

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

Data Themes - Outline - Wetlands NWI

Any producer who wants to be in a farm program must first have a Certified Wetland Determination on the land. NWI maps are used as helpful and supporting background information when performing certified wetland determinations. USDA certified wetlands are a separate and distinct theme from NWI maps because of their programmatic definition and the nature of the theme's attributes.

I. Acquisition

A. Data Source

1. Producer Information

a. Name

U.S. Fish & Wildlife Service
Division of Habitat Conservation
National Wetlands Inventory

b. Location of Headquarters

9720 Executive Center Drive
St. Petersburg, FL 33702

c. Internet Address

<http://www.nwi.fws.gov/>

2. Publisher Information

a. Name

U.S. Fish & Wildlife Service
Division of Habitat Conservation
National Wetlands Inventory

b. Location of Headquarters

9720 Executive Center Drive
St. Petersburg, FL 33702

c. Internet Address

<http://www.nwi.fws.gov/>

3. Acquisition Information

a. Delivery Media

FTP,
8mm cartridge tape (2,5, or 10 GB), 1/4-inch cartridge tape (150 MB), 9-track tape

b. Download URL

<ftp://www.nwi.fws.gov/arcdata/>

<ftp://www.nwi.fws.gov/dlgdata/>

- c. Projected Data Availability Schedule

<http://www.nwi.fws.gov/map.htm>

B. Standards Information

1. Geospatial Data Standard

- a. Standard Name and Steward Information

CLASSIFICATION OF
WETLANDS AND
DEEPWATER HABITATS
OF THE UNITED STATES

- b. Standard Version

FWS/OBS-79/31
DECEMBER 1979

- c. Standard URL

<http://www.nwi.fws.gov/classman.html>

2. Metadata Standard

- a. Standard Name and Steward Information

FGDC Content Standards for Digital Geospatial Metadata Version: 19940608

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- b. Description of Metadata Captured

Data Set Identification Information
Data Quality Information
Spatial Reference Information
Status Information
Lineage (processing steps)
Entity and Attribute Information
Distribution Information
Data Use Information
Metadata Reference Information

- c. Metadata Accuracy and Completeness Assessment

The metadata is typically complete. However, Quad-specific metadata files are not yet available. See the NWI standard metadata file in text or word format:

<ftp://www.nwi.fws.gov/metadata/>

Also, a helpful file: <ftp://www.nwi.fws.gov/maps/readme.maps>

C. Acquired Data Structure

1. Geospatial Data Format

- a. Format (raster, vector, etc.)

Vector

- b. Format Name

DLG3-Optional or Arc Export (.e00)

- c. Data Extent

Range includes all 50 states, Puerto Rico, Virgin Islands. Information for this element varies for each 7.5' quad.

- d. Horizontal and Vertical Resolution

All photo-interpretable wetlands are mapped. In the treeless prairies, 1/4-acre wetlands are mapped. In forested areas, small open water and emergent wetlands are mapped. In general, the minimum mapping unit is from 1 to 3 acres depending on the wetland type and the scale and emulsion of the source aerial photography.

- e. Absolute Horizontal and Vertical Accuracy

Horizontal positional accuracy for the digital data is tested by visual comparison of the source with hard copy plots.

- f. Nominal Scale

Aerial photography source scale denominator ranges from 20,000 to 132,000. Information for this element varies for each 7.5' quad.

- g. Horizontal and Vertical Datum

North American Datum of 1927 Clarke 1866 Ellipsoid

- h. Projection

UTM

- i. Coordinate Units

Meters

- j. Average Data Set Size

DLG 70 Kb zipped. 300Kb .e00 files not zipped

- k. Symbology

None

2. Attribute Data Format

a. Format Name

None. Only a label column containing Cowardin Classification.

b. Database Size

Zero because it is integrated in map.

3. Data Model

a. Geospatial Data Structure

None because files are DLG3-Optional or Arc Export file

b. Attribute Data Structure

None because attribute integrated into map file.

c. Database Table Definition

None.

d. Data Relationship Definition

None because there is only a single column of information which is the label for each feature.

e. Data Dictionary

<ftp://www.nwi.fws.gov/maps/>

The file named mapcode.txt is a text file, which provides explanations of the map codes used as wetlands attributes in the NWI digital data files. This is the same information shown in the legend of hardcopy NWI wetlands maps. If you're wondering what a PUBHh is, this is the file to get. (its a Palustrine, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded wetland.)

The file named wetlands.atts is a text file that lists the attributes found so far in NWI digital wetlands data files.

D. Policies

1. Restrictions

a. Use Constraints

None

b. Access Constraints

Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State, or local government or to establish the geographical scope of the regulatory programs of government agencies.

Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

c. Certification Issues

None

2. Maintenance

a. Temporal Information

Ranges from Feb. 1971 to Dec. 1992. Information for this element varies for each 7.5' quad. See the quad-specific metadata file.

b. Average Update Cycle

Irregular

<ftp://www.nwi.fws.gov/maps/newadd.txt>

E. Acquisition Cost

1. Cooperative Agreement

a. Description of Agreement

NWI has a cooperative agreement with USGS to distribute NWI maps.

b. Status of Agreement

Currently active

2. Cost to Acquire Data

The online copy of the DLG data set may be retrieved via ftp at no charge. For delivery of digital data on magnetic tape, the prices are: purchased by single 7.5 minute quad unit: \$40 per dataset; purchased in groups of 2 to 6: \$20 per dataset; purchased in groups of 7 or more: \$90 base fee plus \$7 per dataset. Non-digital Form - \$3.50 per diazo paper map; \$5.25 per diazo mylar map.

Or:

The U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI) and Earth Science Information Center (ESIC) of the U.S. Geological Survey have a cooperative agreement for the sale and distribution of NWI maps. ESIC offices accept orders and payment for NWI maps by mail. The NWI office in St. Petersburg Florida reproduces and ships the maps within 5 working days of receipt of the order from ESIC.

ESIC/USGS

National Headquarters

507 National Center

Reston, Virginia 22092

1-800-USA-MAPS (703) 648-6045

1 - quad = \$ 40.00

2 - quads = 60.00

3 - quads = 80.00
4 - quads = 100.00
5 - quads = 120.00
6 or more quads = \$90.00 base charge and then \$7.00 for each quad.

OR you can order an 8mm UNIX tar tape (the "everything tape") containing all available NWI digital wetlands data (DLG3-Optional format, compressed) for \$151.50. Some restrictions apply to this product, so call 1-800-USA-MAPS to find out more.

II. Integration

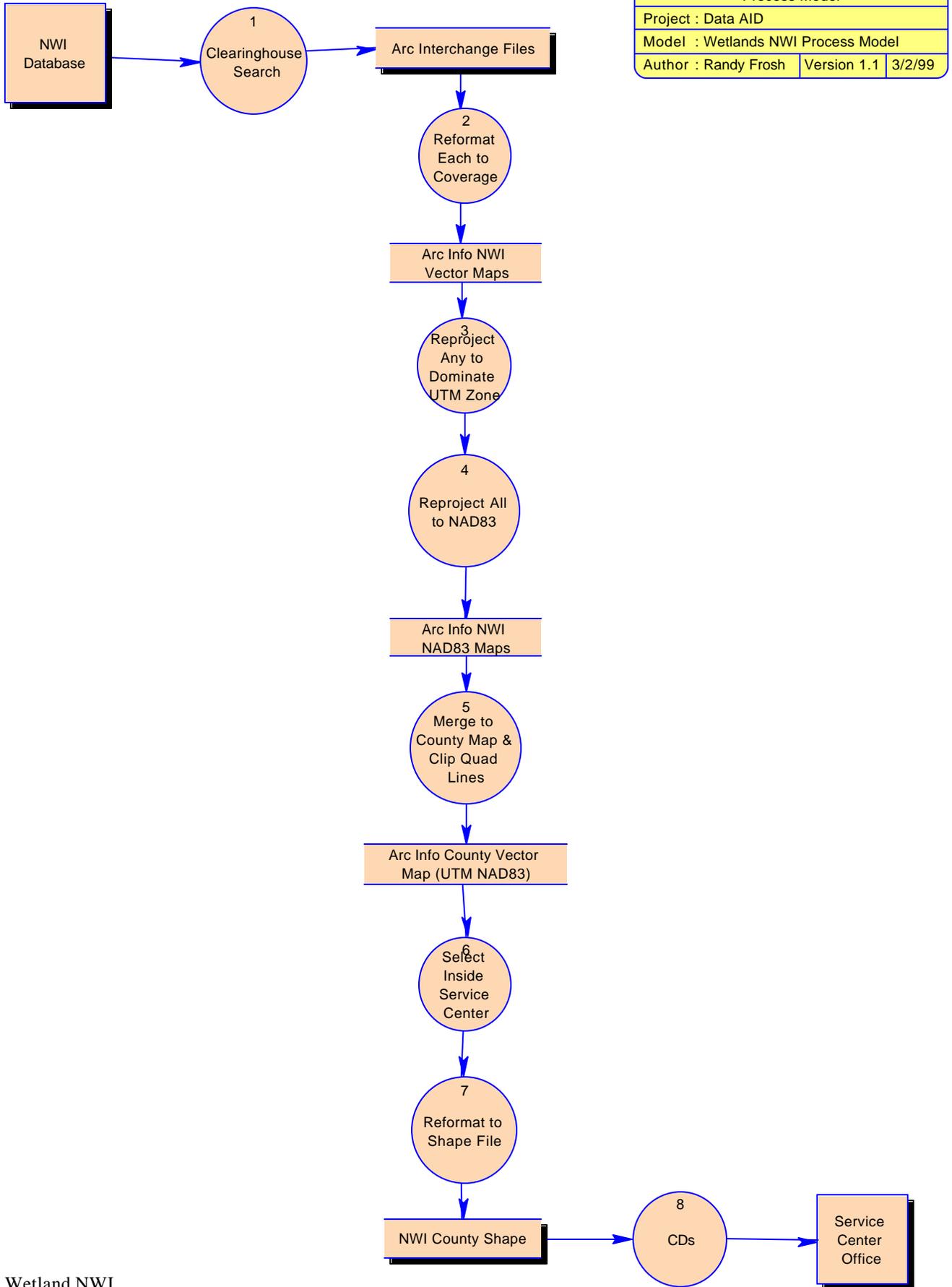
A. Value Added Process

1. Benefit to the Service Center

The NWI file is converted to a vector map. Without this, the NWI data cannot be displayed or analyzed with other geospatial data. If a Service Center wanted to use the NWI data, it would have to perform the conversion.

2. Process Model

a. Flow Diagram



Process Model		
Project : Data AID		
Model : Wetlands NWI Process Model		
Author : Randy Frosh	Version 1.1	3/2/99

b. Process Description

Assuming Arc interchange files are used:

1. Determine the 7.5 minute quad names within the county then the 1:250,000 quad names that contain the 7.5 quads so that the Arc Exchange .e00 files can be retrieved.

National Wetlands Inventory (NWI) digital wetlands data are digitized and distributed by 7.5 minute quadrangle. On the NWI server, the data files for a specific quad are stored in a directory named by the 1:250,000 scale map unit in which the quad is located.

The .txt file in each 1:250,000 directory contains a lookup table of the quad file abbreviation, the NWI quad name, the corresponding USGS quad name and the state name.

2. Convert the .e00 file to a coverage.
3. The data is re-projected to the dominant UTM zone of the service center when the NWI maps are from more than one UTM zone.
4. The data is re-projected to NAD83
5. All maps for the county are merged into one map and the artificial quads lines at the map neat line are removed. (Polygons intersecting the neatline are closed along the border.)
6. The data that is inside or crossing the service center boundary is selected
7. The selected data is converted to shape and .dbf files
8. Data is ready to be put on CD and/or delivered to the service center.

1. Technical Issues

a. Tiling

No tiling is needed. Data is delivered by Service Center.

b. Compression

None

c. Scale

The data should not be used at a scale larger than the source photography.

d. Tonal Matching

This is not applicable to vector data.

e. Edge-matching

None. Hopefully performed by NWI.

2. Quality Control

a. Procedures

Tests for logical consistency are performed at NWI by WAMS verification software.

- b. Acceptance Criteria

We take what we are given by NWI.

3. Data Steward

- a. Name and Organization

Same as source data.

- b. Responsibilities

Digitize and deliver NWI data with Cowardin Classification. Keep a list of newly added quadrangles.

B. Integrated Data Structure

1. Geospatial Data Format

- a. Format (raster, vector, etc.)

Vector

- b. Format Name

ESRI Shape file

- c. Data Extent

Service center.

- d. Horizontal and Vertical Resolution

Same as source data.

- e. Absolute Horizontal and Vertical Accuracy

Same as source data.

- f. Nominal Scale

Same as source data.

- g. Horizontal and Vertical Datum

The horizontal datum is the North American Datum (NAD) 83. The vertical datum is mean sea level.

- h. Projection

Universal Transverse Mercator (UTM), North American Datum (NAD) 83.

- i. Coordinate Units

Meters

- j. Symbology

None-default.

2. Attribute Data Format

a. Format Name

Dbase V, as part of an ESRI Shape file.

b. Database Size

Depends on extent of service center and variability of wetlands.

3. Data Model

a. Geospatial Data Structure

Poly Files		Point Files	
map shp	shp file	map shp	shp file
map dbf	dbf file	map dbf	dbf file
map shx	shx file	map shx	shx file
map sbn	sbn file	map sbn	sbn file
map sbx	sbx 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.

d. Data Relationship Definition

None. One row in .dbf for each area or point feature

e. Data Dictionary

Same as in acquired above.

C. Resource Requirements

1. Hardware and Software

To acquire and integrate one set of NWI data for a service center, a minimum of one UNIX or NT machine with approximately 1-gigabyte of disk is required.

2. Staffing

This is unknown at this time. If the access and integration can be completely automated, it would only require personnel to periodically check the results.

D. Integration Cost

1. Hardware and Software

To reformat, reproject, and subset the dataset a minimum the following is required:
Arc/Info on UNIX or NT platform
ArcView on NT platform

5-gigabyte disk

2. Staffing

This is unknown at this time.

III. Delivery

A. Specifications

1. Directory Structure

a. Folder Theme Data is Stored In

(Version 7)
\Service Center Themes
\Wetlands NWI

2. File Naming Convention

a. List of Theme Files and The File Naming Convention

\nwiFIPS_pol.dbf	\nwiFIPS_pnt.dbf
\nwiFIPS_polshx	\nwiFIPS_pnt.shx
\nwiFIPS_pol.shp	\nwiFIPS_lin.shp

Where FIPS is state and county FIPS.

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 NWI interpretations and the fact that the data is captured at different scales and times.

b. Content

The data is what NWI delivers and exists according to their interpretation.

2. Appropriate Uses of the Geospatial Data

a. Display Scale

The original data source scale or smaller. This includes 20,000, 24000, 25000, 30000, and 62500.

b. Plot Scale

The original data source scale or smaller.

c. Area Calculations

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

d. Decision Making

Unknown what information is requested here.

C. Maintenance and Updating

1. Recommendations and Guidelines

a. Frequency of Updates

Update the Service Center whenever there is a new or updated NWI 7.5' quad that is in the Service Center.

b. Location for the Theme Data to be Maintained

Ideally, the data would be extracted from the NWI site, processed, then stored at the Service Center.

c. Maintenance and Updating Procedures Overview

This depends on the update cycle and whether or not the access and integration can be fully automated.