LMCP Regional National Wetland Inventory Update and Functional Assessment

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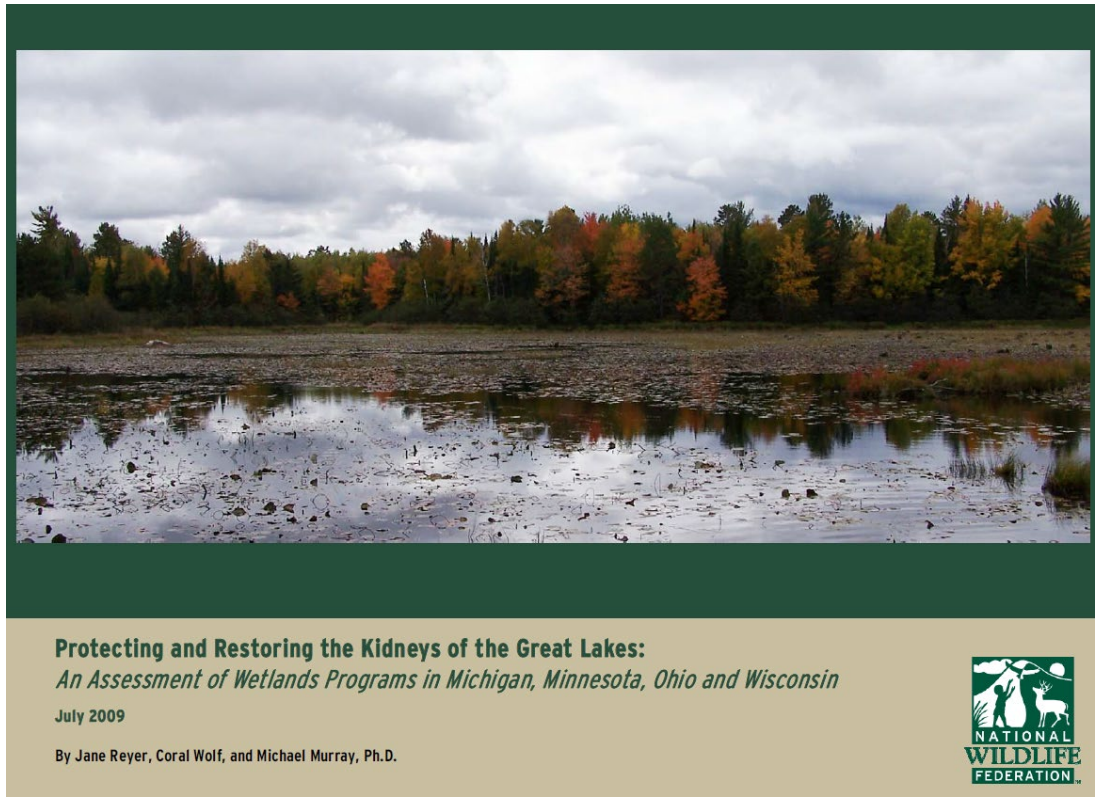
Background Information

- During the 2016-2020 LMCP Section 309 Program Enhancement Plan stakeholder input and planning process the need to update wetland mapping and functional data was identified.
- The need to improve the knowledge of wetland extent throughout the LMCP Region



Why Was This Project Needed?

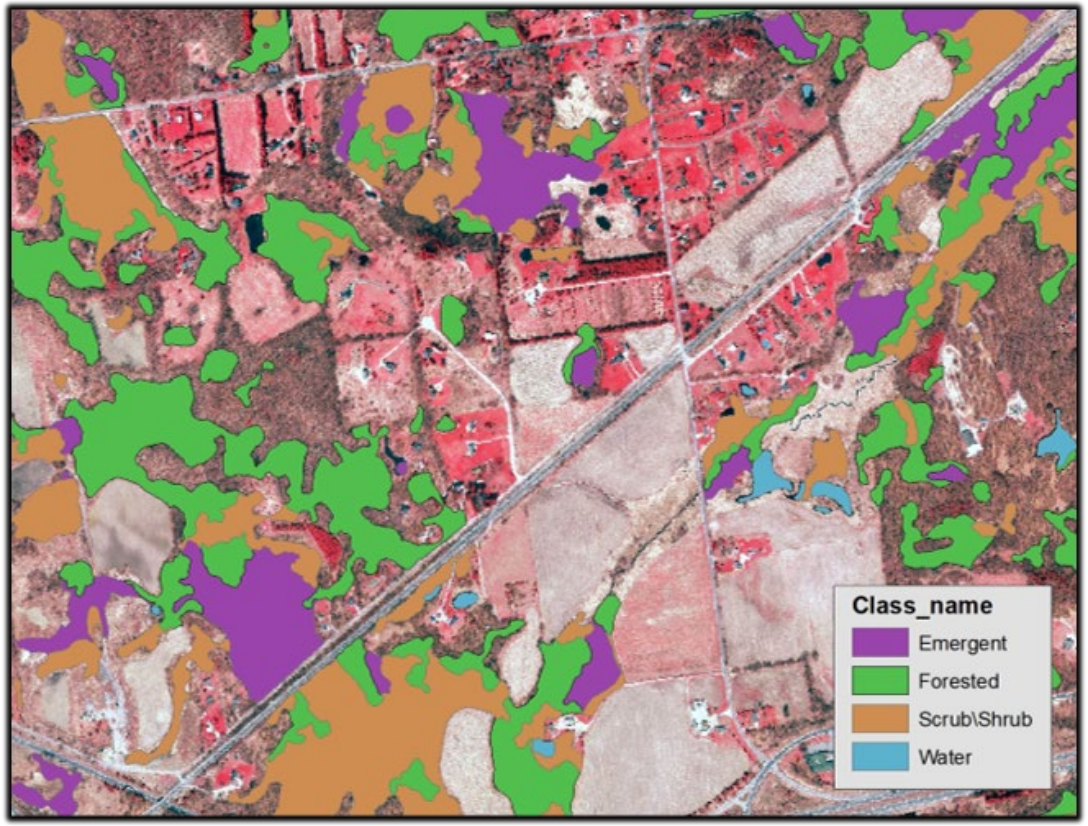
- The U.S. Fish and Wildlife Service (USFWS) has been conducting the NWI for over 30 years with Indiana's last NWI occurring in 2010. This mapping was completed using aerial data from 2003 and 2005. Indiana has since acquired new aerial imagery and LiDAR data in 2018. Because wetland mapping only captures a landscapes features for a given snapshot of time, the current mapping has become outdated as it does not include many currently protected (and unprotected) wetlands and does not accurately depict several wetlands' shapes and sizes at this point in time.

Pulling New Data

- Partnering with Ducks Unlimited (DU) the LMCP worked to create a new seamless updated NWI. Information for this layer was pulled from several sources:
  - Spring Digital Orthophotos (2015)
  - LiDAR images (2018)
    - Ancillary data came from other sources such as NAIP Summer digital orthophotos, Indiana LMCP aerial photos, USGS 1:24,000 DGR, the original NWI layer and SSURGO Soils

The Process

- Using a combination of eCognitation and human checkers DU was able to map waterbodies and wetland within the area
- Step 1 – Open Water
- Step 2 – Wetland Objects
- Step 3 – Identify Broad Wetland Classes
- Step 4 – Smooth the Segments



Results after Step 4

Final Step and Final Results

- Manual Interpretation
  - Where there were question about what class a wetland should be classified under, experts would examine the photos and make a final determination
  - A good example is the new PEM5 classification, which is a wetland dominated by Phragmites (*Phragmites australis*) where people would look closely at photos for evidence of Phragmites

Original vs Final Results (Updated)

Original

Updated