USDA Service Center Initiative
Geospatial Data Acquisition, Integration and Delivery
Business Re-engineering Project

Data Themes - Outline - Wetland Determinations

I. Acquisition

A. Data Source

1. Producer Information

a. Name.

Certified wetland determinations are a USDA layer produced by NRCS Service Center Offices. The data steward is the NRCS Watersheds and Wetlands Division. The title, "certified wetland determinations", indicates the programmatic responsibility of NRCS for wetlands as defined by The Federal Agriculture Improvement and Reform Act (the 1996 Act) enacted April 4, 1996. USDA recognizes certified wetland determinations for the Food Security Act and by the U.S. Army Corps of Engineers for Section 404 of the Clean Water Act.

USDA certified wetland determinations are a separate and distinct theme from the US Fish and Wildlife National Wetlands Inventory (NWI) theme because of the theme's programmatic importance and the specific nature of the theme's attributes. The theme complements rather than conflicts with or duplicates the NWI theme.

NRCS provides certified wetland determinations. Landowners may hire a consultant to do this job and NRCS will review the work and make the final wetland certification

b. Location of Headquarters

NRCS National Headquarters
Watersheds and Wetlands Division
Washington, DC

c. Internet Address

http://www.nrcs.usda.gov/

2. Publisher Information

a. Name

The conservation planning data is maintained in an individual casefile for each customer. Due to the private nature of this data, open distribution to the public will not occur.

The data will be digitized by and held in individual service centers. The data could be aggregated up to states or a national enterprise database depending on needs.

b. Location of Headquarters

Data is not published.

c. Internet Address

None

3. Acquisition Information

a. Delivery Media

None

b. Download URL

None

c. Projected Data Availability Schedule

None

B. Standards Information

1. Geospatial Data Standard

a. Standard Name and Steward Information

A Standard for Geo-referenced Conservation Planning Data

b. Standard Version

1.3 January 1999

c. Standard URL

http://www.itc.nrcs.usda.gov/cst/cstdevel.htm

2. Metadata Standard

a. Standard Name and Steward Information

Ultimately, NRCS will provide the metadata for the Conservation Planning Standard structure to national, state, and local partners, but will not provide actual conservation planning data.

b. Description of Metadata Captured

None

c. Metadata Accuracy and Completeness Assessment

0% since there is none.

C. Acquired Data Structure

1. Geospatial Data Format

a. Format (raster, vector, etc.)

Vector data acquired through GPS or heads-up digitizing

b. Format Name

ESRI shapefile

c. Data Extent
From a tract within CLU boundaries. The theme may be merged to form a countywide theme to support program delivery, public outreach activities, and workload scheduling.

d. Horizontal and Vertical Resolution

Unknown

e. Absolute Horizontal and Vertical Accuracy

Estimated position error of 30 feet or less for GPS input

f. Nominal Scale

1:7920 which is 1"=600'

g. Horizontal and Vertical Datum

NAD83 GRS80

h. Projection

UTM Local Zone

i. Coordinate Units

Meters

j. Average Data Set Size

Unknown

k. Symbology

Colored, tinted, or patterned shapes selected by the field conservationist may represent wetlands. Transparent polygons allow the underlying ortho-digital photo to show through patterned shapes. Labels may be selected from the list of wetland types.

2. Attribute Data Format

a. Format Name

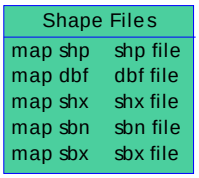
Dbase V, as part of an ESRI Shape file.

b. Database Size

Unknown

3. Data Model

a. Geospatial Data Structure



b. Attribute Data Structure

Dbase V, as part of an ESRI Shape file.

c. Database Table Definition

Attribute	Definition	Use	Entry
CLU Unique Identifier:	A concatenation of state FIPS, county FIPS and serial number that uniquely identifies a CLU nation-wide.	CLU Attribute	Provided
State FIPS:	The FIPS code of the state where the CLU is located.	CLU attribute	Provided
County FIPS:	The FIPS code of the county where the CLU is located.	CLU attribute	Provided
CLU Number:	A number assigned to a CLU by FSA.	CLU attribute	Provided
Acres:	The calculated size of the CLU in acres		Provided
Adjusted Acres:	CLU acres adjusted for program use		Provided
HEL:	Indicates whether the land unit is highly erodible land.	CLU attribute	Provided
Farm Number	A number assigned by FSA	CLU attribute	Provided
Tract:	A number assigned by FSA to indicate ownership.	CLU attribute; ability to query by tract number.	Provided
Feature ID:	A unique identifier for a wetland feature.	Georeferences a feature.	Provided
Wetland Label:	Official list of wetland labels:	Provides for wetland certifications. Provides ability to query and display wetland categories.	Required
AW	Artificial or irrigation induced wetland		
AW/FW	Artificial or irrigation induced wetland and Farmed Wetland		
AW/W	Artificial or irrigation induced wetland and wetland		
CC	Commenced Conversion		
CMW	Categorical Minimal Effect Wetland		
CW	Converted wetland between 12/23/85 and 11/28/90		
CWNA	Converted wetland Non-agricultural use		
CWTE	Converted wetland Technical Error		
CWyr:	Converted Wetlands + Year		
FW	Farmed Wetland		
FWP	Farmed Wetland Pasture		
MIW	Mitigation Wetlands		
MIW-B	Mitigation Wetland - Non-USDA Mitigation Bank		
MIW-P	Mitigation Wetland - USDA Mitigation Bank - Pilot		
MW	Minimal Effect Wetland		
MWM	Minimal Effect Wetland with Mitigation		
NI	Not Inventoried		
NW	Non-wetland		
NW/AD	Non-Wetland per an Appeal Decision		
OW	Other Waters		
PC	Prior Converted Cropland		
TP	Third Party Exemption		
W	Wetland		
W-C	Wetland - Created		
W-E	Wetland - Enhanced		
W-R	Wetland - Restored		

WX	Wetlands that have been manipulated		
Year of occurrence:	Identifies the year in which a wetland action took place (for use with CW+yr label only).	Provides additional information on wetland actions.	Required for CW label
GPS Filename:	The name of the file where the GPS coordinates that locate the feature are stored.	If the location of the feature was determined using a GPS unit, this attribute provides a record of the filename that contains the coordinates.	Optional
Label Acres:	The size of a labeled area.	Provides size of area.	Calculated
Wetland Prior Condition: Agricultural Use Natural Wetland	The code indicating prior wetland condition. This code is for use with CMW, MIW, MIW-B, MIW-P, MW, and MWM labels only.	Program-related data.	Required for CMW, MIW, MIW-B, MIW-P, MW, and MWM labels.
Wetland Alteration Type: Depressional Flat Fringe Riverine Slope	The code indicating type of wetland to be altered. This field is for use with CMW, MIW, MIW-B, MIW-P, MW, AND MWM labels only.	Program-related data.	Required for CMW, MIW, MIW-B, MIW-P, MW, and MWM labels.
Certified By:	Name of person who certified the wetland.	Program-related data.	Required
Certification Date:	Date that the wetland was certified.	Program-related data.	Required
Certification Agency:	The agency of the person who certified the wetland.	Program-related data.	Required

d. Data Relationship Definition

Each polygon has a row in the Dbase V table.

e. Data Dictionary

To be developed.

D. Policies

1. Restrictions

a. Use Constraints

The conservation planning data is maintained in an individual casefile for each customer. Due to the private nature of this data, open distribution to the public will not occur. Current NRCS policy (National Instruction 12-310 and GM 120-GM, Part 408) on customer casefile information specifies which information cannot be released under the Freedom of Information Act (FOIA).

Field conservationists will have the capability to provide customers with their own data if requested.

The policy cited above specifies that some data maybe released under FOIA if that data is provided in a generic format. This type of information that applies to the Standard includes:

- Resource inventories in a general area
- Land use maps for a general area
- Alternatives generated and evaluated for a general area
- Problems identified for a general area

b. Access Constraints

Same as above.

c. Certification Issues

None

2. Maintenance

a. Temporal Information

Data is updated by the service center on an as needed basis.

b. Average Update Cycle

As wetland determinations are requested in each service center.

E. Acquisition Cost

1. Cooperative Agreement

a. Description of Agreement

None

b. Status of Agreement

Reference Group Members are from COE and USFWS

2. Cost to Acquire Data

Costs to design, develop, test, and implement the wetlands and easement software.

Agency FTE			Contractor Costs (K)		
FY98	FY99	FY00	FY98	FY99	FY00
1	3	3	$14	$112	$135

II. Integration

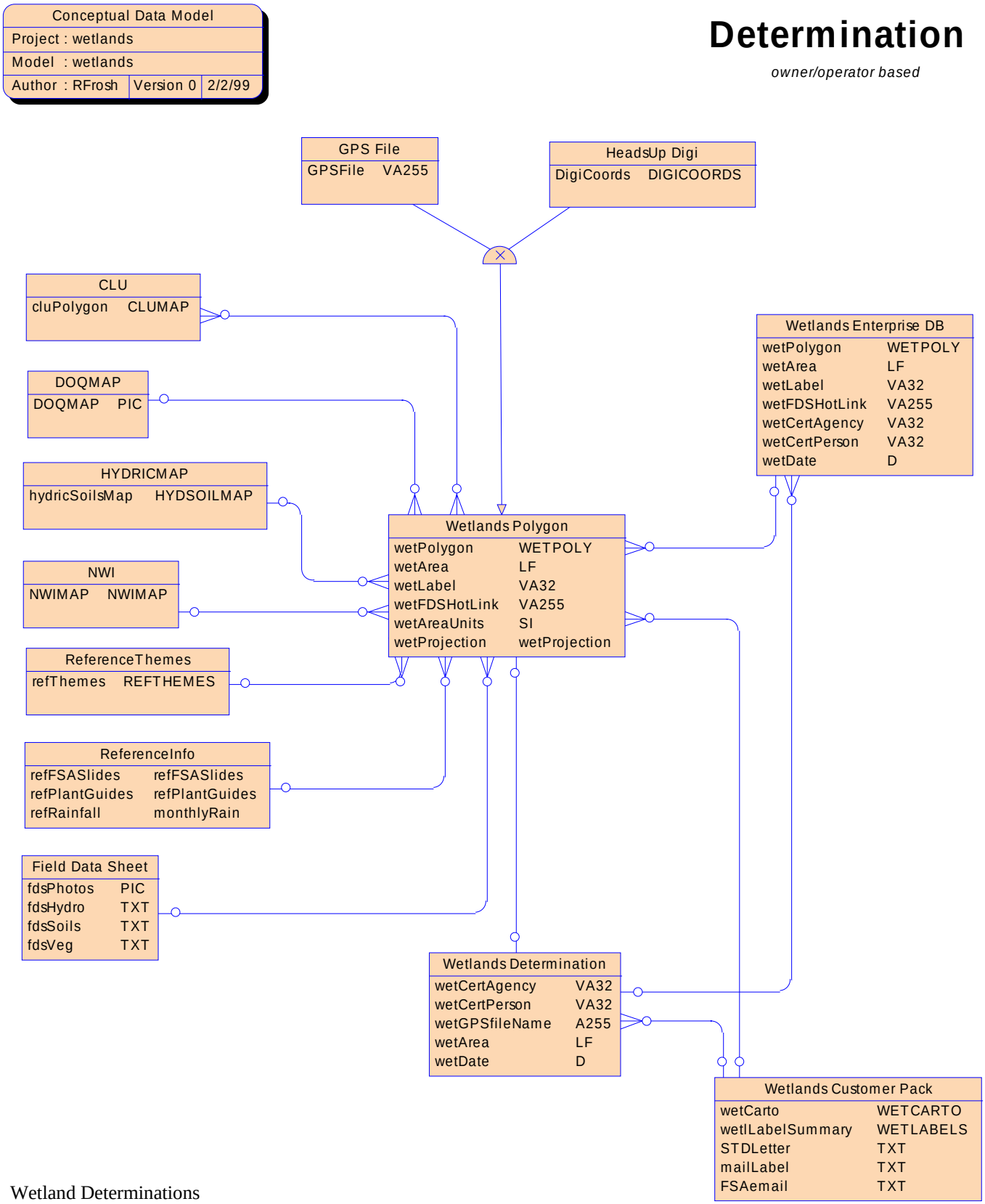
A. Value Added Process

1. Benefit to the Service Center

The purpose of the Wetlands and Easements Project is to develop a nationally consistent wetland and easement dataset that meets the U.S. Department of Agriculture (USDA) service center agencies' and their partners' need for digital capture and monitoring of certified wetland determinations and easements.

2. Process Model

a. Flow Diagram



b. Process Description

- The CLU tract boundary is used as the external boundary for the wetland determination with a primary attribute of Not Inventoried (NI)
- The reference data including DOQ, hydric soils, NWI wetlands, FSA slides, plant guides, rainfall, etc are used to help determine what is Non Wetland (NW) or the wetland type
- The wetland boundaries are captured via GPS or by heads-up digitizing
- The data is then in a shape file
- The attribute data is captured for each Non Wetland (NW) and wetland polygon
- A customer package can then be produced
- The case file data can be then be aggregated to an enterprise database

3. Technical Issues

a. Tiling

Data is for a county/service center but is maintained in case files by tract.

b. Compression

None

c. Scale

Should be good down to 1:4800

d. Tonal Matching

Not applicable to vector data.

e. Edge-matching

None with case files.

4. Quality Control

a. Procedures

Wetland determination boundaries may be completed using heads-up digitizing. To ensure quality, several guidelines must be followed:

- Original DOQ, not compressed DOQ, used as the base map
- Projection is UTM, NAD83, local zone, GRS80
- Scale no larger than 1:7920
- Computer monitor at least 17 inches in diameter
- Snap tolerance set to 20 feet
- Polygons digitized as closed areas
- Each polygon is attributed with a wetland label

Wetland boundaries may also be delineated using a GPS unit. The following guidelines should be followed to ensure the quality of the data collected:

- UTM coordinates, NAD83, GRS80
- Estimated position error of 30 feet or less

- Wide area GPS enhancement set to 'On"

b. Acceptance Criteria

To be decided.

5. Data Steward

a. Name and Organization

The data steward will be the service center where the data was originally captured.

b. Responsibilities

Provide backup and reproduction of the map and attribute data.

B. Integrated Data Structure

1. Geospatial Data Format

a. Format (raster, vector, etc.)

Vector

b. Format Name

ESRI shapefile

c. Data Extent

A tract in the service center.

d. Horizontal and Vertical Resolution

Unknown

e. Absolute Horizontal and Vertical Accuracy

Estimated position error of 30 feet or less for GPS input

f. Nominal Scale

1:7920

g. Horizontal and Vertical Datum

NAD 83

h. Projection

UTM

i. Coordinate Units

Meters

j. Symbology

Whatever is assigned. Colored, tinted, or patterned shapes selected by the field conservationist may represent wetlands.

2. Attribute Data Format

a. Format Name

Dbase V, as part of an ESRI Shape file.

b. Database Size

Unknown

3. Data Model

a. Geospatial Data Structure

Shape Files	
map shp	shp file
map dbf	dbf file
map shx	shx file
map sbn	sbn file
map sbx	sbx file

b. Attribute Data Structure

Dbase V, as part of an ESRI Shape file.

c. Database Table Definition

Standard .dbf file that goes with shape file. The .dbf file includes fields for:

- Wetland area
- Wetland label
- Certifying agency
- Certifying person
- Date of certification

d. Data Relationship Definition

Each polygon has a row in the Dbase V table.

e. Data Dictionary

To be developed.

C. Resource Requirements

1. Hardware and Software

To acquire and integrate one wetland determination, a minimum of one UNIX or NT machine with approximately 1-gigabyte of disk is required.

2. Staffing

Unknown at this time

D. Integration Cost

1. Hardware and Software

To store and reproduce wetland determinations for a service center, a minimum the following is required:
ArcView on NT platform
5-gigabyte disk

2. Staffing

Unknown at this time

III. Delivery

A. Specifications

1. Directory Structure

a. Folder Theme Data is Stored In

(Version 7)
\Service Center Themes
\Wetland Determinations
\wetCounty1
\wetCounty2

2. File Naming Convention

a. List of Theme Files and The File Naming Convention

\wetCounty.shp
\wetCounty.dbf
\wetCounty.shx
\wetCounty.sbn
\wetCounty.shx

Where County is the name of a county.

B. User Information

1. Accuracy Assessment

a. Alignment with Other Theme Geospatial Data

There should be some alignment with the ortho-photo layer but this will not be perfect due to the nature of the wetland interpretations and the fact that the data is captured at different scales.

b. Content

The data can be verified and is the best know wetland determination for USDA-NRCS needs.

2. Appropriate Uses of the Geospatial Data

a. Display Scale

Usually 1:7920

b. Plot Scale

Usually 1:7920

c. Area Calculations

As accurate as the source data and capture scale and the algorithm used by ArcView.

d. Decision Making

Unknown what information is requested here.

C. Maintenance and Updating

1. Recommendations and Guidelines

a. Frequency of Updates

Whenever a wetland determination is completed.

b. Location for the Theme Data to be Maintained

It will be maintained at each service center.

c. Maintenance and Updating Procedures Overview

Perform the digitizing and data entry and store on the service center CCE machine.