Mapping Standards and Procedures

The NWI and You.

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National Standards and Support Team

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Wetland Layer of National Spatial Data Infrastructure (NSDI)

**OMB Circular A-16**

- The U.S. Fish and Wildlife Service is the principal Federal agency that provides information to the public on the extent and status of the Nation’s wetlands.

- US Fish and Wildlife is responsible for wetlands data coordination and management.
NWII is a National Geospatial Data Asset

• FWS is responsible for:
  – Development and maintenance of the data layer
  – Providing quality control for incoming data submissions

• Data must be compliant with:
  – FGDC Wetlands Mapping Standards
  – FGDC Wetlands Classification Standard
Federally Funded Mapping Projects Must Comply with FGDC Standards

• OMB Circular A-16
  – Minimum data quality components (FGDC)
  – Requires data to be included into NSDI
  – Non-federal projects encouraged to comply
    • Benefits of inclusion in NSDI
      – Wetlands mapper
        » Hosted in cloud
        » Distribution channel
        » 335,000 annual users
      – Acknowledgement
NWI Status:
Mapped Lower 48 (1979 - 2014)
NWI Structure

• With completion of the wetland data theme
  – NWI roles will change from primary data producers to data stewardship
  – Produce synthesis reports with collaborators
  – Status and Trends

• Personnel adjustment
  – Reduced regional presence
  – NSST will have a larger coordination role
NWI Structure

• Regional Wetland Coordinators (RWC)
  – Primary data generators
• NSST (National Standards and Support Team)
  – Role Transition
    • National Quality Control
    • Project Management
• Improve and continue to provide a quality data product
Overview – How to Interact with the NWI

- **Project Setup**
  - Mapping Procedures

- **Quality Control**
  - Verification Toolset
  - FGDC Standards must be met for all Federally funded wetland mapping projects

- **Metadata**
Project Management

Project Request/Setup

- Coordinate with NSST and existing RWC
  - wetlands_team@fws.gov
  - Project Tracking
    - By project area (geospatial)
    - Any shape
      - Watershed based approach
      - Refuges updated
      - Easements
      - Road Corridors

- Data Projection
  - NAD83 Albers
    - Equal area

- Schema
  - Provided with project request
    - Exact same schema as Master Geodatabase
      - Database container for wetlands layer
Project Area

- Project area represents a “piece” of landscape
- Project area is used to create a hole in national layer
- Wetland polygons then fill the hole created
- Project Area is vital to how wetlands mapped “interact” with the existing database
  - Vital that wetland data is mapped completely to the project boundary
Mapping Procedures

• National data is “seamless”
  – **Seamlessness** is only as good as it is mapped.

• **Seamlessness** is a product of project boundaries

• Polygons need to reach project boundary
  – Clip wetlands to boundary

• Avoid creating slivers along boundary
Mapping Procedures

• Linear Features Requirements
  – All data submitted must be comprised of polygons
  – This includes all features
    • Classification of Wetlands and Deepwater Habitats
      – Surface water features
        » Streams
        » Rivers
Quality Control

• Traditionally Tiered approach
  – Internal
  – RWC
  – NSST

• NSST will be assuming more of a QC role in addition to providing National Quality Assurance

• QA/QC Tool
  – Re-run until data is “clean”

• Submit project for QC Review either to RWC or NSST
  – Iterative process
    • Review will be conducted at various “checkpoints”
Quality Control

- Wetlands Verification Tool
  - ESRI Data Model
    - Documentation included on website
  - Looks for “known” errors
  - Flags errors to make fixing errors more efficient
  - Provides way to justify codes and other anomalies to NSST staff
Quality Control

• Communication with NSST
  – Email
  – QA/QC Summary Table
  – QC Comments

• Comments
  – Geospatial
  – Comments should be extrapolated to entire project area.
    • Both mapped and unmapped

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Quality Control

• Imagery
  – Must be made available
    • Image Service
    • FTP or Hard Drive
      – Raster Catalog
      – Image Mosaic
  – Ancillary Datasets
    • Any data used to help with identification or classification should be passed along with the project
    – Ideally this would be provided in an .mxd with all layers added and saved with relative path names
Quality Control

- Cooperators submitting data to NSDI can expect more involvement by NWI staff.
  - Quality control comments will happen at all levels of mapping, including the final submission
  - It is important to prepare and have enough budget to account for QA/QC
Metadata

- Data about data
  - Defines the wetland data associated with the project

- FGDC metadata
  - Entire data set

- Project Metadata
  - Linked map report
    - Published document
    - Template Provided
  - Map Report is valid for all polygons contained within the project area
Metadata

• Map Report
  – Should contain
    • Project Area
    • Image Year
    • What is particular about this project?
    • Unique Cowardin Codes
    • Important wetland codes
      – Bogs; Vernal pools
    • These reports drive user’s ability to appropriately utilize the data
Project Management

Project Submission

• Passes Verification Tool
  – Correct schema
• Quality Assurance – NSST
• QA Feedback loop
  – Iterative
• Metadata

• Wetlands Layer update
• Mapper update
  – Updates are done quarterly or as needed
Summary

• Benefits of submitting data to NSDI
  – Distribution
    • Download
    • Map services
  – Data housing
    • Cloud
  – Compliance with federal mandates
    • Standardized product
  – Visibility
    • Over 335,000 unique annual users
  – Acknowledgement

• More involvement requested from NSST
  – From start to finish
    • Project request
    • Project submission

• NSST will improve and continue to provide a quality data product
  – OMB Circular A-16
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