Mapping Standards and Procedures

The NWI and You.

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National Wetlands Inventory

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.

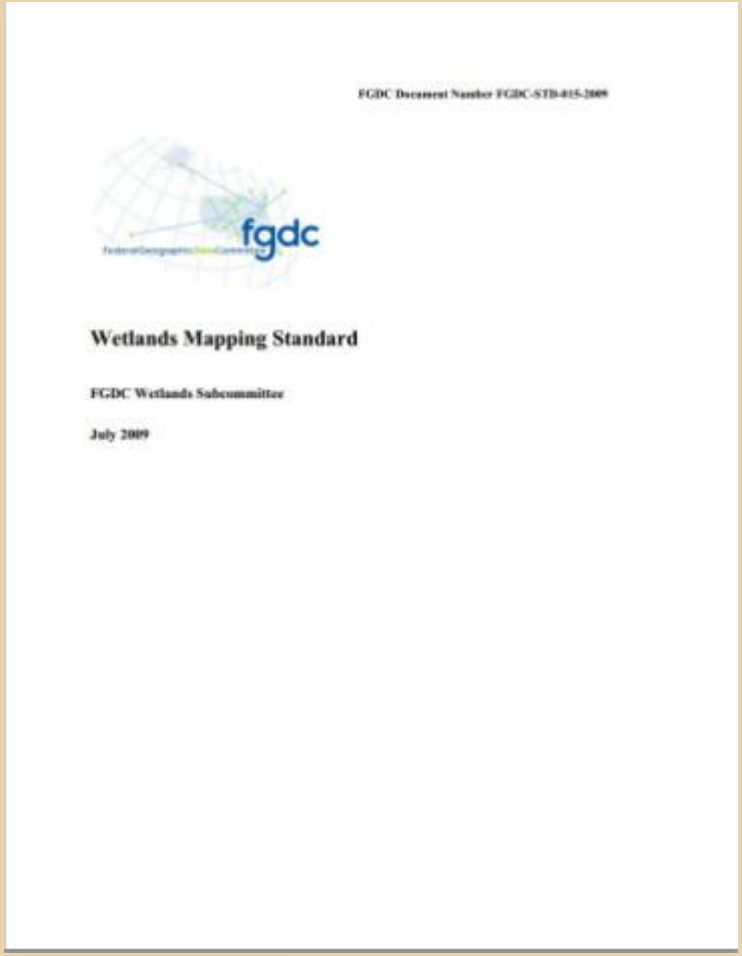
- US Fish and Wildlife is responsible for wetlands data coordination and management

NWI 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


FGDC Document Number FGDC-STD-015-2009

fgdc

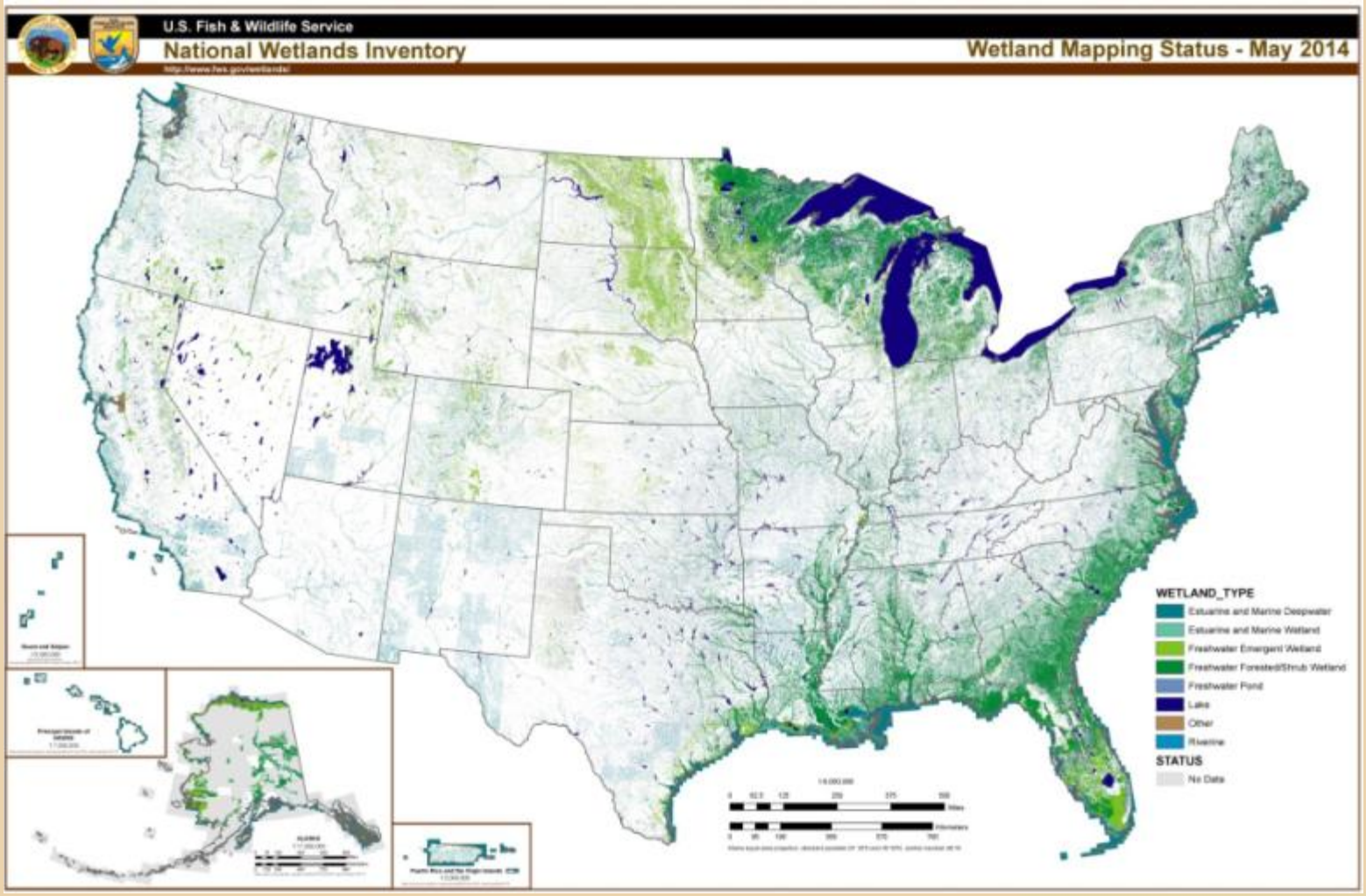
Wetlands Mapping Standard

FGDC Wetlands Subcommittee

July 2009

National Wetlands Inventory

NWI Status:
Mapped Lower 48 (1979 - 2014)



National Wetlands Inventory

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

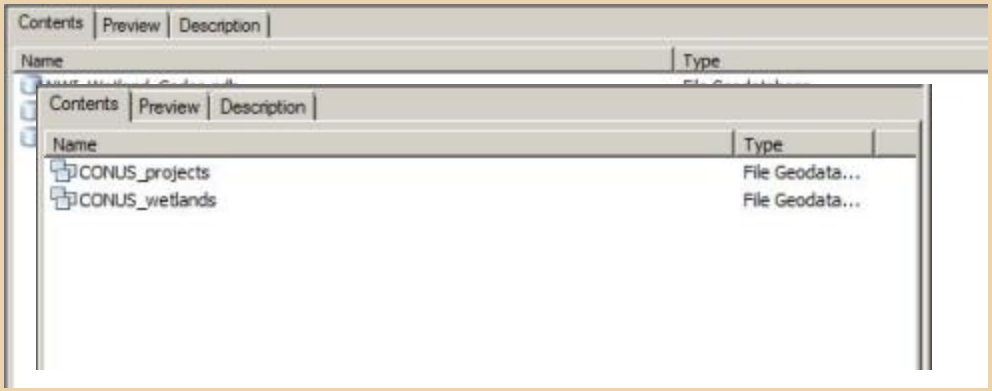
Overview – How to Interact with the NWI

- 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

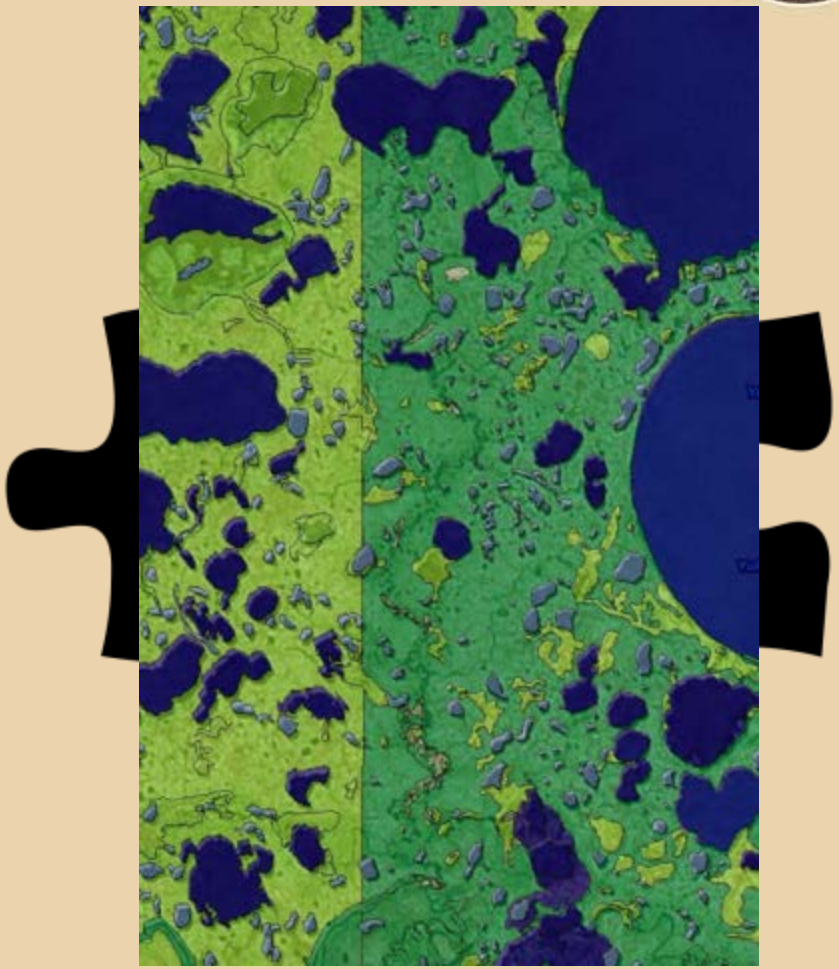


Project Area

- 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

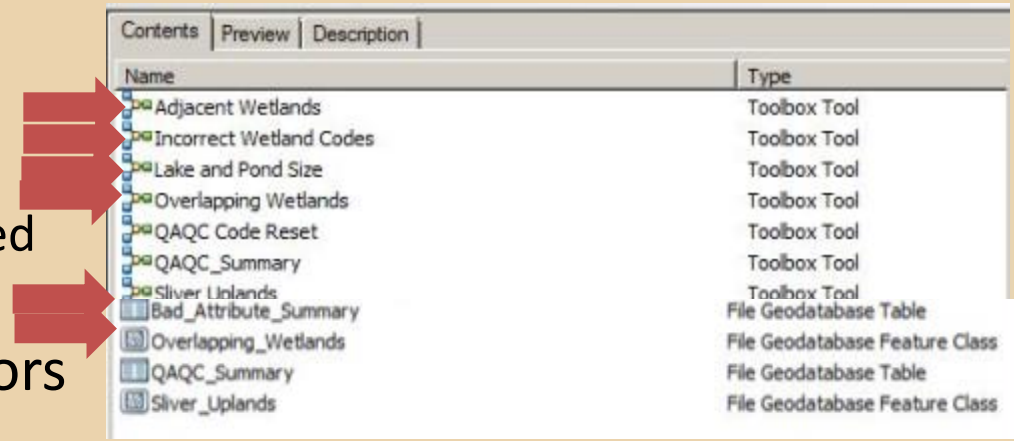
- Linear Features Requirements
  - All data submitted must be comprised of polygons
  - This includes **all** features
    - Classification of Wetlands ***and*** Deepwater Habitats
      - Surface water features
        - » Streams
        - » Rivers

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

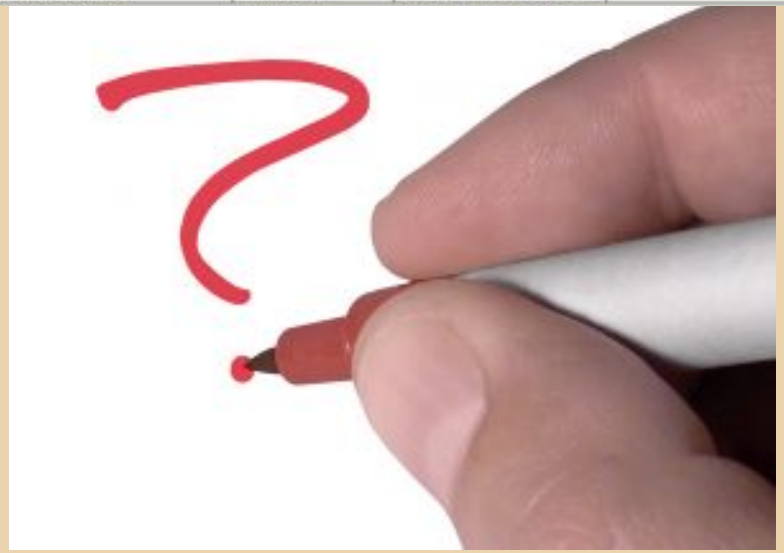
- Wetlands Verification Tool
  - ESRI Data Model
    - Documentation included on website
  - Looks for “known” errors
  - Flags errors to make fixing errors more efficient
  - Provides way to justify codes and other anomalies to NSST staff



Quality Control

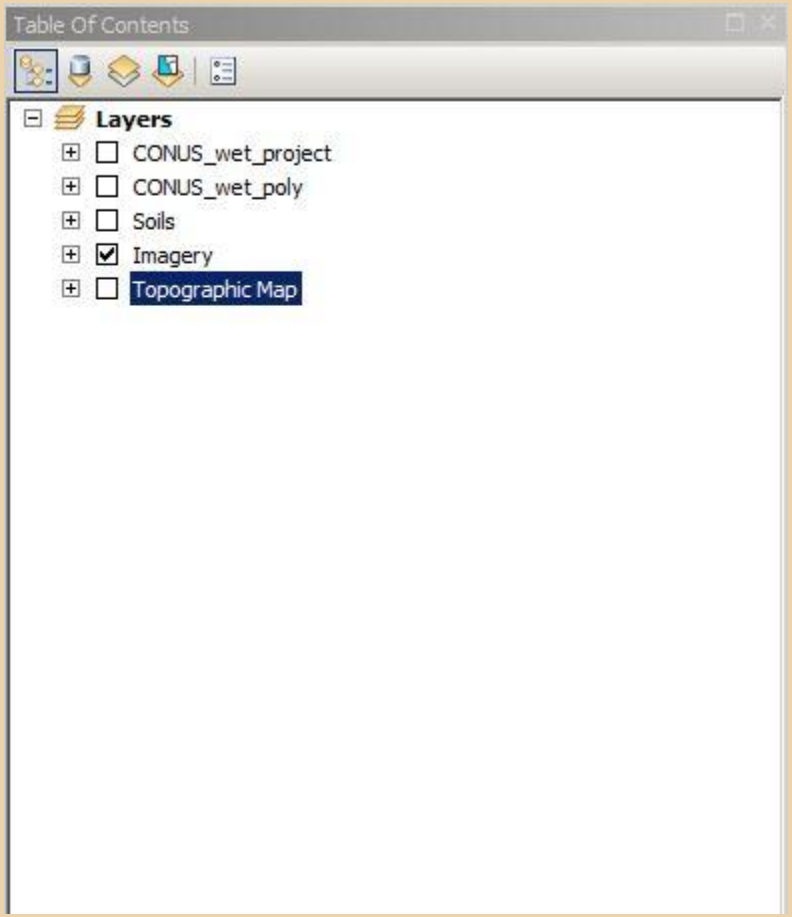
- Communication with NSST
  - Email
  - QA/QC Summary Table
  - QC Comments
- Comments
  - Geospatial
  - Comments should be extrapolated to entire project area.
    - Both mapped and unmapped

	OBJECTID *	FREQUENCY	QAQC_CODE	Error_Type	Verified_By	Verification_Date	Verification_Comment
▶	1	122458	NNNNNN	Passed Verification	TIM_ONEILL	2/27/2014 11:47:15 AM	



Quality Control

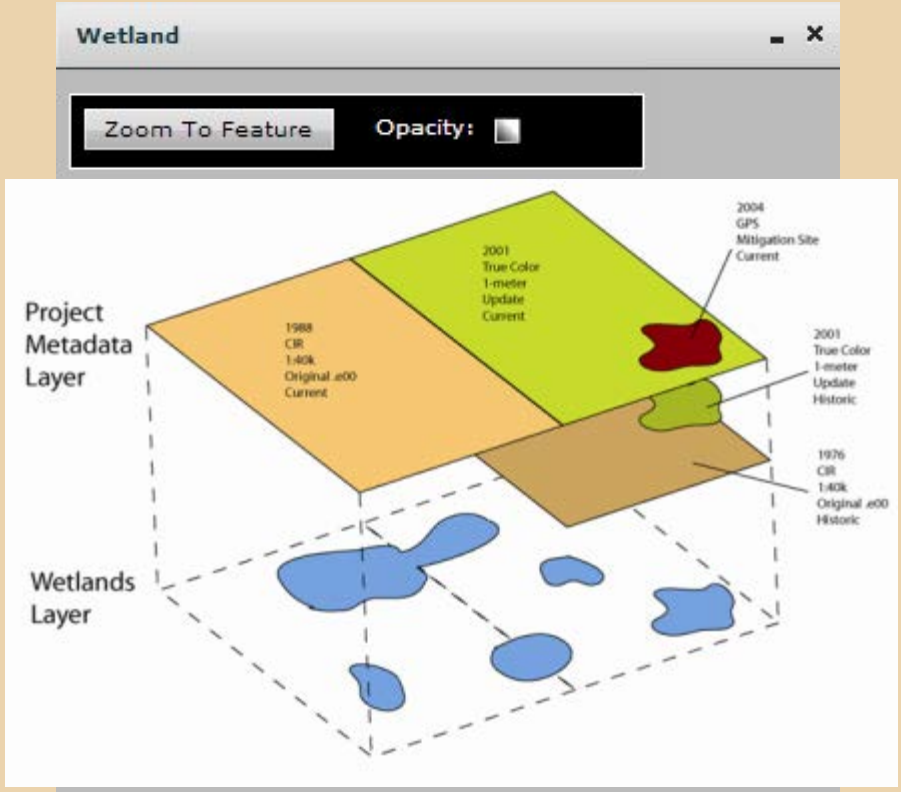
- Imagery
  - Must be made available
    - Image Service
    - FTP or Hard Drive
      - Raster Catalog
      - Image Mosaic
  - Ancillary Datasets
    - Any data used to help with identification or classification should be passed along with the project
  - Ideally this would be provided in an .mxd with 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

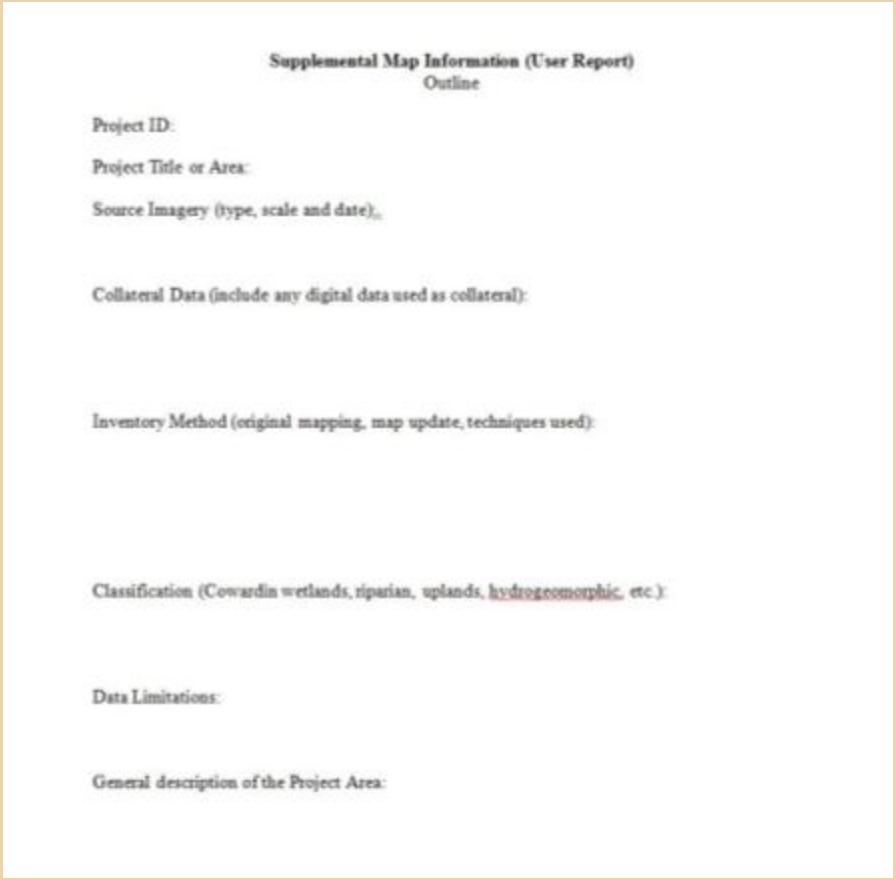
Metadata



- 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



Supplemental Map Information (User Report)
Outline

Project ID:

Project Title or Area:

Source Imagery (type, scale and date):

Collateral Data (include any digital data used as collateral):

Inventory Method (original mapping, map update, techniques used):

Classification (Cowardin wetlands, riparian, uplands, hydrogeomorphic, etc.):

Data Limitations:

General description of the Project Area:

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

Contact Information

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  - http://www.fws.gov/wetlands/Data/Contributed-Data.html