

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

**Data Themes - Outline - Environmental Easements**

## **I. Acquisition**

### **A. Data Source**

#### **1. Producer Information**

a. Name

USDA/NRCS purchases environmental easements from landowners. Landowners sell a wetland easement to USDA as a cooperative effort to restore and protect wetlands. The landowner voluntarily limits future use of the land, yet retains private ownership. The landowner and NRCS develop a plan for the restoration and maintenance of the wetland.

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

Due to the private nature of this data, open distribution to the public will not occur. However, because it is a legal easement on the land, the county courthouse also maintains records.

The data will be digitized by and held in individual service centers as a service center wide theme. 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/cstdocs.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 loading CAD files from land surveyors.

- b. Format Name

ESRI shapefile

- c. Data Extent

The theme is a service center wide data theme.

- d. Horizontal and Vertical Resolution

Unknown

- e. Absolute Horizontal and Vertical Accuracy

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 easements. Labels will be in the format specified in section 514.27e of the part 514 WRP Manual.

## 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

Currently under discussion.

d. Data Relationship Definition

Each polygon has a row in the DbaseV table.

- e. Data Dictionary
  - Agreement number in the form of xx-xxxxx-x-xxxxx
  - Legal area

## **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 easements are purchased, recorded and boundaries delimited in each service center.

## **E. Acquisition Cost**

### **1. Cooperative Agreement**

#### a. Description of Agreement

None

b. Status of Agreement

None

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

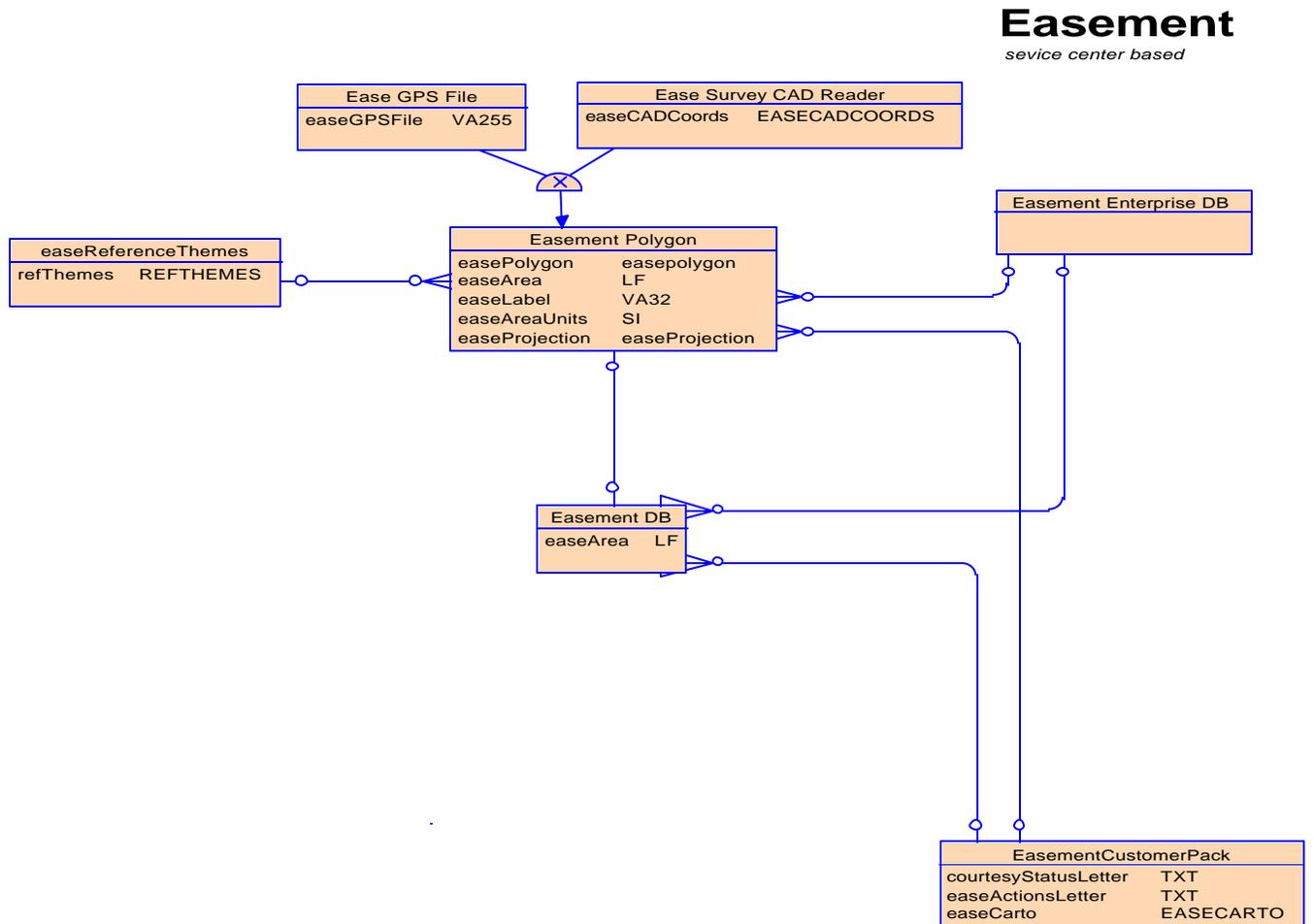
### A. Value Added Process

#### 1. Benefit to the Service Center

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

#### 2. Process Model

##### a. Flow Diagram



b. Process Description

- The easement boundary is captured via GPS or downloaded in CAD files from a legal land surveyor
- The data is then in a shape file
- The attribute data is captured
- The data can be then be aggregated from the service center to an enterprise database

3. Technical Issues

a. Tiling

Data is captured and maintained for an entire county/service center.

b. Compression

None

c. Scale

Should be good down to 1:7920

d. Tonal Matching

Not applicable to vector data.

e. Edge-matching

None, data is service center based.

4. Quality Control

a. Procedures

Easements may be downloaded as a CAD file from a legal land surveyor.

Easements 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

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 personnel may represent easements.

### **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:

- Agreement area
- Agreement number

#### 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 easement, 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 easements 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  
  \Easements  
    \easCounty1  
    \easCounty2

## 2. File Naming Convention

- a. List of Theme Files and The File Naming Convention

\easCounty.shp  
\easCounty.dbf  
\easCounty.shx  
\easCounty.sbn  
\easCounty.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 public land survey system because the theme is ownership based but this will not be perfect due to the fact that the data is captured at different scales.

- b. Content

GPS or legal land survey can verify the data.

#### 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 new easement is purchased or an existing easement expires.

- 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.