended to add a new file naming convention abbreviation and definition.

Subparagraph 39 A has been amended to:

- redefine CREP file name within the Conservation folder
- redefine SAFE file name and description within the Conservation folder
- add Wellhead Protection Areas file name and description to the Conservation folder
- remove Wellhead Protection Areas file and description from the Land_Site folder
- add "Uniquely Defined" file name and description to the Land_Site folder.

Subparagraphs 51 B, C, and E have been amended to update SharePoint URL's.

Subparagraph 71 E has been amended to update URL's for 32-AS and 32-AS Supplement.

Subparagraph 102 D has been amended to:

- redefine the definition for state_code
- redefine the definition of county_code
- add new data field State_ansi_code and definition
- add new data field County_ansi_code and definition.

Subparagraph 123 B has been amended to correct the capitalization of "Farm Records".

Paragraph 159 has been amended to correct the program name to "National Agricultural Imagery Program".

Subparagraph 172 B has been amended to define hydrologic unit codes (HUC).

A Reason for Amendment (Continued)

Subparagraph 276 C has been added to clarify the use of personal mobile phones for business use.

Subparagraph 516 C has been added to include the "Find Gaps in CLU" quality control tool.

Subparagraph 517 C has been added to include the "Identify Tracts Split by County Boundary" reconstitution tool.

Exhibit 5 has been amended to include downloading tract level farm records data and add a reference to Exhibit 126.1.

Exhibit 9 has been amended to update SharePoint URL's and contact information.

Exhibit 16 has been amended to:

- update the EDW URL and instructions reference
- add instructions on exporting data from EDW for:
    - field level
    - conservation contract
    - tract level
    - farm tract crop farm level.

Exhibit 25 has been amended to update instructions for comparing MIDAS CRP to CCMS data.

Exhibit 31 has been amended to add SAFE and CREP requirements.

Exhibit 99 has been amended to update SharePoint URL.

Exhibit 126.1 has been added to provide instructions for the Find Gaps in CLU Layer tool.

Exhibit 128 has been amended to update instructions for the Find Required Farm Combinations tool.

Exhibit 128.1 has been added to provide instructions for the Identify Tracts Split by County Boundary tool.

Exhibit 129 has been amended to change the data type for native sod from feature dataset to feature class and to update instructions.

A Reason for Amendment (Continued)

Page Control Chart		
TC	**Text**	**Exhibit**
9, 10	3-23, 3-24 3-31, 3-32 3-37, 3-38 3-61 through 3-80 3-101, 3-102 4-7, 4-8 4-55, 4-56 4-111 through 4-130 4-131, 4-132 6-1, 6-2 7-31 through 7-34	5, pages 1-4 9, pages 3-6 16, pages 1-8 pages 9-11 (add) 25, pages 1-2 31, pages 1-7 99, page 1 126.1, page 1 (add) 128, pages 1-3 128.1, pages 1-2 (add) 129, pages 1-2

Exhibits (Continued)

Exhibits (Continued)

37 Geodata Management (Continued)

C Geospatial Dataset Naming Guidelines

Naming standards apply to all nationally distributed datasets. State or local datasets should also follow naming standards.

Names are designed to be unique within the entire geodata directory. Unique names allow for data to be easily identified, accessed and shared.

D Geospatial File Name Elements

Standard file names must convey the following information:

- Dataset (Theme) name
- Type of data
- Physical location or spatial extent of data
- Projection of the data (for data other than UTM)
- File type extension (e.g. .shp, .gdb, .tif, .csv)

Note: Dataset (theme) name can be the full name, a shortened version or an acronym used to represent the business name of the dataset.

E Standard Characters

The only characters allowed in a standard file or directory name are the following:

- lower-case text characters a-z OR upper-case text characters A-Z
- the numerals 0-9
- the underscore "_" character
- the dash "-" character, but only when designating mosaic tiling (x-x).
- the first character in the file name shall be a letter (a-z or A-Z).
- spaces are not allowed in file or folder names. Use the underscore character "_" to represent a space.

37 Geodata Management (Continued)

F Name Length

The total length of the dataset filename will not exceed 30 characters.

G Codes and Abbreviations for Standard Naming Conventions

The following table identifies example codes and abbreviations used in describing geospatial dataset names in this handbook.

Abbreviation	Definition or Rule
< >	Indicates a substitution notation.
***--**<code>	Conservation files include a code that represents the project in the attributes. This code is used to abbreviate the project name. This code is used to identify the project when a State has multiple projects (e.g. SAFE Project Areas).**--***
<prj>	Indicates the projection of the data, (e.g. cpa_a_md_gcs.shp). Use for data other than UTM.
<st>	The 2-character State postal abbreviation; precip_a_co is the filename for Colorado annual precipitation.
<stnnn>	The 2-character State postal abbreviation and 3-digit county FIPS code (e.g., clu_a_md047 is the CLU filename for Worcester County, Maryland).
<stssaid>	The State soil survey area ID (e.g., soils_l_md047 is the filename for Worcester County, Maryland) SSURGO Database (SSURGO Lines).
<us>	Indicates dataset covering the entire United States, its protectorates and territories.
<us48>	Indicates the conterminous or contiguous United States.
<v>	Indicates the revision 1, 2, 3, etc.
<x-x>	Indicates the 2-digit HUC (region).
<xxxxxxxx>	The 8-digit HUC.
<yyyy>	The calendar year.
<yyyymm>	The calendar year and month.
<yyyymmdd>	The date expressed as year, month, and day. When entire date is not available, use at least year <yyyy>.

39 Geospatial Data Directory (Continued)

A Geodata Folder Structure and Data Storage Locations (Continued)

Folder	Location	File Name	Description
conservation			Check files monthly; Ensure that statewide files are on external drive in State Office.
	F, K	cpa_a_<st>_utm<nnn>	State CPA's in UTM projection
	K	cpa_a_<st>_gcs	State CPA's in GCS projection
	F, I	***--**cp<nn>_a_<stnnn>	Practice eligibility zone
	F, K	crep_<code>_a_ <st>_<prj>	CREP eligibility area
	F, F, I	pez_a_<stnnn>	Practice eligibility zone
	F, K	safe_a_<code>_ <st>_<prj>	SAFE project eligibility area
	F, K	whpa_a_<stnnn>	Wellhead protection areas**--***
\bcap_project	K	bcap_<ST>.gdb\bcao_a _<stccc>_<year>	Feature classes can be named uniquely by State and county. Manage layers in a statewide file geodatabase.
\fsa_crp	State Office server only	crp_a_<stnnn>	CRP statewide dataset

39 Geospatial Data Directory (Continued)

A Geodata Folder Structure and Data Storage Locations (Continued)

Folder	Location	File Name	Description
\conservation_planning\ SU<nn>	F, K County Office servers only	Uniquely defined file names	This folder contains conservation datasets and related information required for conservation plan development that is shareable between SCA's. The required conservation planning (TERRA) files and related information may be stored in this folder on a temporary basis.
\crp_scenarios\saved \SU<nn>	F, K County Office servers only	TERRA tool defined output file naming convention	Output location for conservation offers created through TERRA scenarios are to be archived to a subfolder noting signp number.
\gps_data	F, K County Office servers only	Uniquely defined file name	GPS data collected for the purpose of CRP enrollment and compliance activities

39 Geospatial Data Directory (Continued)

A Geodata Folder Structure and Data Storage Locations (Continued)

Folder	Location	File Name	Description
hydrologic_units **Note:** In Citrix, this folder is named "**hydrological**"	F, K		Check files yearly. Ensure that files and HUC's are on external hard drive in State Office.
	F, K	wbdhu12_a_<st>	1:24,000 12-digit polygon data at the 4th, 5th and 6th level by sub- basin (huc8)
	F	wbdhu12_l_<st>	1:24,000 12-digit line data at the at the 4th, 5th and 6th level by sub-basin (huc8)
	F	wbdhu10_a_<st>	1:24,000 10-digit polygon data at the 4th, 5th and 6th level by sub-basin (huc8)
	F	wbdhu10_l_<st>	1:24,000 10-digit line data at the at the 4th, 5th and 6th level by sub-basin (huc8)
	F	wbdhu08_a_<st>	1:24,000 8-digit polygon data at the 4th, 5th and 6th level by sub-basin (huc8)
	F	wbdhu08_l_<st>	1:24,000 8-digit line data at the at the 4th, 5th and 6th level by sub-basin (huc8)

39 Geospatial Data Directory (Continued)

A Geodata Folder Structure and Data Storage Locations (Continued)

Folder	Location	File Name	Description
imagery	F, K, I		Check files yearly. Ensure that files are on external hard drive in State Office.
	F, K, I	Uniquely defined file name	Folder storage location for imagery layer files (.lyr) And satellite imagery files
land_site	F, K		
	F, K	***--**Uniquely defined file name	Folder storage for land site type layers and files**--***
	F, K	wellhead_p_<stnnn>	Point locations of wells within a county
land_use_land_cover	F		Check files monthly; Ensure that statewide files are on external drive in State Office.
\fsa_compliance	F	crop_a_<stnnn>	Geodatabase combining the CLU data with the crop dataset from CARS produced by the Build Crop Data Polygons tool in the Statewide toolset
\producer_submitted	F	TBD	Folder used to store precision data from producers submitted though ACRSI
Maps	K		
\pythonmapseries_citrix	K	Uniquely named by tool	Folder used for the Python Map Series tool

50 Example FSA Producer Map Storage Location (Continued)

B FSA Producer Map File Requirements

Producer maps in a shared folder directory are organized based on:

- State
- county
- farm
- tract
- program year.

Files are uniquely named. Only 1 file per farm/tract map per program year should exist in the producer_maps folder.

The only map files that should be stored in this location are for current program year and either:

- previous program year for compliance review purposes
- next program year.

PDF maps do not need to be archived. CLU is archived and can be used to recreate any map if necessary. The hard copy map associated to the FSA-578 crop report is documentary evidence.

51 Requesting Permissions

A Overview

Certain service providers, systems and applications require submitting specialized forms in addition to FSA-13-A. The GIS Specialist should coordinate with the State Office SLR to ensure that new employees and existing employees needing modifications have appropriate access to FSA systems.

B FSA-13-A

New employees or existing employees requiring modifications to access must have FSA-13-A completed by their supervisor. See:

- **Exhibit 9** for instructions about new GIS Specialist role requirements
- **Exhibit 10** for instructions about new PT or CED role requirements.

Note: Refer to the Information Security Office's Security Forms page at ***--https://usdagcc.sharepoint.com/sites/FBC-IAB/resources/Forms/Forms.aspx.--***

C Server Environment Permissions

Server environment permissions are requested on FSA-13-A. See **paragraph 46**.

Note: Refer to the Information Security Office's Security Forms page at ***--https://usdagcc.sharepoint.com/sites/FBC-IAB/resources/Forms/Forms.aspx.--***

51 Requesting Permissions (Continued)

D Citrix Environment Permissions

The Citrix environment is role based. Each user is assigned appropriate roles based on job duties. The GIS Specialist works with the State Office SLR to assign Citrix users to either of the following categories:

- editor
- read only.

These same user roles apply to the following FSA GIS tools found in Citrix:

- Maintenance Tool
- TERRA.

The following table describes the different Citrix user groups.

User Group Type	Definition
National Users	Everyone who connects into the Citrix site is a national user and has read-only rights associated with that account type. All national users should be able to read all files placed in the national drive.
State Users	Every user (State GIS Specialist and County Office personnel) from that specific State will have (read/write) access to the folder structure of their State. State GIS Specialists will also have (read/write) access to other State folders.
User Folders	Users shall have (read/write) access to their O:\ drive folder structure, but will not be allowed to create additional folders at the root of the mapped drive. Subfolders may be created within the proposed folder structure by anyone assigned the proper rights.

Citrix environment permissions are requested on FSA-13-A.

E FSA GIS SharePoint

The FSA GIS SharePoint is a permissions-based resource for both National and State GIS Specialist staff. For access, contact the National Office.

The FSA GIS SharePoint is available at
--https://usdagcc.sharepoint.com/sites/FBC-GDMS/FSA_GIS/SitePages/Home.aspx.--

52-60 (Reserved)

Section 6 Data Backups and Archiving

71 Data Backups and Archiving

A GIS Data to Archive

The following list defines data that is required to be archived by the GIS Specialist and retained at the State Office.

Data	Type	Frequency	Description
CLU	Statewide dataset	Extract weekly to county servers F:\ drive; Archive weekly, monthly and annually at rollover	FSA's authoritative dataset is key for emergency management, historical land use analysis and NRCS business operations.
Wetlands	Statewide dataset	Extract weekly to county servers F:\drive; Archive weekly, monthly and annually at rollover	FSA's authoritative dataset – created from the NRCS-CPA-026 source data.
Cropland Data Layer	Statewide dataset	Archive the final export of program year (typically January).	Statewide CLU layer is joined to a statewide raw crop data file.
Data used for STORM analysis	Statewide dataset	Archive annually	Weather data and derived products used to analyze local and regional impacts of weather events.

B Data Used With Custom ArcGIS Tools

Archive all data required to run the tools as well as all data outputs that represent the end of the FY data. See **paragraph 510**.

Note: Many of these tools required users to download data from either the GIS SharePoint, Common Reports SharePoint, or EDW. For detailed instructions, see **Exhibit 16**.

71 Data Backups and Archiving (Continued)

C Archiving FOIA or Privacy Act Requests

The office responsible for distributing a requested FOIA or Privacy Act Request shall archive the data to a media storage device.

See 3-INFO or 2-INFO for requirements.

D Maintaining and Storing Aerial Photographs

County Offices shall retain the aerial photographs from which the CLU was digitized indefinitely. File the photographs in the County Office in a way that will protect them from rolling, breaking, emulsion, damage to edges, dust, moisture, and excessive heat.

If the county has a digital scan of these aerial photographs, that county still must retain the hard copy of the photographs.

Note: Do **not** dispose of these aerial photographs.

E Disposing of Obsolete Photographs

All aerial photographs **other than** the set of enlargements from which the CLU was digitized are considered obsolete and can be disposed of according to the following.

Dispose of obsolete contact prints and photography in 1 of the following ways:

- offer the prints or photographs to other Federal agencies or State, county, or local Governments

  Note: Federal agencies or State, county, or local governments shall be advised that they are responsible for keeping secure all personal identifiers contained on the maps.

- donate the prints or photographs to schools or nonprofit organizations after first removing (or making unreadable) all personal identifiers contained on the maps

- destroy the prints or photographs.

--**For more information, see 32-AS (Records Management) and 32-AS Supplement (FSA File Maintenance and Disposition Manual) available on the FSA Handbooks page (**https://intranet.fsa.usda.gov/dam/handbooks/handbooks.asp**) through the FSA Intranet.**--

72-99 (Reserved)

102 Delineation and Attributes of CLU (Continued)

D Attributes of the CLU Feature Dataset

The following table describes the contents of the CLU feature dataset layer.

Name	Short Description
OBJECTID	Identifier assigned by ArcSDE to keep track of entries in the feature layer.
Shape	Digitized polygon representing the field.
clu_identifier	Identifier assigned to each digitized field. This number is automatically generated and is a combination of the latitude and longitude coordinates of the CLU center point
clu_number	The CLU number assigned by FSA to the field represented by the digitized polygon.
tract_number	The tract number assigned by FSA to the field represented by the digitized polygon.
farm_number	The farm number assigned by FSA to the field represented by the digitized polygon.
clu_classification_code	A code representing the type of land contained in the field (e.g. cropland, rangeland). There are ten CLU land classification codes.
clu_calculculated_acreage	System calculated acreage of the field determined by the area of the digitized polygon.
highly_erodible_land_type_code	The type of HEL determination code label as defined by NRCS. There are 4 types: HEL; NHEL; EHEL; UHEL. **Note:** See 6-CP.
comments	A field for comments about the field represented by the digitized polygon.
state_code	The FSA FIPS State numeric code associated with the ***--**State where the field is physically located. FSA FIPS represents the FSA physical location of land based on FSA program and administrative determinations.**--***

102 Delineation and Attributes of CLU (Continued)

D Attributes of the CLU Feature Dataset (Continued)

Name	Short Description
county_code	The FSA FIPS numeric code associated with the county ***--**where the field is physically located. FSA FIPS represents the FSA physical location of land based on FSA program and administrative determinations.**--***
data_source_site_identifier	A historical data field no longer populated. This data field was the identifier indicating the Service Center where the entry was created.
creation_date	The date the CLU was created, or the date the CLU was imported into ArcSDE.
last_change_date	The date when the entry was last updated.
data_source	The AD name or unique identifier of the person or system that last edited the record
admin_state	The FSA FIPS code associated with the State that administers the field.
admin_county	The FSA FIPS code associated with the county that administers the field.
cropland_indicator_3CM	A boolean (1=Yes or 0=No) field identifying whether the type of land represented in the digitized polygon meets the definition of FSA Cropland. See 10-CM.
sap_crp	A boolean field (1=Yes or 0= No) identifying whether the type of land is a CRP contract.
clu_status	A historical data field no longer populated.
cdist_fips	Congressional district code.
edit_reason	Identifies the conditions for the edit associated with the edit_reason_description field in the edit_reason_lookup table.
SHAPE_STArea__	Software calculated measurement of area.
SHAPE_STLength__	Software calculated measurement of polygon border length.
last_chg_user_nm	The eAuth ID of the user editing the record.
clu_alt_id	A Global Unique Identifier linking SAP-CRM Field data to ***--**distinct GIS CLU polygons. A distinct CLU polygon is a unique boundary representation for a CLU. Any changes to the boundary of the CLU requires a new clu_alt_id value.
State_ansi_code	The FIPS state numeric code associated with the state where the field is physically located. ANSI physical location is established from U.S. Census state and county records.
County_ansi_code	The FSA FIPS numeric code associated with the county where the field is physically located. ANSI physical location is established from U.S. Census state and county records.**--***
Shape_Length	Software created measurement of polygon border length.
Shape_Area	Software created measurement of area.

123 QC of the CRP Feature Dataset

A Overview

QC begins with the maintenance of CRP CLU data in the Service Center ensuring that CLU data is updated and maintained according to digitizing rules established in this handbook and the procedure for establishing farms, tracts, and fields according to 10-CM. It continues with the State Geospatial Data Manager conducting regular reviews of CRP feature dataset for the State to ensure continued QC.

B Quality Control Tasks and Tools

Specialized tools and instructions have been developed to assist State Geospatial Data Manager in reviewing the CRP feature dataset. See **Exhibit 5** for a list of QC tasks to be completed on a regular basis and Part 6 for a description of the tools available.

The Compare MIDAS to CCMS tool is available to compare the spatial CLU CRP data with the CRP information entered in both CRM Farm Records and Conservation Contract Maintenance System (CCMS). For detailed instructions for using this tool, see **Exhibit 25**.

C Attribute Queries for QC

Attribute queries and sorting will be used to ensure that the CRP CLU's have been attributed correctly. Review the attribute table for the following, see also **Exhibit 26**:

- find invalid or expired contracts
- find invalid expiration dates
- find invalid contract and practice numbers
- find missing or incorrect SAP CRP flags.

124 Relationships to Other Data

A CLU

The CLU contains a single attribute named “SAP_CRP” that is updated based on data entered in the CRM Farm Records CRP Data assignment block. See **paragraph 102** for details about this data field.

Exported data from CRM Farm Records is joined to CLU using the Admin_State, Admin_County, farm_number, tract_number, and clu_number attributes to create the CRP feature dataset.

B CRM Farm Records

The CRP feature dataset is created from attributes entered in the CRP Data assignment block in CRM Farm Records. Tract and farm level CRP totals in CRM Farm Records are calculated based on data entered at the field level.

Section 6 National Agricultural Imagery Program

159 General Information

A Definition of National Agricultural Imagery Program (NAIP)

NAIP is an aerial photography program that acquires ortho-rectified imagery during the "leaf on" peak growing season. Imagery is provided to APFO within 1 month of the end of the flying season for a given State. Service Centers shall use this imagery as a base layer for GIS and to maintain CLU boundaries and complete compliance spot checks.

B Additional Information

See 1-AP for additional information on NAIP.

160 Data Management and Responsibilities

A Agency Responsibilities

APFO is the USDA Data Steward for ortho-imagery.

B Requests for Large Areas

Requests for ortho-imagery for the entire county or large areas shall be directed to APFO.

C Requests for Small Areas

Requests from an individual producer for imagery covering their land can be filled at the Service Center.

D Charges

Producers shall not be charged for digital or paper copies of farms in which they have an interest. Refer other requestors to APFO.

161-171 (Reserved)

Section 7 Conservation Priority Areas

172 General Information

A Definition of Conservation Priority Areas (CPA)

CPA is a region designated by DAFP that has actual significant adverse water quality, wildlife habitat, air quality, or other natural resource impacts related to agricultural production activities or if the designation helps agricultural producers to comply with Federal and State environmental laws. CPA designations expire after 5 years unless redesignated or can be withdrawn before 5 years at the request of the appropriate State water quality agency or as determined appropriate by DAFP.

Cropland that falls within CPA's is considered eligible for enrollment in CRP based on identified environmental concerns.

Within a State or national CPA, additional zones may be designated. STC's shall consult with State Conservationists and State Technical Committees to develop zones.

B Data Sources for CPA's

--CPA's may be defined by whole county boundaries, hydrologic unit code (HUC) boundaries, or a combination thereof.--

173 Data Management and Responsibilities

A Agency Responsibilities

DAFP is responsible for designating national CPA's.

Subject to DAFP review, FSA STC's, in consultation with NRCS and the State Technical Committee, may designate State CPA's.

173 Data Management and Responsibilities (Continued)

B National Office Responsibilities

The National Office is responsible for:

- coordinating with DAFP to delineate National CPA's based on county boundary and/or hydrologic unit feature datasets
- ensuring that overlaps do not exist between National CPA's
- ensuring that overlaps do not exist between State CPA's
- ensuring that State CPA's and zones are attributed with correct names, types, and codes
- ensuring that State Zones fall completely within State or National CPA's
- ensuring that National CPA's are available for State and County Office use
- ensuring that National and State CPA's are available to partner agencies and technical cooperators
- processing State CPA's and creating corresponding data files for TERRA.

C State GIS Specialist Responsibilities

The State GIS Specialist is responsible for:

- coordinating with State Conservation Specialist, State Conservationist, and State Technical Committee to delineate State CPA's
- ensuring that State CPA's meet program requirements as defined by DAFP
- ensuring that current hydrologic unit feature datasets are available for State and county use
- State CPA's are attributed correctly
- overlaps do not exist between CPA's where multiple State CPA's may exist
- State Zones fall completely within State or national CPA's
- ensuring that State CPA's are available for County Office use in TERRA
- reviewing data annually to ensure that current CPA's are being used for CRP signup activity.

Part 6 Mobile Devices

Section 1 Management Practices and Standards

276 Overview

A Mobile Devices Overview

Mobile Devices such as handheld GPS units and digital cameras are used for FSA business activities, including:

- Measurement Services
- Spot Checks
- Disaster Assessment
- Identifying FSA Service Center Locations.

B GPS Overview

GPS is a satellite-based navigation system developed by the Department of Defense. GPS consists of 3 different segments – a space segment, a control segment, and a user segment.

The space segment consists of a network of 24 satellites that each transmit signals with the current satellite position and time.

The control segment of GPS is made up of worldwide monitor and control stations that maintain the satellites in proper orbits and maintain health and status of the GPS constellation.

The user segment consists of antennas and receivers that provide positioning information to a user.

Additional general information on GPS can be found at **http://www.gps.gov/systems/gps/**. GPS devices are used to determine the location, shape and size of features on the ground. Depending on the device, field data can be collected as points, lines, or polygons.

*--C Personal Mobile Phones for Business Use

Employees' private mobile phones can be legally subject to confiscation, searches, and similar actions if used in the course of official government business. Moreover, the Department strongly discourages the use of personal electronic devices.**--***

277 Responsibilities

A National Office Responsibilities

The National Office is responsible for:

- ensuring that mobiles devices and related software are available to each Service Center
- evaluating new technology to assess its suitability for FSA
- coordinating training on mobile devices and related software
- ensuring that mobile device software is certified and available on workstations.

B State Office Responsibilities

The State GIS Specialist is responsible for:

- maintaining inventory of mobile devices for their respective State or States
- providing training to certify mobile device users and monitoring proficiency on using GPS units
- ensuring that digital cameras meet the minimum requirements
- managing the creation and archival of GPS data and georeferenced photos
- coordinating with State Office Program Specialists on mobile device integration in program areas
- collaborating with National and State GIS Specialists to ensure consistency.

C County Office Responsibilities

The County Office is responsible for:

- following the standards and accuracy requirements for the collection and navigation of data
- maintaining proficiency in using mobile devices
- coordinating with the State GIS Specialist on creation and archival of GPS data and georeferenced photos.

516 Quality Control Toolset

A Find Overlaps Tool

For State GIS Specialist use only. The Find Overlaps tool identifies overlapping geometry within the CLU and creates outputs identifying errors. Errors identified with this tool will be corrected using the GIS info assignment block in CRM Farm Records.

The Find Overlaps tool can be run on a county or statewide CLU file geodatabase.

Note: Running the Find Overlaps tool on individual county CLU feature datasets will not identify overlapping data between administrative counties.

Data created by this tool can be mapped at the State level to identify areas requiring additional attention.

For further information on the use of this tool, see **Exhibit 125**.

B Wetland Point Review

For State GIS Specialist use only. The "Wetland Point Review" tool reviews wetland points for incorrect administrative State and county codes. Results are stored in a text file. This tool is intended to be run by State GIS Specialists and is not for distribution to County Offices.

Corrections to erroneous administrative State and county codes are made using the CLU Maintenance Tool in Citrix.

For further information on the use of this tool, see **Exhibit 126**.

*--C Find Gaps in CLU Layer

For State GIS Specialist use only. The "Find Gaps in CLU Layer" tool compares a State or county CLU feature class to the minimum boundary rectangle of the data to identify potential gaps or missing polygons. The minimum boundary rectangle is a system-generated feature that represents the maximum extents of the CLU feature class. Results are stored in a feature class in the same geodatabase as the source CLU. This tool is intended to be run by State GIS Specialists and is not for distribution to County Offices.

For further information on the use of this tool refer to **Exhibit 126.1**.--*

517 Reconstitution Tools

A Find Non-Contiguous Tracts Tool

For State GIS Specialist use only. The "Find Non-Contiguous Tracts Tool" examines the spatial relationship between all parts of a tract to determine contiguity. Tracts that are not contiguous should be divided. See 10-CM.

For further information on the use of this tool, see **Exhibit 127**.

B Find Required Farm Combinations

For State GIS Specialist use only. The "Find Required Farm Combinations" tool uses farm partner, tract partner, CCMS and ARCPLC election data to examine farm and tract owner relationships to identify farms required to be combined based on requirements in 10-CM.

For further information on the use of this tool, see **Exhibit 128**.

*--C Identify Tracts Split by County Boundary Tool

For State GIS Specialist use only. The "Identify Tracts Split by County Boundary Tool" compares CLU boundaries to county boundaries to identify tracts that contain land physically located in multiple counties and is both greater than 10 acres in all physical locations and greater than 5 percent of the overall tract acreage. See 10-CM.

For further information on the use of this tool, see **Exhibit 128.1**.--*

518 Miscellaneous Tools

A Create Native Sod Layer

For State GIS Specialist use only. Native sod data is required to be tracked in the following States:

- Iowa
- Minnesota
- Nebraska
- Montana
- North Dakota
- South Dakota.

The "Create Native Sod Layer" tool joins native sod attributes collected in CRM Farm Records with CLU data to create a feature class that can be included on producer maps to identify fields subject to native sod provisions. See 1-NAP.

The State GIS Specialist can create the State Native Sod file geodatabase using the Create Native Sod tool to create a geographic representation of fields flagged as native sod.

518 Miscellaneous Tools (Continued)

A Create Native Sod Layer (Continued)

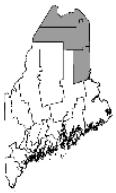
Data used and created by this tool is considered PII and is not for distribution.

For further information on the use of this tool, see **Exhibit 129**.

B Create County Summary Pages

For State GIS Specialist use only. The "Create County Summary Pages" uses CLU, CCMS, CARS and CRM Farm Records data to create information sheets that summarize FSA program participation for a county. A State summary option is available. The summary pages are output as HTML files which can be converted to PDF format.

The following is an example of a county summary page.



Common Land Unit Statistics

Farms in County	1,795
Tracts in County	2,744
Farm Operators and Other Tenants	1,144
Tract Owners	1,546
All Customers	1,803
Cropland Acres	144,846
Other Digitized Acres	225,385
Polygons in CLU	25,357

Common Land Unit data last updated August 03, 2016

Conservation Data

Number of Farms with CRP	55
Number of CRP Contracts	73
CRP Contract Acres	1,448

Expiration Year	Expiring Contracts	Expiring Acres
2016	2	2
2017	7	148
2018	5	6
2019	1	3
2020	7	232

Conservation data current as of August 05, 2016

Compliance Data

Highly Erodible Acres	20,624
Non-Highly Erodible Acres	92,583
Wetlands in County	4,951
Inventoried	1,104
Certified	3,586
Unknown	261

Top 10 Commodities Reported to FSA

Crop	Farms	Acres
Potatoes	365	29,112
Grass	475	19,303
Rye	192	12,855
Barley	164	12,356
Oats	200	12,119
Broccoli	58	5,872
Clover	83	4,844
Turn Areas	240	2,726
Mixed Forage	6	2,595
Soybeans	19	1,250

CRP acres are not included in reported commodities
Crops reported for the 2016 Crop Year as of August 01, 2016

Base Acres

Farms with Base Acres	735
Farms with Bases Reduced to 0	23
Fully Based Farms	2
Total Base Acres	33,700
Total CRP Reduction Acres	0

Crop	Farms	Acres	Average Yield
Barley	504	19,220	53
Oats	466	12,225	65
Soybeans	68	891	24
Wheat	42	840	45
Canola	40	418	1,105
Corn	9	82	89
Mustard	4	21	608
Sunflowers	4	4	950

Base data current as of August 01, 2016

ARC/PLC Participation Summary

Farms with ARC/PLC Elections	738
ARC-CO Farms	143
ARC-IC Farms	0
PLC Farms	372
Farms with ARC-CO and PLC	223

The County Summary tool is intended as an annual report and should not be created before the final acreage reporting date for the crop year.

For further information on the use of this tool, see **Exhibit 130**.

519 Python Map Series Tool

A Overview

A critical component of GIS is the ability to provide usable information to customers on demand. Traditionally, FSA has provided maps to producers for use in reporting crop acreage for program eligibility purposes. Maps provided to producers must provide easy to understand information with PII redacted at the farm or tract level as appropriate.

By using ArcGIS 10's Data Driven Pages functionality, large volumes of maps may be rapidly created for all farms or tracts in a county. The Python Map Series Toolbox contains 3 tools to support map creation:

- Map Series –STO
- Map Series – STO – Combine PDFs by Operator
- Map Series – STO – Combine PDFs by Other Tenant.

Note: See **Exhibit 131** for specific instruction on use of these tools.

B Map Series – STO

The "Map Series – STO" tool creates producer maps needed for a variety of program operations. Each map is created as a PDF using either farm or tract numbers and contains only the information associated with the respective farm or tract. See **Exhibit 131** for specific instruction on use of this tool.

Note: GIS specialists are required to ensure that 1 set of new PDF's is generated before acreage reporting in each County Office.

C Map Series – STO – Combine PDFs by Operator

The "Combine PDFs by Operator" tool combines existing farm or tract maps created by Python Map Series into PDF's grouped by operator. Before running this tool, run the "Split Farm Text File by County" tool.

Note: See **Exhibit 132** for specific instruction on use of this tool.

GIS Specialist Task Checklist

A Introduction

State GIS Specialists have tasks to complete on a weekly, monthly, and yearly basis. These tasks will ensure data availability and the data integrity of the CLU and Farm Records information. This exhibit can be used as a printed or digital checklist to record completion dates of each task. Indicate by date completed when each task is complete.

B Required Weekly Tasks

The following tasks shall be completed by the State GIS Specialist weekly.

Step	Data Delivery Tasks	*--Refer to:--*	Week 1	Week 2	Week 3	Week 4
1	Export CLU	Ex. 99				
2	Convert CLU to Shapefile	Ex. 100				
3	Deliver CLU to County Servers	Ex. 101				
4	Archive CLU	Par. 71				
	Emergency Preparedness Tasks					
5	During drought events update U.S. Drought Monitor files to F:\geodata\Disaster_events\USDM	Par. 39				

GIS Specialist Task Checklist (Continued)

C Required Monthly Tasks

The following tasks shall be completed by the State GIS Specialist monthly.

Step	Data Preparation Tasks	Date of Data	*--Refer to:--*	Date Complete
1	Merge Statewide CLU		Ex. 17	
2	Download Farm Records Data to c:\geodata\project_data\fsa\frs • Farm Records Contact All View Download Report.csv • Farm Records by Crop Level Farm (EDW0005CFR).csv • Farm Records by Crop Level Tract (EDW0005DFR).csv • Farm_SOD_State_<ST>_<YYYYMMDD> •*--Farm Records Field Level Report (EDW0005EFR).csv • Farm Records by Tract Level (EDW0005BFR).csv • Farm Records by Farm Level (EDW0005AFR).csv--*		Ex. 16	
3	Download Conservation Data to c:\geodata\conservation • Farm Records Conservation Contract Report (EDW008FR).csv • * * * •*--CCMS All Contract EDW0001CCMS 1.1.csv--*		Ex. 16 Ex. 25	
4	Download and Unzip Crop Data from GIS SharePoint site or EDW • CropData<YYYY>_<YYYYMMDD>_<ST> • BollWeevil_Cotton_<YYYYMMDD>_<ST>		Ex. 16 Ex. 30	

GIS Specialist Task Checklist (Continued)

C Required Monthly Tasks (Continued)

Step	Data Preparation Tasks	Date of Data	*--Refer to:--*	Date Complete
5	Process Files with State Office CLU Tools • Split Farm Records Contact Files • Split Tract Base Acres by County • Summarize Base Acres by County • Summarize ARCPLC Election County		Ex. 118 Ex. 122 Ex. 123 Ex. 124	
6	Create CRP Layer		Ex. 24	
7	Create Native SOD geodatabase and update Map		Ex. 129	
Step	**Farm Records and CLU Attributes QC Tasks**	**Date of Data**	**Refer to:**	**Date Complete**
8	Out of Balance Tracts Report		10-CM	
9	Failed Replication Report		10-CM	
10	Find Required Farm Combinations		Ex. 128	
11	Non-Contiguous Tracts		Ex. 127	
12	Find Overlaps and update Map		Ex. 125	
13	Find Gaps		*--Exhibit 126.1--*	
14	Run CLU Attribute Queries • 3CM and Cropland Land Classification • Zero or Null Attributes • Missing HEL Determinations • Check for Orphans or zero acreage polygons • Check Geometry		Ex. 18	
15	Wetland Point Review		Ex. 126	
16	Wetland Attribute Queries • Find Null Wetland Label Code • Find Null Wetland Status Code • Find Missing Admin FIPS Codes		Ex. 22	
17	Tract Level Wetland Determination Data Review		Ex. 23	
18	Coordinate with State Specialists to provide CRM Data Reconciliation Maps and Reports		Par. 101, 112	

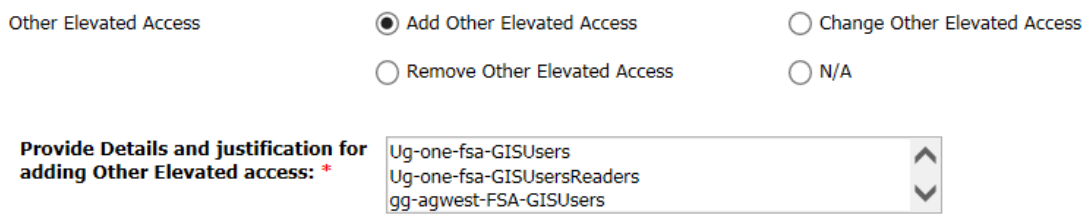
GIS Specialist Task Checklist (Continued)

C Required Monthly Tasks (Continued)

Step	Conservation QC Tasks	Date of Data	*--Refer to:--*	Date Complete
19	CRP Attribute Queries • Find Expired Contracts • Find Invalid Expiration Dates • Find Invalid Contract or Practice Numbers • Find Missing or Incorrect SAP CRP Flags		Ex. 26	
20	Compare MIDAS CRP to CCMS		Ex. 25	
21	Coordinate with Conservation Specialist to Review and Provide Data to County Offices		Par. 121	
Step	**Crop Data QC Tasks**	**Date of Data**	**Reference**	**Date Complete**
22	Create County Crop Detail layers Run Iterate Crop Data Script		Ex. 27 Ex. 28	
23	Merge State Crop layer (as needed)		Ex. 29	
24	Coordinate with Compliance Specialist to Review and Provide Data to County Offices		Par. 135	
Step	**Geodata Management Tasks**	**Date of Data**	**Reference**	**Date Complete**
25	Archive Data		Par. 71	
26	Review shared State geodata folder (K:\) in Citrix • Delete obsolete data • Ensure required datasets are available • Refresh existing data as needed • Remove duplicate datasets		Par. 30	
27	Review O drive space report and coordinate with employees to resolve storage issues		Par. 39	
Step	**Emergency Preparedness Geodata Tasks**	**Date of Data**	**Reference**	**Date Complete**
28	Create backups of critical datasets for disaster readiness • C:\geodata replicated to local drive and external drive • Critical datasets updated monthly include: statewide CLU, CRP, and crop data layer		Par. 927	

GIS Specialist: New Employee Remedy FSA-13-A/SAAR Ticket Process (Continued)

A Instructions for Setting Permissions for the GIS Specialist (Continued)

Step	Instructions
6	The following roles are needed for all County Offices within the State jurisdictions for which the State GIS Specialist is to manage: • ASAG<**stcity**> • ASAG<**stcity**>CLU • ASAG<**stcity**>LGE • ASAG<**stcity**>de
7	The end result of the SAAR ticket software will look something like following: 
8	Complete other non-GIS permissions if applicable. **Examples:** New e-mail address, phone number, 30-day exemption, etc.
9	CLICK “Submit”. This action by SLR submits FSA-13-A to the AMT group.

GIS Specialist: New Employee Remedy FSA-13-A/SAAR Ticket Process (Continued)

B AMT Process

After submitting the SAAR Request, the AMT group will provide the access (with conditions) to the following areas.

Web	Notes
State OIP app.fsa.frs.ac app.fsa.storm.user	Web application access items.
eAuth	**Notes**
FSA_FSA_MIDAS-GIS_EDITOR FSA_BTO_USER (Training Required)	The MIDAS GIS Editor role is automatically applied to all users who need access to MIDAS. Assuming all of the CRM training courses have been addressed, no special action is required here.
CRM	**Notes**
Grantor Process Specialist- All ZCXCU_COMMON_USER_ROLE (CRM Role)	Access will not be granted until registration and training are complete.
SCIMS	**Notes**
Read Only	Access will not be granted until AD-2017 and training are complete. AMT requires SCIMS training documentation (the signed AD-2017).

Note: AMT will e-mail the SLR explaining the new employee needs additional training in AgLearn, if training is needed. Additional training depends on what MIDAS training the employee has already completed. Once that training is completed the SLR will respond to AMT noting all training has been completed for these roles. The new employee will then be granted those MIDAS roles. Automatically, the eAuth MIDAS-GIS EDITOR role will also be applied to the new employee.

To view the most up-to-date version of the Access Reference Table, go to ***--https://usdagcc.sharepoint.com/sites/FBC-IAB/SitePages/Home.aspx.--***

GIS Specialist: New Employee Remedy FSA-13-A/SAAR Ticket Process (Continued)

C Required AgLearn MIDAS Courses

For the new employee to receive the MIDAS role of "**Grantor Process Specialist – All**" AgLearn training is required. The following AgLearn courses must be completed:

- R2FN100 Introduction to MIDAS Portal
- FN200 Basic Navigation of MIDAS CRM
- FN220 Managing the MIDAS Universal Worklist
- FN240 Basic Navigation of GIS in MIDAS
- R2BP320 Create Business Partner in CRM
- R2BP400 Maintain Business Partner in CRM
- R2B003 Maintain Representative Capacity
- CT300 Product Master
- CT310 Product
- Master- Product Request (Compliance Specialists only)
- BP302 Business Partner
- FR400 Farm Records
- R2BP500 Business Partner for State Specialist.

D Systems Not Provisioned by AMT: DRT Access

If the new employee needs DRT access (this is not provisioned by FSA-13-A or AMT), contact *--Billie Jo Smith by e-mail to billiejo.smith@usda.gov. DRT training and guidance for requesting access will then be provided.--*

Accessing Farm Records and Other Data

A Background

--**Farm Records and Conservation data for use with custom geospatial tools is available for download through EDW at **https://fsadw.nitckc.usda.gov/**.**--

B Requirements

--**Users must have access privileges to EDW. Refer to 12-CM.**--

C PDD Common Reports SharePoint Instructions

The PDD Common Reports SharePoint site provides access to data exported on a monthly basis from CCMS. To access the password protected Aggregate Data by State report.

Step	Instructions
1	Go to the Announcements section on the Common Report Data Site to retrieve password.
2	Aggregate Data can be found in the FR_and_Associate_BP_and_ARCPLC_Data folder. State-specific folders can be found within.
3	Unzip the State folder using the applicable password.
4	Save the data to a desired location.

Accessing Farm Records and Other Data (Continued)

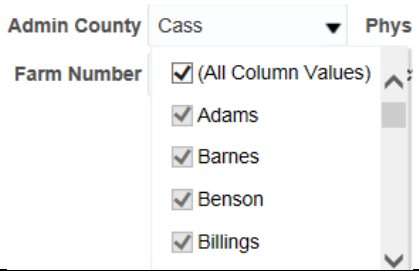
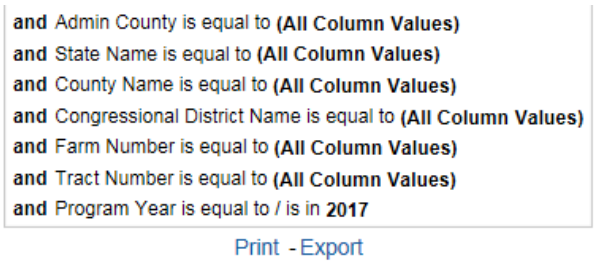
D EDW Access Instructions

***--**Refer to 12-CM for EDW access instructions.

* * *

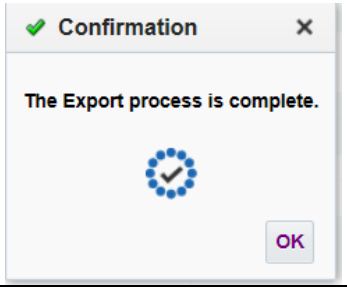
E Export CRP Conservation Contract File From EDW

The CRP Conservation Contract File is joined to the CLU layer to create a CRP layer for comparison with CCMS data and to create maps of conservation practices.

Step	Instructions
1	From the OBIEE Reports/Dashboards page, CLICK "Farm Records" and "Farm Records Conservation Detail".
2	Change the "Admin State" drop-down menu to the appropriate State.
3	Change the "Admin County" drop-down menu to "All Column Values". 
4	CLICK "**Apply**".
5	Scroll to the bottom of the report and CLICK "Export". 
6	CLICK "Data" and "CSV Format".

Accessing Farm Records and Other Data (Continued)

E Export CRP Conservation Contract File From EDW (Continued)

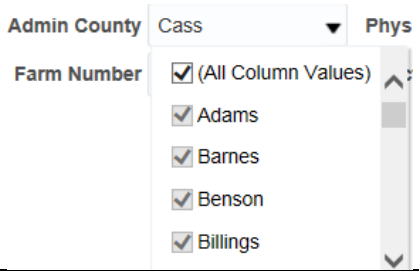
Step	Instructions
7	CLICK "OK" in the Confirmation window after the export is complete. 
8	At the bottom of the Internet Explorer window, click the arrow next to "Save". 
9	CLICK "**Save As**".
10	Navigate to C:\Geodata\Conservation.
11	CLICK "**Save**".

Accessing Farm Records and Other Data (Continued)

F Export Farm Records Contact File From EDW

The Farm Records Contact file is used to identify farm operators, tract owners or other producers. The files are used by multiple statewide CLU tools.

Note: EDW restricts files to 500,000 records. Larger States may need to export several files to capture all records. If multiple files are exported, they can be combined using the "Combine Similar CSV Files" tool.

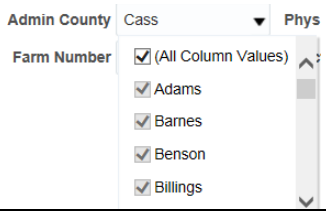
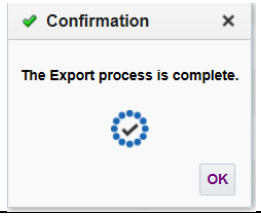
Step	Instructions
1	From the OBIEE Reports/Dashboards page, CLICK "Farm Records" and "Farm Records Contacts".
2	Change the "Contact Role" drop-down menu to the appropriate role. **Note:** To use the Split Farm Records Contact Files by County and Required Farm Combination Tools, "All View" must be selected.
3	Change the "Admin State" drop-down menu to the appropriate State.
4	Change the "Admin County" drop-down menu to "All Column Values". 
5	CLICK "**Apply**".
6	CLICK "Download CCID" in the upper-left corner of the report.
7	Scroll to the bottom of the report and CLICK "Export".
8	CLICK "**OK**" in the Confirmation window after the export is complete.
9	At the bottom of the Internet Explorer window, click the arrow next to "Save".
10	CLICK "**Save As**".
11	Navigate to c:\geodata\project_data\fsa\frs.
12	CLICK "**Save**".

Accessing Farm Records and Other Data (Continued)

G Export Farm Tract – Crop Level Farm Data File From EDW

The Farm Tract - Crop Level Farm Data file is used to identify crop base acres and ARCPLC program elections at a farm level for use in the Required Farm Combination tool.

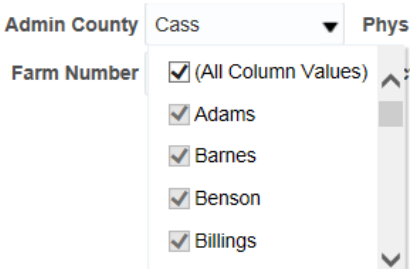
Note: EDW restricts files to 500,000 records. Larger States may need to export several files to capture all records. If multiple files are exported, they can be combined using the "Combine Similar CSV Files" tool.

Step	Instructions
1	From the OBIEE Reports/Dashboards page, CLICK "Farm Records" and "Farm Record Detail".
2	Change the "Farm Records Farm Tract Crop" drop-down menu to "Crop Level Farm".
3	Change the "Admin State" drop-down menu to the appropriate State.
4	Change the "Admin County" drop-down menu to "All Column Values". 
5	CLICK "**Apply**".
6	Scroll to the bottom of the report and CLICK "Export".
7	CLICK "OK" in the Confirmation window after the export is complete. 
8	At the bottom of the Internet Explorer window, click the arrow next to "Save".
9	CLICK "**Save As**".
10	Navigate to c:\geodata\project_data\fsa\frs.
11	CLICK "**Save**".

Accessing Farm Records and Other Data (Continued)

H Export Farm Tract – Crop Level Tract Data File From EDW

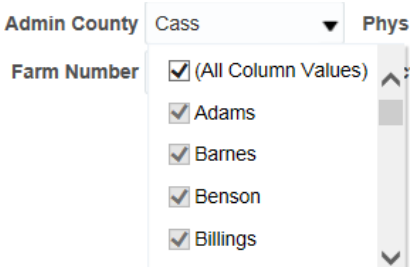
The Farm Tract - Crop Level Tract Data file is used to identify crop base acres and ARCPLC program elections at a tract level for use in the Summarize Base Acres and Summarize ARCPLC Elections tools.

Step	Instructions
1	From the OBIEE Reports/Dashboards page, CLICK "Farm Records" and "Farm Records Detail".
2	Change the "Farm Records Farm Tract Crop" drop-down menu to "Crop Level Tract".
3	Change the "Admin State" drop-down menu to the appropriate State.
4	Change the "Admin County" drop-down menu to "All Column Values".  **Note:** After exporting, verify all counties have been exported. If the report exceeds the maximum record limit, the report will be truncated. In this situation, download counties in batches.
5	CLICK "**Apply**".
6	Scroll to the bottom of the report and CLICK "Export".
7	CLICK "Data" and "CSV Format".
8	CLICK "**OK**" in the Confirmation window after the export is complete.
9	At the bottom of the Internet Explorer window, click the arrow next to "Save".
10	CLICK "**Save As**".
11	Navigate to c:\geodata\project_data\fsa\frs.
12	CLICK "**Save**".

I Export County Crop Acreage Data From EDW

The Acreage – County Crop Acreage Data file is used to identify crops and other commodities reported to FSA through the annual acreage reporting process. Data from this tool is used to create crop data polygons using the "Build Crop Data Polygons – EDW" tool.

Note: EDW restricts files to 500,000 records. Larger States may need to export several files to capture all records. If multiple files are exported, they can be combined using the "Combine Similar CSV Files" tool.

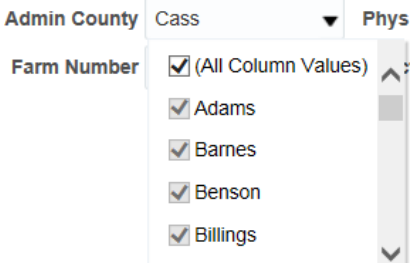
Step	Instructions
1	From the OBIEE Reports/Dashboards page, CLICK "Acreage" and "County Crop Acreage".
2	Change the "Admin State" drop-down menu to the appropriate State.
3	Change the "Admin County" drop-down menu to "All Column Values".  **Note:** After exporting, verify all counties have been exported. If the report exceeds the maximum record limit, the report will be truncated. In this situation, download counties in batches.
4	CLICK "**Apply**".
5	Scroll to the bottom of the report and CLICK "Export".
6	CLICK "**OK**" in the Confirmation window after the export is complete.
7	At the bottom of the Internet Explorer window, click the arrow next to "Save".
8	CLICK "**Save As**".
9	Navigate to c:\geodata\project_data\fsa\frs.
10	CLICK "**Save**".

Accessing Farm Records and Other Data (Continued)

*--J Export Field Level Data from EDW

The Farm Records Detail – Field Level Data file is used to identify fields that are subject to native sod provisions. Data from this tool is used to create native sod polygons using the "Create Native Sod Layer" tool.

Note: EDW restricts files to 500,000 records. Larger States may need to export several files to capture all records. If multiple files are exported, they can be combined using the "Combine Similar CSV Files" tool.

Step	Instructions
1	From the OBIEE Reports/Dashboards page, click on Farm Records > Farm Records Detail.
2	Change the Farm Records Farm Tract Crop dropdown to "Field Level".
3	Set the Admin State dropdown to the appropriate State.
4	Set the Admin County dropdown to "All Column Values".  **Note:** After exporting, verify that all counties have been exported. If the report exceeds the maximum record limit, the report will be truncated. In this situation, download counties in batches.
5	Click **[Apply]**.
6	Scroll to the bottom of the report and click "Export".
7	Click Data > CSV Format.
8	Click **[OK]** in the confirmation window after the export is complete.
9	At the bottom of the Internet Explorer window, click on the arrow next to Save.
10	Click on [**Save As**].
11	Navigate to c:\geodata\project_data\fsa\frs.
12	Click **[Save]**.

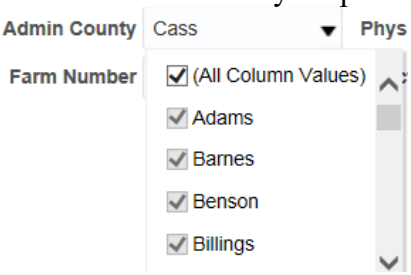
--*

Accessing Farm Records and other Data (Continued)

*--K Export Conservation Contract Data from EDW

The CCMS Detail file is used to identify fields that are subject to native sod provisions. Data from this tool is used to compare conservation contract data to CRP data loaded in CRM Farm Records using the "Compare MIDAS CRP to CCMS" tool.

Note: EDW restricts files to 500,000 records. Larger States may need to export several files to capture all records. If multiple files are exported, they can be combined using the "Combine Similar CSV Files" tool.

Step	Instructions
1	From the OBIEE Reports/Dashboards page, click on Dashboards > Conservation (State) > CCMS.
2	Set the Admin State dropdown to the appropriate State.
3	Set the Admin County dropdown to "All Column Values".  **Note:** After exporting, verify that all counties have been exported. If the report exceeds the maximum record limit, the report will be truncated. In this situation, download counties in batches.
4	Click **[Apply]**.
5	Scroll to the bottom of the report and click "Export".
6	Click Data > CSV Format.
7	Click **[OK]** in the confirmation window after the export is complete.
8	At the bottom of the Internet Explorer window, click on the arrow next to Save.
9	Click on [**Save As**].
10	Navigate to c:\geodata\conservation.
11	Click **[Save]**.

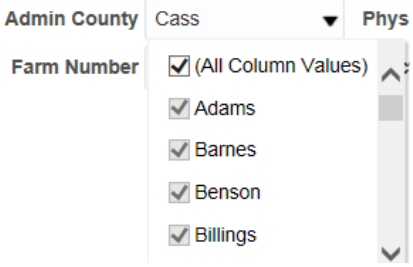
--*

Accessing Farm Records and other Data (Continued)

***--L Export Tract Level Farm Records Data from EDW**

The Farm Records by Tract Level report is used to review the tract wetland determination flag. Data from this tool is used to compare tract level data with wetland point data following instructions in Exhibit 23.

Note: EDW restricts files to 500,000 records. Larger States may need to export several files to capture all records. If multiple files are exported, they can be combined using the "Combine Similar CSV Files" tool.

Step	Instructions
1	From the OBIEE Reports/Dashboards page, click on Farm Records > Farm Records Detail.
2	Set the Farm Records Farm Tract Crop dropdown to "Tract Level".
3	Set the Admin State dropdown to the appropriate State.
4	Set the Admin County dropdown to "All Column Values".  **Note:** After exporting, verify that all counties have been exported. If the report exceeds the maximum record limit, the report will be truncated. In this situation, download counties in batches.
5	Click **[Apply]**.
6	Scroll to the bottom of the report and click "Export".
7	Click Data > CSV Format.
8	Click **[OK]** in the confirmation window after the export is complete.
9	At the bottom of the Internet Explorer window, click on the arrow next to Save.
10	Click on [**Save As]**.
11	Navigate to c:\geodata\project_data\fsa\frs.
12	Click **[Save]**.

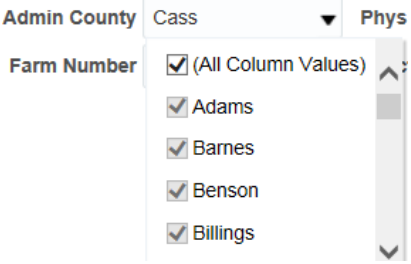
--*

Accessing Farm Records and other Data (Continued)

***--M Export Farm Records Farm Tract Crop Farm Level Data File From EDW**

The Farm Tract Crop Farm Level Data file is used to identify ARCPLC G/I/F eligibility at the farm level for use in the Required Farm Combination tool.

Note: EDW restricts files to 500,000 records. Larger States may need to export several files to capture all records. If multiple files are exported, they can be combined using the "Combine Similar CSV Files" tool.

Step	Instructions
1	From the OBIEE Reports/Dashboards page, click on Farm Records > Farm Records Detail.
2	Set the Farm Records Farm Tract Crop dropdown to "Farm Level".
3	Set the Admin State dropdown to the appropriate State.
4	Set the Admin County dropdown to "All Column Values".  **Note:** After exporting, verify that all counties have been exported. If the report exceeds the maximum record limit, the report will be truncated. In this situation, download counties in batches.
5	Click **[Apply]**.
6	Scroll to the bottom of the report and click "Export".
7	Click Data > CSV Format.
8	Click **[OK]** in the confirmation window after the export is complete.
9	At the bottom of the Internet Explorer window, click on the arrow next to Save.
10	Click on [**Save As**].
11	Navigate to c:\geodata\project_data\fsa\frs.
12	Click **[Save]**.

--*

Compare MIDAS CRP to CCMS

A Background

CRP Contract information stored in CCMS should be compared to CRP data loaded at the field level in CRM Farm Records on a regular basis. Run the Create CRP Layer tool to join the MIDAS CRP data with the statewide CLU layer before performing the steps in this document.

B Requirements

***--**The following step must be completed before comparing MIDAS CRP to the CCMS data:

- Statewide CRP Layer created per **Exhibit 24**.**--***

C Download CCMS Contract Information File

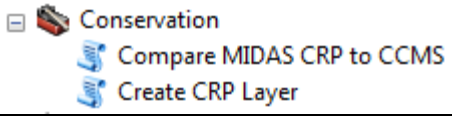
--**Download the CCMS Contract Information file from EDW per instructions in **Exhibit 16**.**--

*** * ***

Compare MIDAS CRP to CCMS (Continued)

D Compare MIDAS CRP to the CCMS Data

The following instructions compare MIDAS CRP to the CCMS data.

Step	Instructions
1	Download and extract the PythonMapSeries.zip file to C:\Geodata. The State Office CLU Tools (statewideCLU.pyt) file should be located in C:\Geodata\PythonMapSeries.
2	Start ArcMap.
3	Open the ArcToolbox window.
4	Right-click on "ArcToolbox" and CLICK "Add Toolbox".
5	Navigate to C:\Geodata\PythonMapSeries.
6	Add the toolbox named "StatewideCLU.pyt".
7	Expand the State Office CLU Tools toolbox.
8	Expand the Conservation toolset. 
9	Double-click the "Compare MIDAS CRP to CCMS" tool.
10	Click the "Browse" button  next to the Input CRP Layer.
11	Navigate to the statewide CRP feature class stored in c:\geodata\conservation\crp_a_<st>.gdb\crp.
12	CLICK "**Add**".
13	Click the "Browse" button  next to the Input CCMS Table.
14	Navigate to C:\Geodata\Conservation.
15	Select the file named All_Contracts_<YYYY>_<MM>_<DD>.csv.
16	CLICK "**Open**".

***--Creating State CPA, CREP, and SAFE Shapefile**

A CPA, CREP, and SAFE Based on County Boundaries

The following is the process for CPA, CREP, and SAFE based on county boundaries.**--***

Step	Process
1	Start ArcMap.
2	*--Add the FSA_Counties_dd17 feature dataset.--*
3	Click the "Select Features" tool  .
4	*--Click on a county to select to be included in the conservation eligibility area.--* Hold the "Shift" key while clicking to select additional counties.
5	Open ArcToolbox.
6	Expand the Data Management Tools toolbox.
7	Expand the Generalization toolset.
8	Double-click the "Dissolve" tool.
9	Set the "Input Features" drop-down menu to "county".
10	*--Set the Output Feature Class to c:\geodata\conservation\: • cpa_a_<st>_<prj>.shp. • crep_<code>_a_<st>_<prj>.shp • safe_<code>_a_<st>_<prj>.shp Select the appropriate naming convention based on the conversation type being created.--*
11	Uncheck "Create multipart features".
12	CLICK "OK" to run the "Dissolve" tool.
13	*--Attribute the shapefile using the steps outlined in subparagraph D.--*

***--Creating State CPA, CREP, and SAFE Shapefile (Continued)**

B CPA, CREP, and SAFE Based on HUC's

The following is the process for CPA, CREP, and SAFE based on HUC's.**--***

Step	Process
1	Start ArcMap.
2	Add the WBD feature class.
3	Click the "Select Features" tool  .
4	***--**Click on a hydrologic unit to select to be included in the conservation eligibility area. Hold the "Shift" key while clicking to select additional counties.**--*** **Note:** Users may use an attribute query to select HUC's.
5	Open ArcToolbox.
6	Expand the Data Management Tools toolbox.
7	Expand the Generalization toolset.
8	Double-click the "Dissolve" tool.
9	Set the "Input Features" drop-down menu to the WBD layer.
10	***--**Set the Output Feature Class to c:\geodata\conservation\: • cpa_a_<st>_<prj>.shp. • crep_<code>_a_<st>_<prj>.shp • safe_<code>_a_<st>_<prj>.shp Select the appropriate naming convention based on the conversation type being created.**--***
11	Uncheck "Create multipart features".
12	CLICK "OK" to run the "Dissolve" tool.
13	***--**Attribute the shapefile using the steps outlined in subparagraph D.**--***

***--Creating State CPA, CREP, and SAFE Shapefile (Continued)**

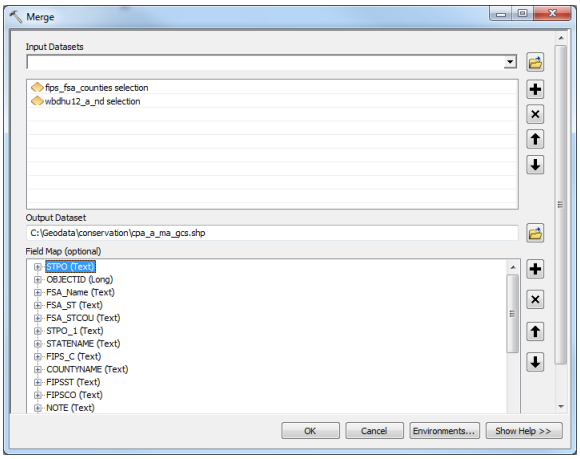
C CPA, CREP, and Safe Based on Other Geographic Aggregations

The following is the process for CPA, CREP, and SAFE based on other geographic aggregations.**--***

Step	Process
1	Start ArcMap.
2	Add the WBD feature class.
3	Click the "Select Features" tool  .
4	*--Click on a hydrologic unit to select to be included in the conservation eligibility area. Hold the "Shift" key while clicking to select additional counties.--* **Note:** Users may use an attribute query to select HUC's.
5	Right-click the WBD feature class in the Table of Contents.
6	CLICK "Selection" and "Create Layer from Selected Features".
7	Remove the checkmark from the wbd_selection layer.
8	*--Add the FSA_Counties_dd17 feature dataset to the map document.--*
9	Click the "Select Features" tool  .
10	*--Click on a county to select to be included in the conservation eligibility area.--* Hold the "Shift" key while clicking to select additional counties.
11	Right-click the County feature dataset in the Table of Contents.
12	CLICK "Selection" and "Create Layer from Selected Features".
13	Open ArcToolbox.
14	Expand the Data Management Tools toolbox.
15	Expand the General toolset.
16	Double-click on "Merge".
17	From the "Input Datasets" drop-down menu, select the wbd_selection layer.

***--Creating State CPA, CREP, and SAFE Shapefile (Continued)**

C CPA, CREP, and Safe Based on Other Geographic Aggregations (Continued)

Step	Process
18	From the "Input Datasets" drop-down menu, select the FSA_Counties_dd17 layer.
19	Set the Output Dataset to c:\geodata\conservation\: • cpa_a_<st>_<prj>.shp. • crep_<code>_a_<st>_<prj>.shp • safe_<code>_a_<st>_<prj>.shp Select the appropriate naming convention based on the conversation type being created.  **--***
20	CLICK "**OK**" to run the tool.
21	When the tool has finished running, open the Editor Toolbar.
22	CLICK "Editor" and "Start Editing".
23	***--**Select the shapefile from the list of layers.**--***
24	CLICK "**OK**".
25	CLICK "Editor" and "Merge".
26	***--**Right-click on **shapefile** in the Table of Contents.**--***
27	CLICK "Selection" and "Select All".
28	On the Editor Toolbar, CLICK "Editor" and "Merge".
29	Select the first feature and CLICK "**OK**".
30	CLICK "Editor" and "Save Edits".
31	CLICK "Editor" and "Stop Editing".
32	***--**Attribute the shapefile using the steps outlined in subparagraph D.**--***

***--Creating State CPA, CREP, and SAFE Shapefile (Continued)**

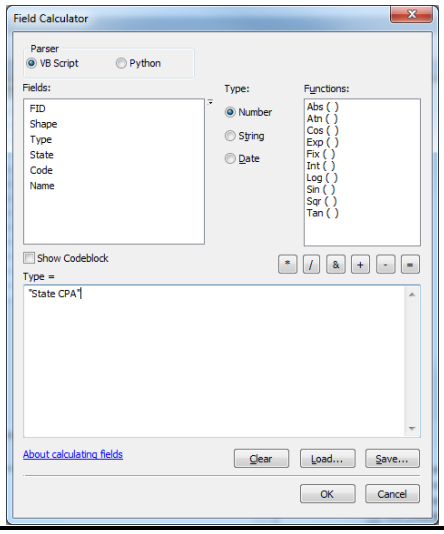
D Attributing State CPA, CREP, and SAFE

The following is the process for attributing State CPA, CREP, and SAFE.**--***

<table>
<tr><th>Step</th><th>Process</th></tr>
<tr><td>1</td><td>With ArcMap open and the CPA feature class added, open ArcToolbox.</td></tr>
<tr><td>2</td><td>Expand the Data Management Tools toolbox.</td></tr>
<tr><td>3</td><td>Expand the Fields toolset.</td></tr>
<tr><td>4</td><td>Double-click “Add Field”.</td></tr>
<tr><td>5</td><td>***--**Set the “Input Table” drop-down menu to the appropriate shapefile (for example, cpa_a_<st>_<pri>).**--***</td></tr>
<tr><td>6</td><td>Set the “Field Name” field to “**Type**”.</td></tr>
<tr><td>7</td><td>Set the “Field Type” drop-down menu to “**TEXT**”.</td></tr>
<tr><td>8</td><td>Set the “Field Length” field to “**25**”.</td></tr>
<tr><td>9</td><td>CLICK “**OK**”.</td></tr>
<tr><td>10</td><td>After the tool successfully executes, run the “Add Field” tool again for the following fields.
<table>
<tr><th>Field Name</th><th>Field Type</th><th>Field Length</th></tr>
<tr><td>State</td><td>TEXT</td><td>5</td></tr>
<tr><td>Code</td><td>TEXT</td><td>5</td></tr>
<tr><td>Name</td><td>TEXT</td><td>255</td></tr>
</table></td></tr>
<tr><td>11</td><td>Under “ArcToolbox”, “Data Management Tools”, and “Fields”, double-click “Delete Field”.</td></tr>
<tr><td>12</td><td>***--**Set the “Input Table” drop-down menu to the applicable conservation shapefile.**--***</td></tr>
<tr><td>13</td><td>CLICK “**Select All**”.</td></tr>
</table>

***--Creating State CPA, CREP, and SAFE Shapefile (Continued)**

D Attributing State CPA, CREP, and SAFE (Continued)--*

Step	Process
14	Remove the checkmarks from the following attributes: • Type • State • Code • Name.
15	CLICK "**OK**" to run the tool.
16	***--**After the tool has processed, right-click on the shapefile in the Table of Contents.**--***
17	CLICK "Open Attribute Table".
18	Right-click the "**Type**" column header.
19	CLICK "**Field Calculator**". CLICK "**Yes**" to continue if prompted.
20	***--**ENTER "**State CPA, SAFE, CREP**" in the code block based on the type of conservationfile being created. Ensure to include quotation marks.**--***
21	CLICK "**OK**". 

***--Creating State CPA, CREP, and SAFE Shapefile (Continued)**

D Attributing State CPA, CREP, and SAFE (Continued)--*

Step	Process
22	Right-click the "**State**" column header.
23	CLICK "**Field Calculator**". CLICK "**Yes**" to continue if prompted.
24	Enter the 2-letter postal abbreviation for the State, surrounded by quotation marks, in *--the code block (for example, "WI").--*
25	CLICK "**OK**".
26	Right-click the "**Code**" column header.
27	CLICK "**Field Calculator**". CLICK "**Yes**" to continue if prompted.
28	*--ENTER the abbreviation of the CPA, CREP, or SAFE in the code block. Ensure to include quotation marks. CPA example: "CPA" CREP example: "MWO" SAFE example: "PM"--*
29	CLICK "**OK**".
30	Right-click the "Name" column header.
31	CLICK "**Field Calculator**". CLICK "**Yes**" to continue if prompted.
32	*--ENTER the conservation project name in the code block. Ensure to include quotation marks. CPA example: "Maryland CPA" CREP example: "Minnesota Water Quality" SAFE example: "Pollinator and Monarch"--*
33	CLICK "**OK**".

Batch Export of CLU's to Geodatabases

A Instructions for Saving the Citrix Only Tools

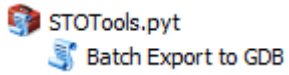
Steps in this subparagraph are one-time-only steps that must be completed to move the bulk exporter tool into Citrix. These steps only need to be repeated if the tool is updated.

Step	Instructions
1	Download and unzip the most current copy of the PythonMapSeries Toolset to C:\geodata. ***--**Navigate to **https://usdagcc.sharepoint.com/sites/FBC-GDMS/FSA_GIS/FSA_User_Documentation_Library/Forms/AllItems.aspx**.**--***
2	Open Windows Explorer.
3	In Windows Explorer, navigate to C:\Geodata\PythonMapSeries.
4	Right-click the CitrixOnly folder.
5	CLICK "**Copy**".
6	Navigate to the Citrix O drive directly from the user desktop by typing \\usda.net\fsa\Citrix\Personal\<firstname>.<lastname>.USDA\ in the Windows Explorer address bar. Right-click the **My Stuff** folder and CLICK "**Paste**".
7	Right-click the My Stuff folder.
8	CLICK "**Paste**".

Batch Export of CLU's to Geodatabases (Continued)

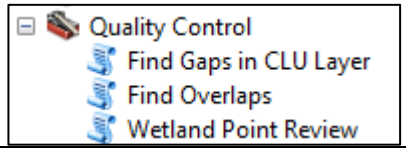
B Instructions for Exporting County File Geodatabases

These instructions export county file geodatabases.

Step	Instructions
1	From the Citrix desktop, CLICK "Start", "All Programs", "ArcGIS", and "ArcMap". A shortcut to ArcMap may also be created on the user desktop. See **paragraph 501** for Citrix access.
2	In the Splash Screen, CLICK "Regular ArcMap".
3	CLICK "**Start Using ArcMap**".
4	Click the "Catalog Window" button  located on the Tools Toolbar.
5	In the Catalog window, expand "Folder Connections".
6	Navigate to **O:\My Stuff**. If O:\ is not visible, click the "Connect to Folder" button  . • In the Connect to Folder window, CLICK "**My Computer**". • CLICK "**OK**" on the message, "Folder Desktop cannot be used. Please choose another folder". • Navigate to **O:**. • CLICK "**OK**".
7	Expand the **STOTools.pyt** toolbox. 

Find Gaps in CLU Layer Tool

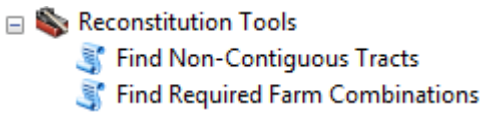
Follow instructions for using the Find Gaps in CLU Layer Tool according to the following table.

Step	Instructions
1	If not already done, download and extract the PythonMapSeries.zip file to C:\Geodata. The State Office CLU Tools (statewideCLU.pyt) file should be located in C:\Geodata\PythonMapSeries.
2	Start ArcMap.
3	Open the Catalog window.
4	In the Catalog window navigate to C:\Geodata\PythonMapSeries.
5	Expand the StatewideCLU toolbox.
6	Expand the Quality Control Tools toolset. 
7	Double click on the "Find Gaps in CLU Layer" script tool.
8	Click the Browse button  next to Input Geodatabase.
9	Navigate to c:\geodata\common_land_unit\fsa_clu and select the file geodatabase containing the CLU to analyze. **Note:** This tool can be run on an individual county or on a merged statewide CLU.
10	Click **[Add].**
11	Click **[OK]** to run the tool.
12	When the tool has completed, click **[Close]**.
13	A new feature class named “qc_gaps_clu_a_<ST>” will be added to the input geodatabase identified in step 9.
14	Add the resulting feature class to ArcMap to review potential gaps. A definition query should be applied using the “Acres” attribute to limit the results to larger areas.
15	The State GIS Specialist should review areas of concern with county staff to ensure CLU is accurately digitized.

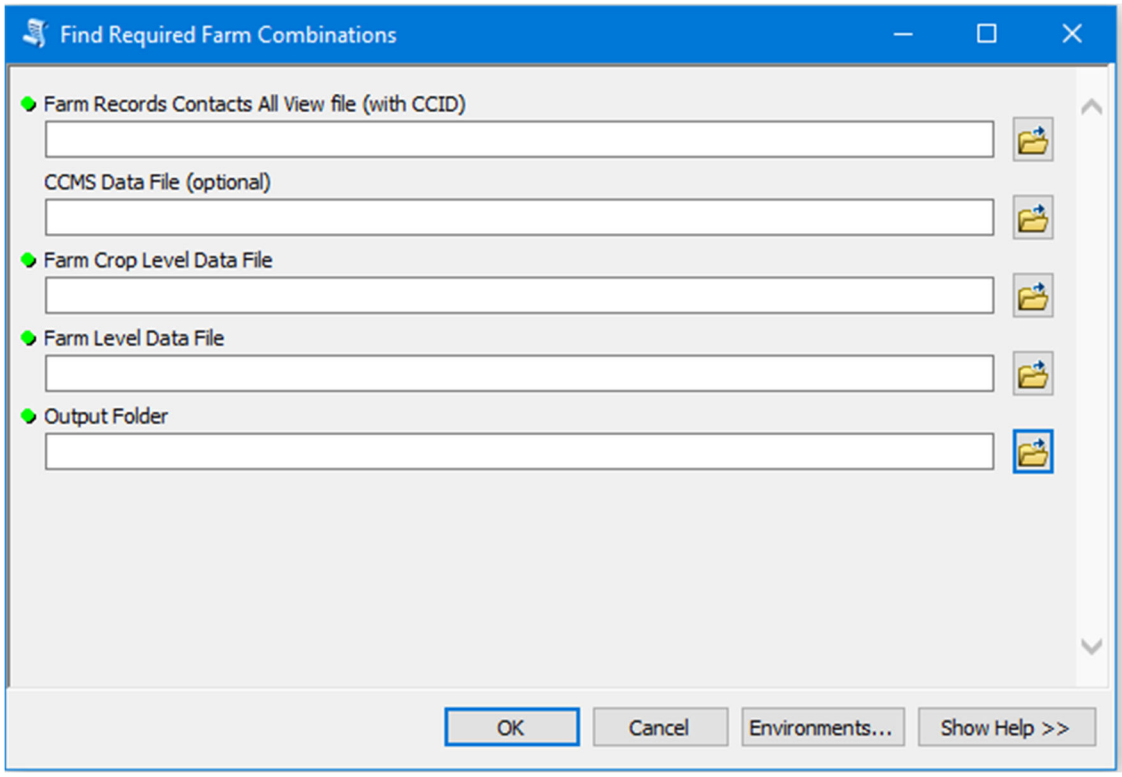
--*

Find Required Farm Combinations Tool

Use these instructions for the Find Required Farm Combinations tool.

Step	Instructions
1	If not already done, download and extract the PythonMapSeries.zip file to C:\Geodata. The State Office CLU Tools (statewideCLU.pyt) file should be located in C:\Geodata\PythonMapSeries.
2	Start ArcMap.
3	Open the Catalog window.
4	In the Catalog window, navigate to C:\Geodata\PythonMapSeries.
5	Expand the StatewideCLU toolbox.
6	Expand the Reconstitution Tools toolset. 
7	Double-click the “Find Required Farm Combinations” script tool.
8	Click the “Browse” button  next to Farm Operator Details File.
9	Navigate to c:\geodata\project_data\fsa\frs and CLICK “Farm Records Contact All View Download Report.csv”.
10	CLICK “**Add**”.
11	Click the “Browse” button  next to CCMS Data File.
12	*--Navigate to c:\geodata\conservation and CLICK “CCMS All Contract EDW0001CCMS 1.1.csv”.--*
13	CLICK “**Add**”.
14	Click the “Browse” button  next to Farm Crop Level Data File.
15	Navigate to c:\geodata\project_data\fsa\frs and CLICK “Farm Records by Crop Level Farm (EDW0005CFR).csv”.

Find Required Farm Combinations Tool (Continued)

Step	Instructions
16	CLICK "**Add**".
17	*--Click the Browse button next to Farm Level Data File.
18	Navigate to c:\geodata\project_data\fsa\frs and select Farm Records by Farm Level (EDW0005AFR).csv.
19	Click **[Add].**
20	Click the Browse button next to Output Folder.
21	Navigate to c:\geodata\project_data\fsa.
22	Click once on the frs folder and click **[Add]**. **Note:** Users may wish to create a "required_recons" subfolder to store the output.
23	Click **[OK]** to run the tool.  --*

Find Required Farm Combinations Tool (Continued)

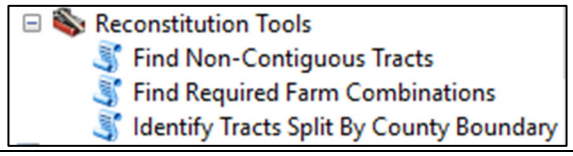
<table>
<tr><th>Step</th><th>Instructions</th></tr>
<tr><td>24</td><td>*--When the tool has completed, click [Close].</td></tr>
<tr><td>25</td><td>HTM files containing a list of required farm combinations will be exported to the specified output folder. Records will be listed by operator name, with an ARCPLC notification message indicating enrollment status and whether farms are participating in CRP. For each farm, the tract(s) and owner(s) will be listed.
<table>
<tr><td>JOHN DOE</td><td colspan="3">ARCPLC: More than one program elected - All farms listed can be combined</td></tr>
<tr><td></td><td colspan="3">No farms in CRP</td></tr>
<tr><td></td><td>10858</td><td>13167</td><td>JOHN DOE</td></tr>
<tr><td></td><td></td><td></td><td>JANE DOE</td></tr>
<tr><td></td><td>11846</td><td>6865</td><td>JOHN DOE</td></tr>
<tr><td></td><td></td><td></td><td>JANE DOE</td></tr>
<tr><td></td><td></td><td>6907</td><td>JOHN DOE</td></tr>
<tr><td></td><td></td><td></td><td>JANE DOE</td></tr>
</table>
Note: Farms with an ARCPLC election but no base acres may appear on the report as a required combination. These farms should be manually reviewed to determine whether farms can be combined.</td></tr>
<tr><td>26</td><td>An additional file named required_recons_<ST>.csv, where <ST> is the state abbreviation, is created in the output folder. This CSV file provides a summary by county of the number of farms, number of operators, number of multi-farm operators and number of operators with required farm combinations.

This table can be joined to a county boundary dataset to provide a map of required farm combination data.--*</td></tr>
</table>

Identify Tracts Split by County Boundary

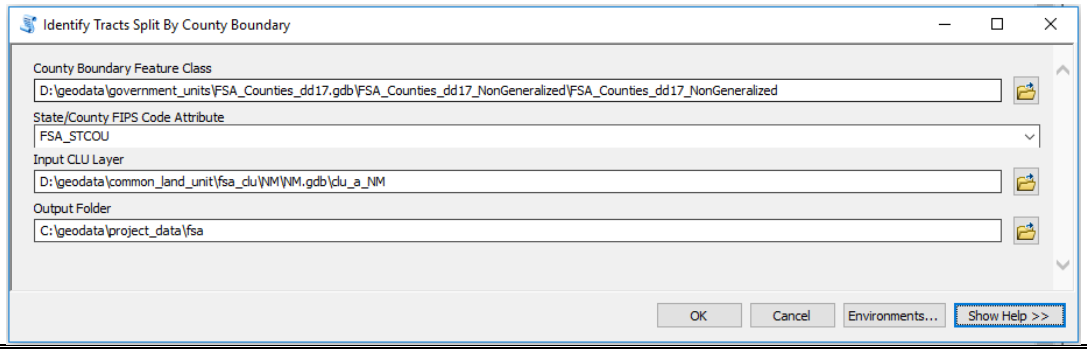
Tracts that contain land that is physically located in multiple counties and is both greater than 10 acres in all physical locations and greater than 5 percent of the overall tract acreage must be separated according to 10-CM. The "Identify Tracts Split by County Boundary" tool provides a method for GIS users to identify tracts administered by a State or county that meet these criteria.

A Tool Execution

Step	Instructions
1	If not already done, download and extract the PythonMapSeries.zip file to C:\Geodata. The State Office CLU Tools (statewideCLU.pyt) file should be located in C:\Geodata\PythonMapSeries.
2	Start ArcMap.
3	Open the Catalog window.
4	In the Catalog window navigate to C:\Geodata\PythonMapSeries.
5	Expand the StatewideCLU toolbox.
6	Expand the Reconstitution Tools toolset. 
7	Click the "Browse" button next to "County Boundary Feature Class".
8	Navigate to C:\Geodata\Government_Units\fsa_counties_dd17.gdb.
9	Double click on the FSA_Counties_dd17_NonGeneralized feature dataset.
10	Under the feature dataset, select the FSA_Counties_dd17_NonGeneralized feature class.
11	Click "Add".
12	Change the "State County FIPS Code Attribute" dropdown to "FSA_STCOU".
13	Click the "Browse" button next to "Input CLU Layer".
14	Navigate to C:\Geodata\Common_Land_Unit\fsa_clu or the folder where the desired CLU file geodatabase is stored.

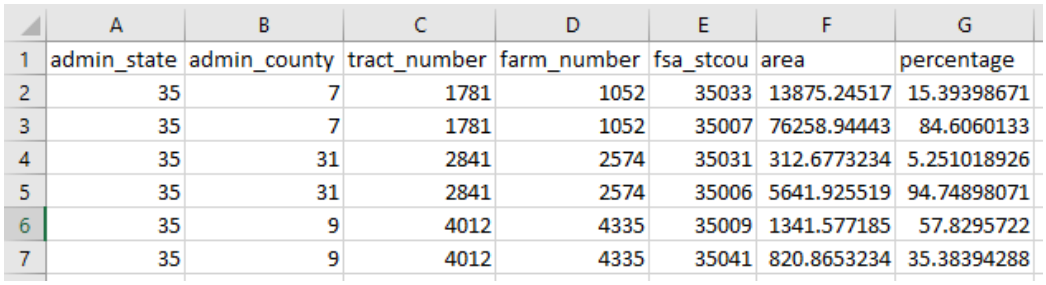
--*

Identify Tracts Split by County Boundary (Continued)

Step	Instructions
15	Select the CLU feature class from the file geodatabase.
16	Click "Add".
17	Use either the "Browse" button or type the folder location in the "Output Folder" input box. The output file will usually be set to C:\Geodata\project_data\fsa.
18	Click OK to run the tool. 

B Review Results

Files created by the "Identify Tracts Split by County Boundary" tool will be stored in the output folder as specified in the tool.

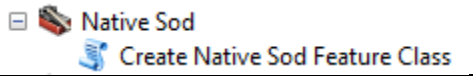
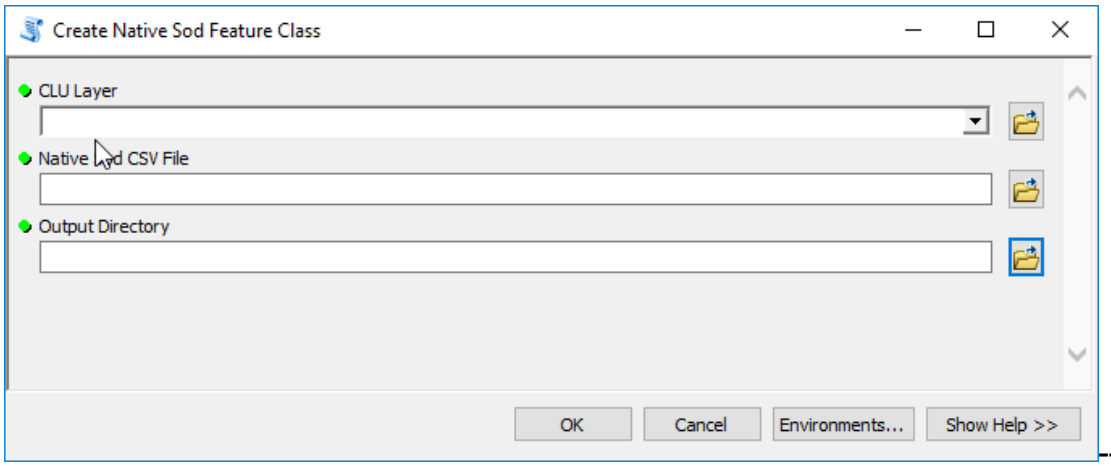
Step	Instructions
1	Open Windows Explorer.
2	Navigate to the output folder as specified in the tool, usually c:\geodata\project_data\fsa.
3	Double click on the file named "tracts_crossed_by_county_boundary_yyyymmdd.csv". The file will open in Microsoft Excel. 
4	Review records in the spreadsheet and perform Farm Records corrections as necessary.

	A	B	C	D	E	F	G
1	admin_state	admin_county	tract_number	farm_number	fsa_stcou	area	percentage
2	35	7	1781	1052	35033	13875.24517	15.39398671
3	35	7	1781	1052	35007	76258.94443	84.6060133
4	35	31	2841	2574	35031	312.6773234	5.251018926
5	35	31	2841	2574	35006	5641.925519	94.74898071
6	35	9	4012	4335	35009	1341.577185	57.8295722
7	35	9	4012	4335	35041	820.8653234	35.38394288

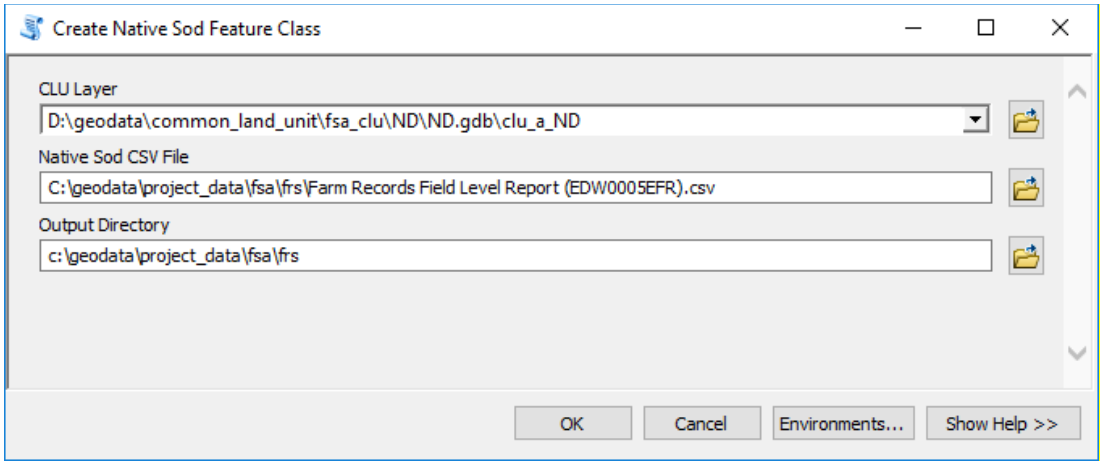
--*

--Create Native Sod Feature Dataset Class--

Use these instructions for the Create Native Sod Feature Dataset.

Step	Instructions
1	If not already done, download and extract the PythonMapSeries.zip file to C:\Geodata. The State Office CLU Tools (statewideCLU.pyt) file should be located in C:\Geodata\PythonMapSeries.
2	Start ArcMap.
3	Open the Catalog window.
4	In the Catalog window, navigate to C:\Geodata\PythonMapSeries.
5	Expand the StatewideCLU toolbox.
6	Expand the Native Sod toolset.
7	*--Double-click on "Create Native Feature Class". 
8	The Create Native Sod Feature Class window will open.  --*

--Create Native Sod Feature Class (Continued)--

Step	Instructions
9	Click the "Browse" button next to CLU Layer.
10	Navigate to the desired State CLU file geodatabase and select the CLU feature class.
11	CLICK "**Add**".
12	***--**Click the "Browse" button next to the Native Sod CSV File.
13	Select the Farm Records Field Level Report as downloaded from EDW, typically named Farm Records Field Level Report (EDW0005EFR).csv. See **Exhibit 16**.--*
14	CLICK "**Add**".
15	Click the "Browse" button next to the Output directory.
16	Navigate to C:\geodata\project_data\fsa.
17	Click on FRS and CLICK "**Add**".
18	CLICK "**OK**" to run the tool. ***--**  A native sod file geodatabase will be created in the specified output director. The data in the feature class can be mapped, summarized and used within PythonMapSeries to identify the native sod fields on producer maps.**--***