

National Mapping Standard for Wetlands

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Wetland Mapping Standard Workgroup Chair**



Introduction

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Why Have a Standard?

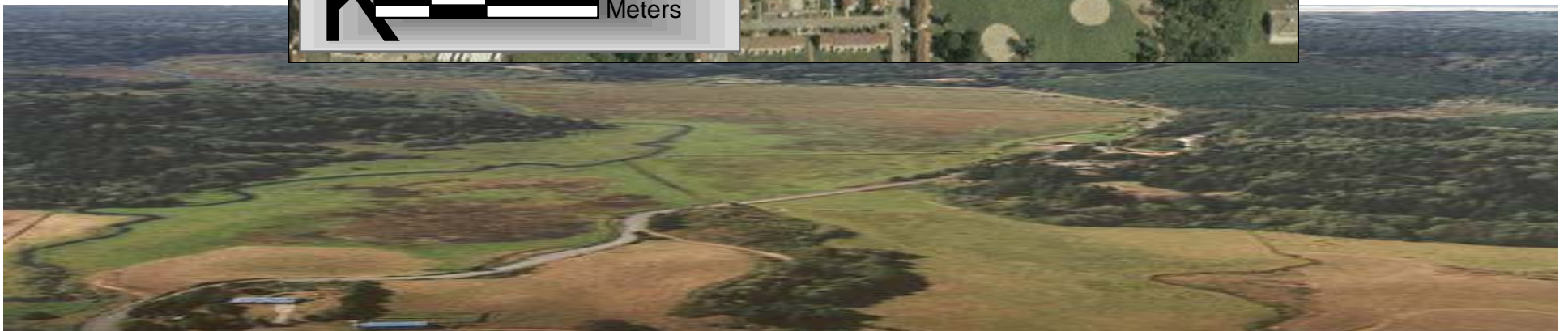
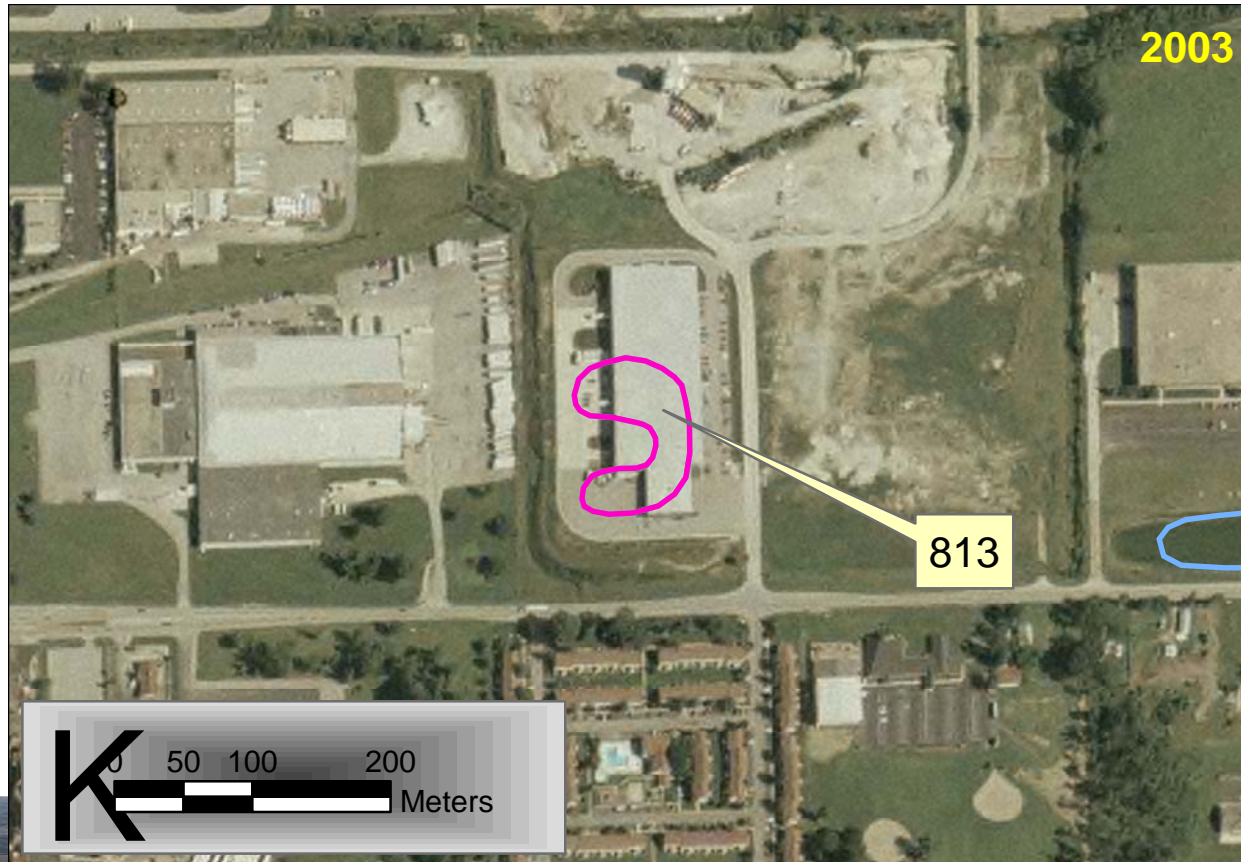
Wetland Maps are Essential to...

- **Get a complete and accurate picture of wetland resources in the US**
- **Calculate (not estimate) wetland loss and gain**
- **See wetland geospatial distribution**
- **Complete the watershed picture on the National Map – wetlands currently missing**



Why Have a Standard?

Wetlands Change over Time



Why Have a Standard?

A Wetland Mapping Standard will:

- **Streamline mapping efforts for greater consistency and efficiency**
- **Enable any entity to map using the standard and construct or update the National Wetlands Inventory (NWI) Geodatabase and the National Map**
- **Facilitate consistent mapping layers that can be used across geopolitical and watershed boundaries.**



What Exists Now?

- **An FGDC (Federal Geographic Data Committee) Wetland Classification Standard exists, but there is no current standard addressing its use in mapping...hence this "new" standard**
- **USFWS (U.S. Fish & Wildlife Service) will never have the resources to undertake wetland mapping and updating alone, especially on a continual basis – a partnership (Fed, State, Tribal, Local and others) can accomplish this**



What Was Proposed to and Approved by the FGDC in February 2006?

- **Base proposal of FGDC standards on existing FWS standards**
- **Coordinate with other pertinent standards: NHD, NOAA classifications, FGDC classification standards, etc.**
- **Coordinate stakeholders**
- **Propose draft for comment in March 2007**



Who Has Helped Develop the Standard?

- **Colleen Charles, USGS**
 - Bob Pierce, USGS
 - Paul Wiese, USGS
 - **Larry Handley, USGS ***
 - **Tom Dahl, FWS**
 - John Cooper, FWS
 - Bill Pearson, FWS
 - **Ralph Tiner, FWS ***
 - **Bill Wilen, FWS, NWI ***
 - **Jo Ann Mills, FWS**
 - **Margarete Heber, EPA***
 - **Palmer Hough, EPA**
 - **Chanda Littles, EPA**
 - **Christine Mazzarella, EPA**
 - Myra Price, EPA
 - **Kathy Mulder, EPA**
 - Jim Dick, NWI
 - **Norman Melvin, USDA**
 - Romell Nandi, EPA
 - **Edmund Miller, OSD ***
 - **Pedro Flores, NACo ***
 - **Norman Melvin, NRCS**
 - **James Robb, IDEM***
 - **Mark Sudol, COE**
 - **Andy Damasis DHS**
 - **Jeanne Christie, ASWM***
 - **Dawn Browne, Ducks Unlimited***
 - **Marti McGuire, NOAA***
 - Mark Gernes, MPCA
 - **Ky Ostergaard, Indus Corp**
 - **Dave LaBranche, DOD**
 - **Mark Zundel, US Bureau of Indian Affairs**
 - Stephen Getlein, Army Env. Center
 - **Jane Awl, TVA***
 - Randall Gray, USDA
 - Chris Berginnis, Ohio DPS
 - John Christy, Oregon State University
 - **Vince Allen, Indus Corp**
- Bold=Workgroup member
• * with Bold = very active workgroup member



Groups that have Reviewed or Discussed the Standard

- **NACo**
- **TVA**
- **IDEM**
- **Ducks Unlimited**
- **NOAA**
- **EPA**
- **DOD, COE**
- **NRCS**
- **ESRI Conference**
- **Indus Corp**
- **Individual States in Regions 2, 4, & 5**
- **ASWM**
- **USGS**
- **FWS/NWI**



Timeline

- **Feb 2006:** Approval by FGDC to develop a proposal
- **Spring 2006:** Present proposal idea to stakeholder groups (i.e. ASWM, NACo, NSGIC, etc.)
- **Summer 2006:** Begin drafting standard-1 year to proposal
- **Fall 2006/ Winter 2007:** Interact with stakeholders
- **Fall 2006/ Winter 2007:** Ensure that state and federal agencies and tribes are comfortable with proposal
- **March 2007:** Present draft standard to FGDC Standards committee for review
- **March 2007:** FGDC Standards Committee approves and sends to Formal FGDC for approval
- **April/May 2007:** Propose for comments
- **July 2007:** Respond to comments
- **August/September 2007:** Finalize proposal to FGDC



Next Steps After FGDC Approval

- Put a Notice of Availability in the Federal Register with a link to the FGDC website and the draft Standard
- Send to GIS technical organizations (ASPRS, NSDI, etc.)



Contents of the Standard

- **Objective**
- **Scope**
- **Applicability**
- **FGDC Standards and Other Related Practices**
- **Standard Development Procedures and Representation**
- **Maintenance Authority**
- **NSDI Requirements and Quality Components:**
 - Source Imagery
 - Classification
 - Accuracy
 - TMU (Targeted Mapping Unit) and Producer's Accuracy
 - Horizontal Accuracy
 - Data Verification
 - Logical Consistency
 - Edge Matching
 - Attribute Validity
 - Datum and Projection
 - Metadata
- **Workgroup Recommendations**
 - FGDC Riparian Standards
 - Marine Benthic Standards
 - Proposed Future Tools for Unique Wetland Identifiers
- **Appendix A. Classification Keys**
- **Appendix B. Implementation Recommendations**
- **Appendix C. Known Issues with Existing Wetlands Mapping Data**
- **Appendix D. Polygon Lineage Concept Diagrams**
- **Appendix E. Q & A's**
- **Appendix F. Definitions (Informative)**
- **Tables**
 1. Spatial Resolution Requirements of Source Imagery
 2. Classification levels required based on habitat type
 3. TMU and Producer Accuracy Requirements
 4. Horizontal Accuracy (RMSE) Requirements



The Standard Applies to:

- **Any entity using federal funds to map wetlands**



Implementation

- **Encourage states/tribes to establish wetlands mapping funding coalition**
- **Any entity receiving federal money must use FGDC standard**
- **Encourage others to adopt/use the standard**
- **Grant money as seed money are possibilities for funding**
- **Provide training workshops and materials for technical implementation – for example, online help.**

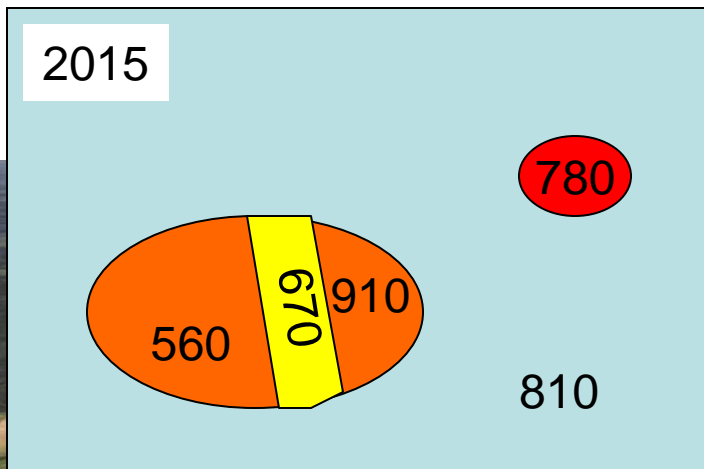
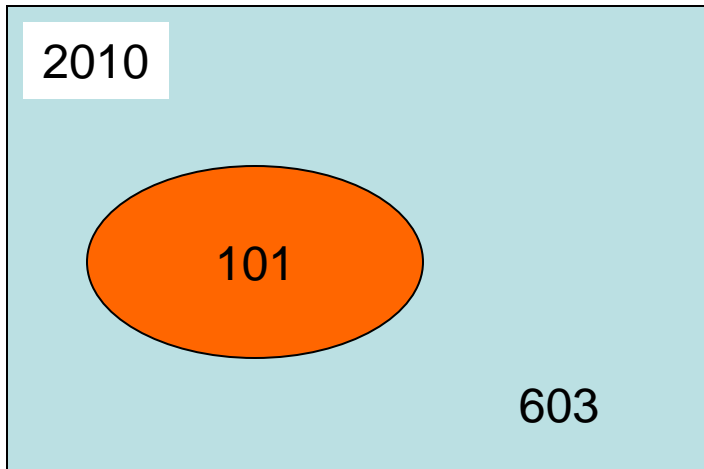


Implementation (cont'd)

- **Implementation is separate from FGDC approval.**
- **Implementation of the standard will include how wetlands data are collected and added to the wetlands geodatabase (NWI)**
- **There is no “Implementation” section of the standard. Detailed guidelines for practical implementation of the standard will be generated after FGDC approval. This will include technical process specifications (attributes, polygon lineage, software compatibilities, data formats, etc.”**

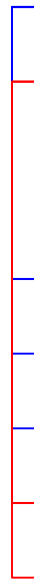


Polygon Lineage and Unique Stable Identifiers -- Ideal

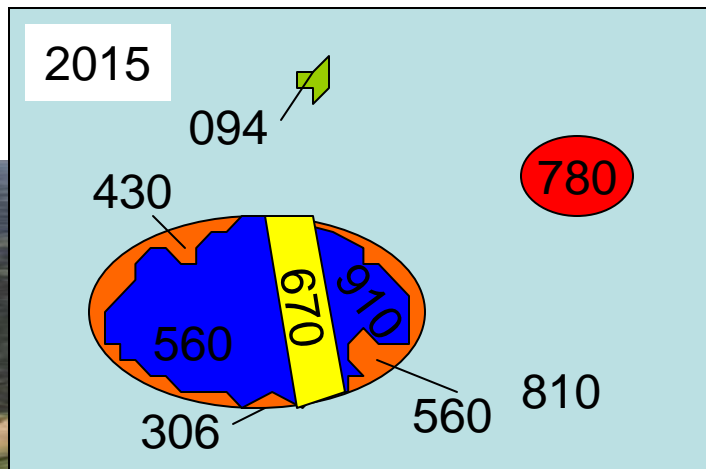
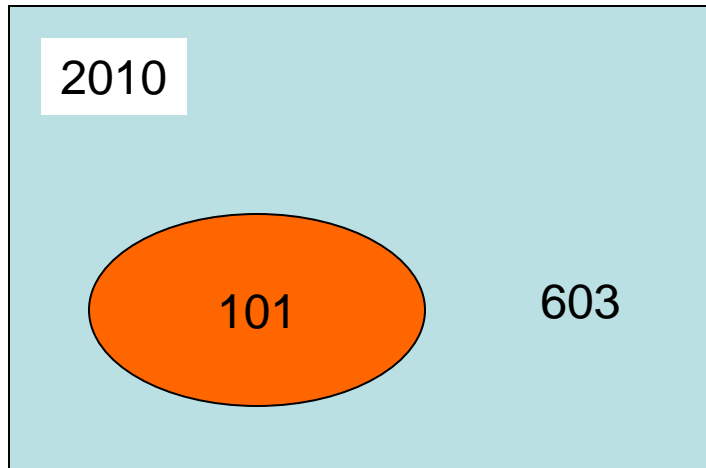


ID	Class
101	PFO
603	U

ID	Parent	Class	Cause
560	101	PFO	Fragment
670	101	U	Fill
910	101	PEM	Fragment
780	603	PAB	Excavated
810	603	U	Fragment



Polygon Lineage - Scale Deviation



ID	Class
101	PFO
603	U

ID	Parent	Class	Cause
560	101	PFO	Fragment
670	101	U	Fill
430	101	U	Scale deviation
306	101	U	Scale deviation
560	101	U	Scale deviation
910	101	PEM	Fragment
780	603	PAB	Excavated
810	603	U	Fragment
094	603	PEM	Scale deviation

Your Participation? / Comments?



QUESTIONS?

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