Ducks Unlimited

Jes Skillman


DUCKS
UNLIMITED

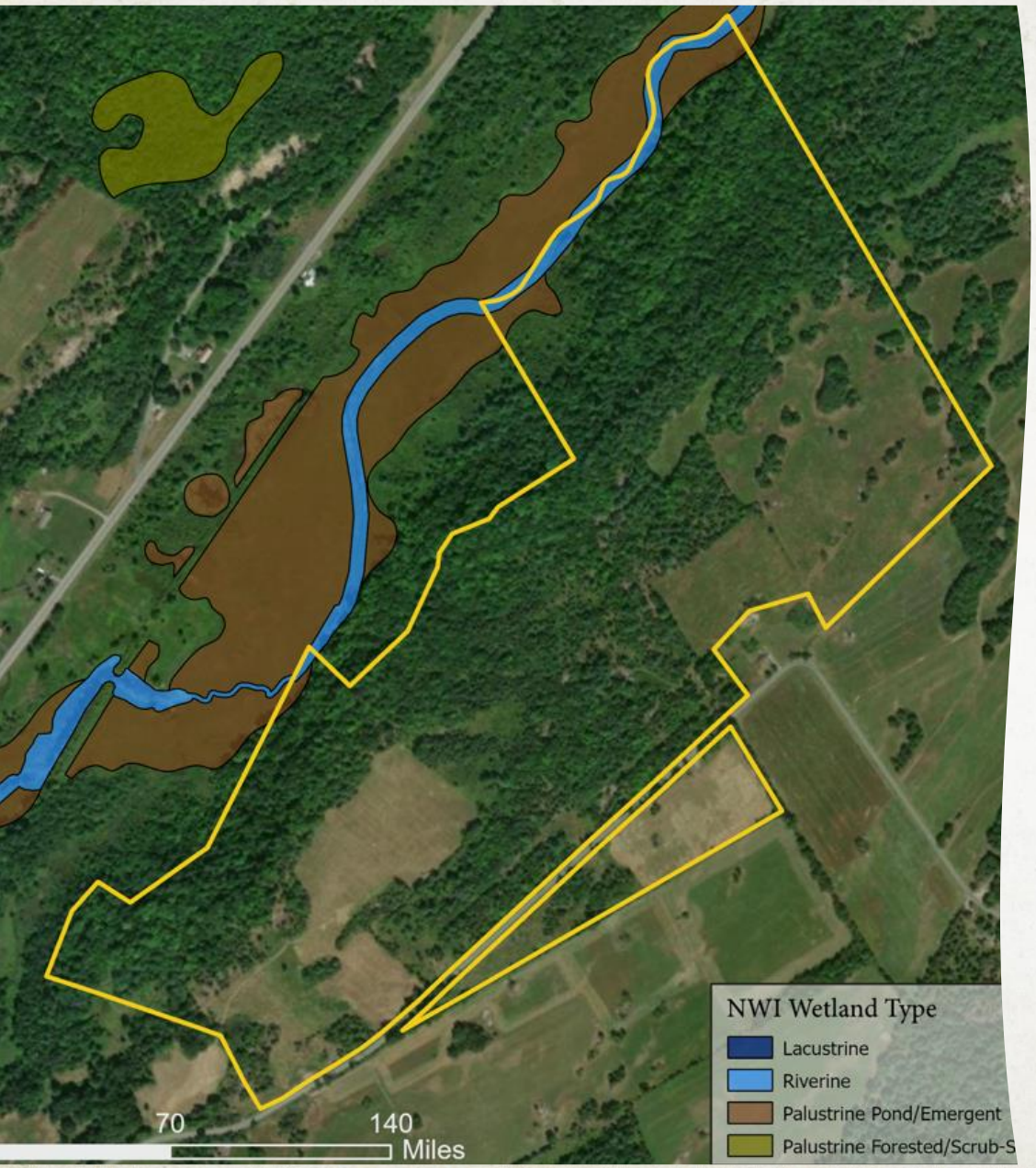
DUCKS UNLIMITED

CONSERVATION FOR A CONTINENT

OUR WETLANDS. OUR LEGACY.

Conservation Through: 1938

Acres: 26,000



How DU Uses NWI

(some examples)

- Grant Proposals
- DU's International Conservation Priorities
- Status and Trends – assess landscape status
- Guide Land Protection in other decision support tools (e.g. Montezuma, Hackmatack)

American Black Duck Decision Support Tool

Prioritize landscape conservation for black ducks and other dabbling ducks within the black duck non-breeding range.

HOW?

Spatially model the bioenergetics of nine dabbling ducks



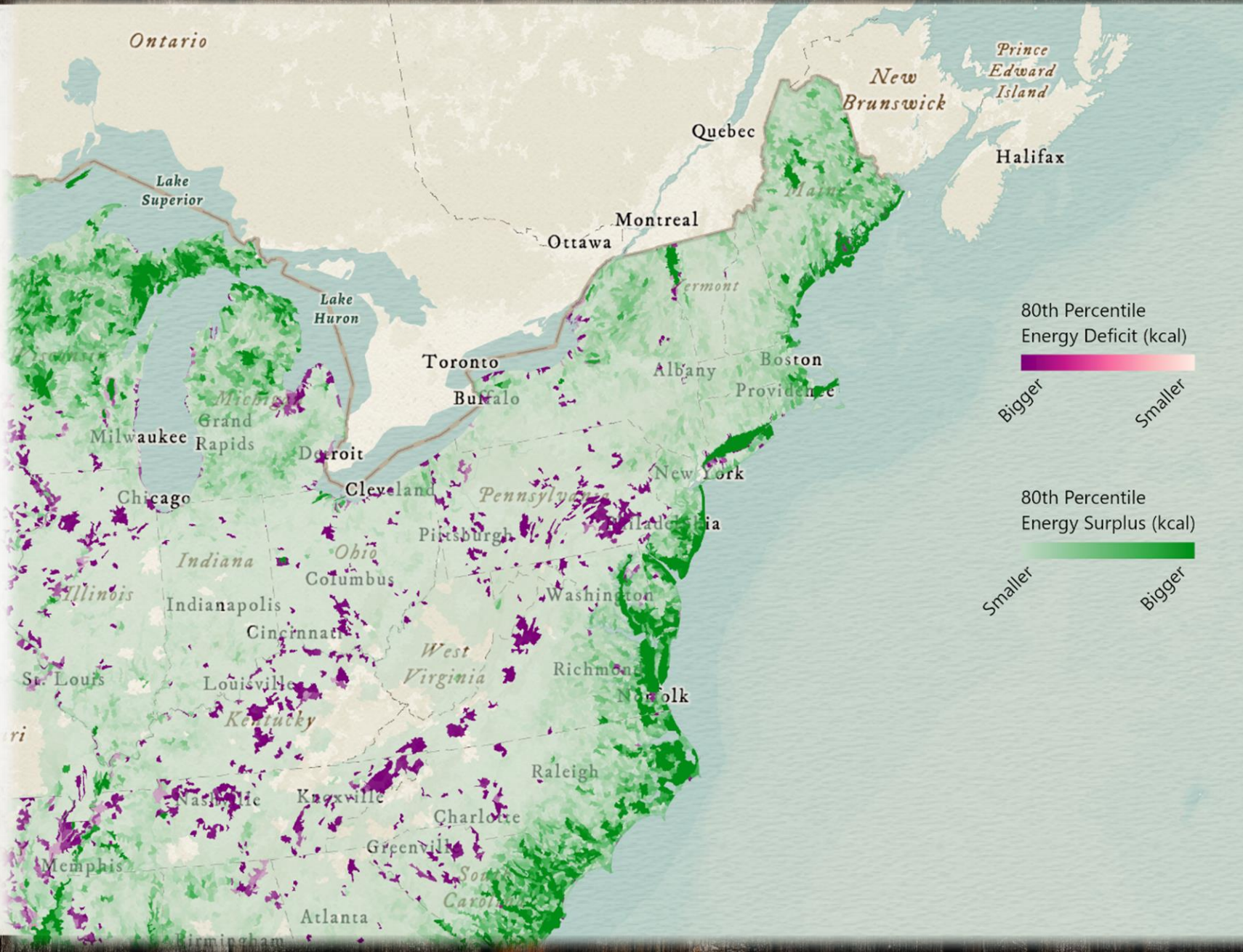






DUCKS UNLIMITED

NWI used to model energy availability



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DU National Wetlands Inventory Project Status Dashboard

Select a category
All Projects

Project Status

DU NWI Project Areas

- In Progress
- Accepted into NWI Mapper

Total Area of Active and Completed NWI Update Projects

125.2M Acres

Saint Mary's University of Minnesota: GeoSpatial Services

Andy Robertson

Celebrating the 50th Anniversary of the U.S. Fish and Wildlife Service's National Wetlands Inventory

Andy Robertson, Saint Mary's University of Minnesota

NAWM Wetland Mapping Consortium

06/24/2025

Saint Mary's University
GEOSPATIAL SERVICES

NATIONAL ASSOCIATION OF WETLAND MANAGERS

GeoSpatial Services – Saint Mary's

Who We Are

And integration of academic apprenticeship with focused professional development applying spatial technologies. Largest national producer of NWI over the past 20 years

New Mexico Wetland Jewels

AMIGOS BRAVOS

Saint Mary's University
GEOSPATIAL SERVICES

What Are NM Wetland Jewels

- Comprised of either a single wetland or a complex of several wetlands occurring in a distinct geographic area.
- Provide several important ecological functions to the terrestrial and aquatic landscape as well as to downstream communities.
- A tool to build ecological and community resilience in the face of climate change.

Why Protect Wetland Jewels

Wetland Jewels are a keystone element of action to foster resilient, interconnected, landscape-scale ecological and community systems.

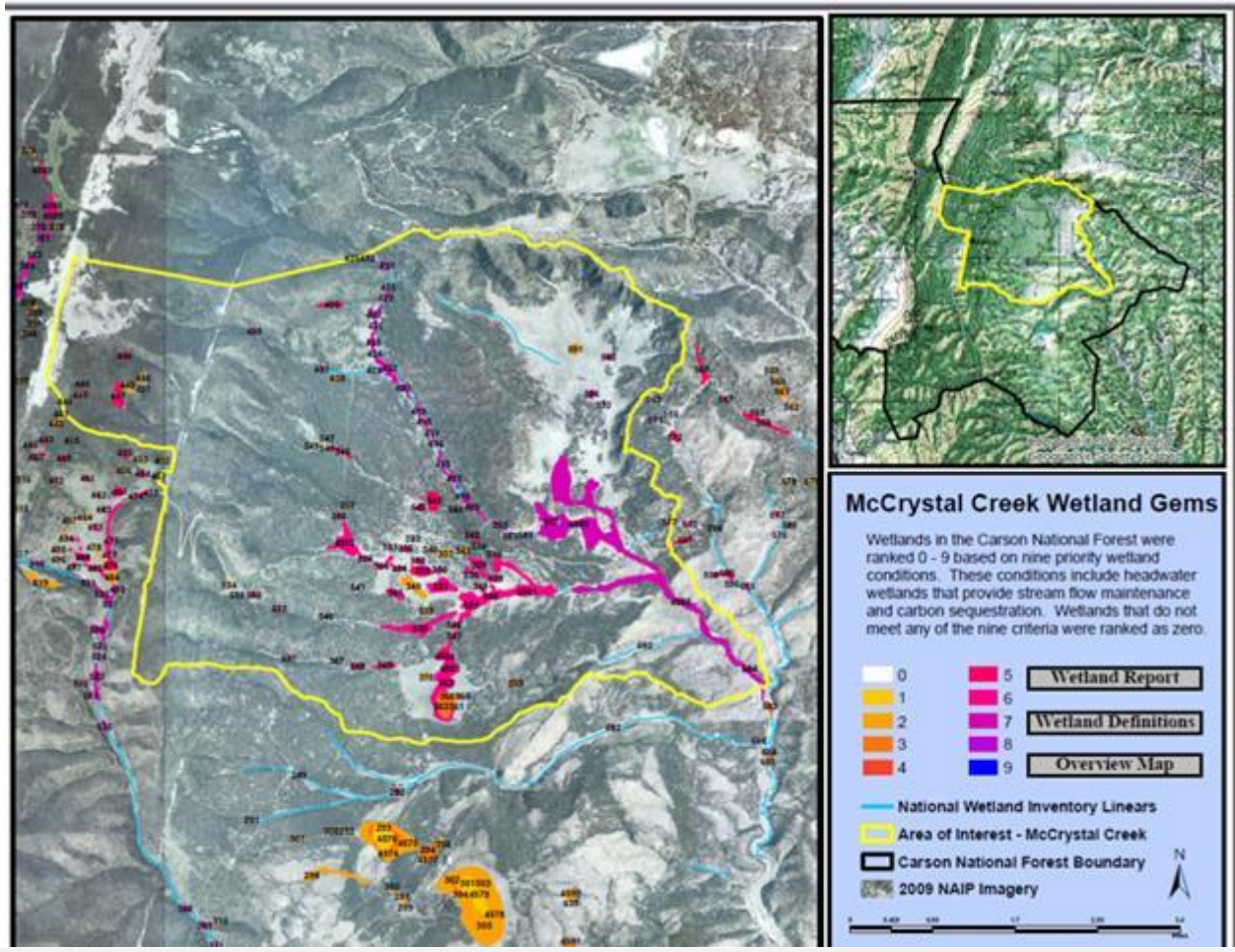
- Maintain stream flow essential for irrigation and wildlife
- Create habitat for wildlife & ranchland use
- Provide clean water for downstream communities
- Mitigate the risk of flooding
- Reduce climate impacts – drought, earlier runoff, wildfire

An Adaptive Mapping Process

New mapping technologies are just one of the tools available with National Wetland Inventory data production

Mapping process key elements:

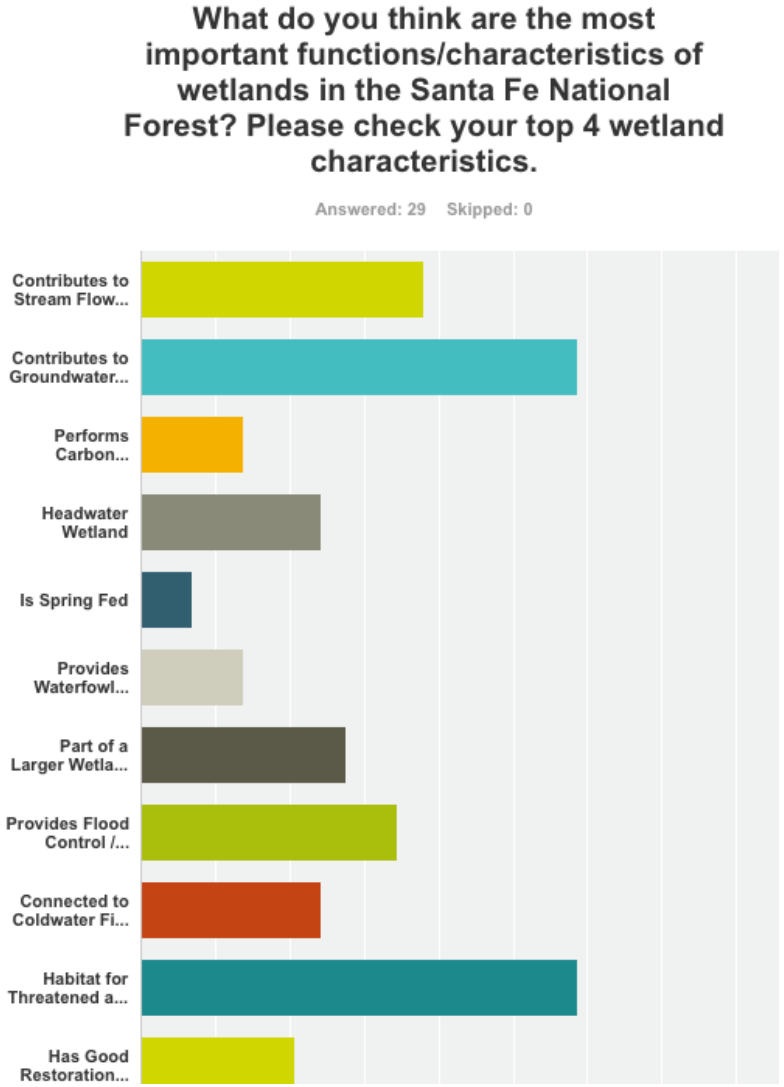
- Derived layers and surfaces (automation)
- Ancillary spatial datasets
- Productivity tools
- Collaboration and quality control



Stakeholder Engagement

Facilitate stakeholder engagement meetings and outreach:

- Discussion and educational materials used to ensure understanding
- A Dot-Voting approach was used to gain consensus
- Online Survey Monkey and Spanish translation
- Results were tallied and presented for final consensus



Applications of Wetland Jewel Data

- Prioritize maintenance and restoration actions.
- Prohibit activities (motorized recreation, mining, new roads, transmission lines)
- Prioritize reclamation of non-system roads/trails
- Coordination with livestock grazing and identify opportunities to leverage Wetland Jewel protections to improve rangeland health and productivity.
- Develop, implement, and enforce amplified standards and guidelines.

Carson National Forest Wetland Jewels

Take time to click through the pages on the left (scroll down to see all 17 pages) and learn about the Wetland Jewels inside the Carson National Forest.
Absorb the landscape through photos, explore the wetlands using interactive maps, and learn about why the Carson National Forest wetlands are a vital component to the surrounding ecosystem!

Wetland Jewels can be comprised of either a single wetland or a complex of several wetlands occurring in a discrete geographic area of national forest lands. These wetlands provide several important ecological functions to the terrestrial and aquatic landscape.

Due to their critically important ecological and community role, we have identified Wetland Jewels in the Carson National Forest to not only bring attention to their importance but to secure their long-term protection and restoration.

Ultimately, Wetland Jewels can be used as a tool to build ecological and community resilience in the face of climate change.

Carson National Forest Wetland Jewels

Take time to click through the pages on the left (scroll down to see all 17 pages) and learn about the Wetland Jewels inside the Carson National Forest.
Absorb the landscape through photos, explore the wetlands using interactive maps, and learn about why the Carson National Forest wetlands are a vital component to the surrounding ecosystem!

15 Serpent Lake

16 Valle Vidal

Valle Vidal Area: 9,794.49 acres

Total Wetland Area inside Valle Vidal: 761.37 acres

Click on a wetland to access its pop-up window for more information such as wetland classification and total functionality.

Several dense stands of decades-old aspen crown bold domes of rock overlooking the Valle Vidal AOI. The view looking south across the iris-dotted meadows are some of the highest peaks in New Mexico including snow-capped Wheeler and blue Touch-Me-Not, creating a stunning backdrop to this broad wet meadow. Ricegrass and grama grass on the edges of the meadow mix with penstemons, columbines, and paintbrush. Sedges, marsh marigold, yellow buttercup, and clover can all be found in the sponge-like meadows that flow towards Vidal Creek.

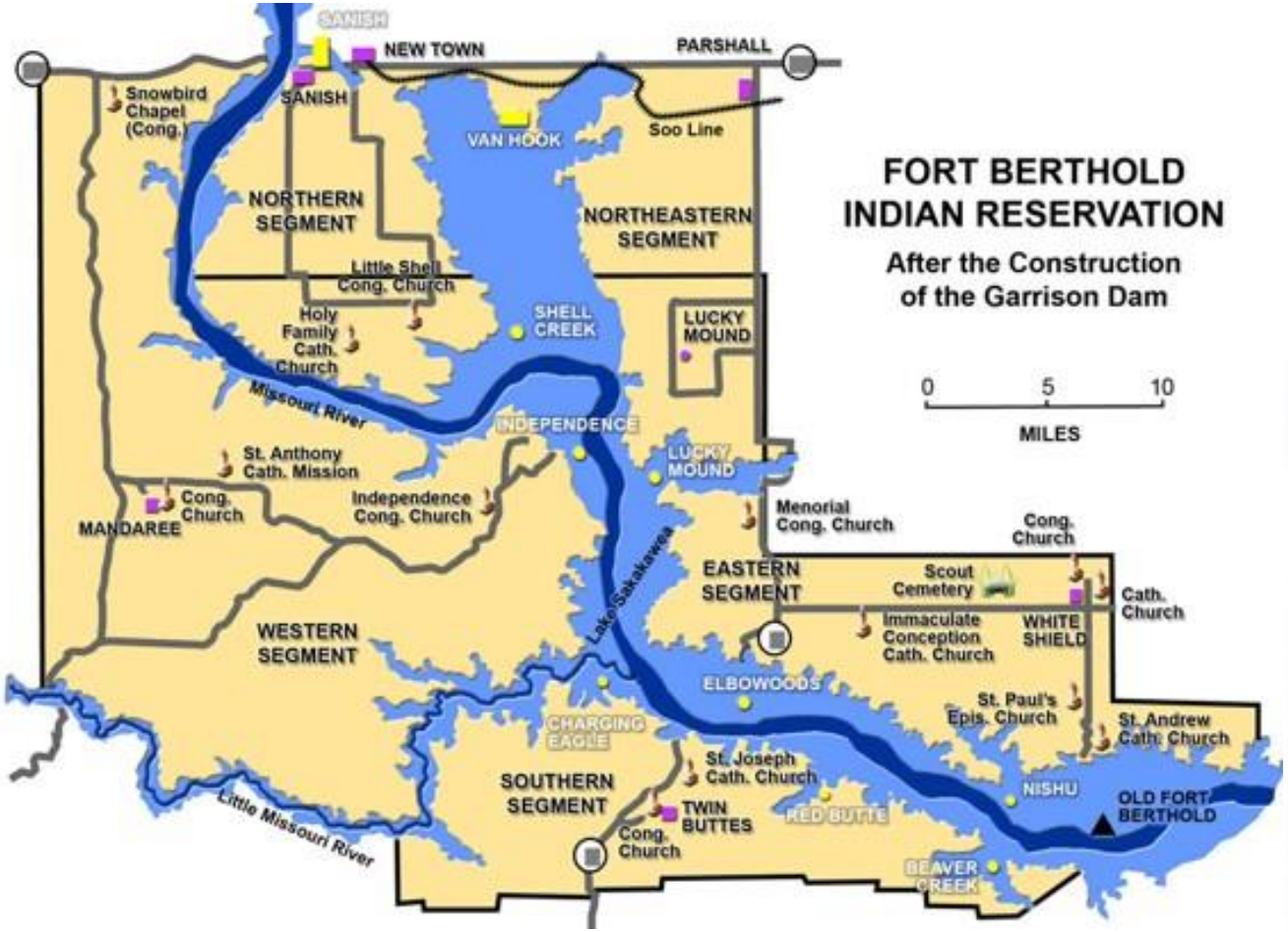
The Valle Vidal Unit of the Carson National Forest has been called the 'Yellowstone of the Southwest' due to its abundance of wildlife and the broad open meadows. Over 2,500 elk roam the area as do black bear, turkey, bobcat, mountain lion, and bison. Bird-life includes the bald eagle, peregrine falcon, northern goshawk, three-toed woodpecker, and dozens of other species that help make this a top bird-watching area. The Valle Vidal is also home to the endangered northern leopard frog and the rare Rio Grande cutthroat trout. There are several threatened or sensitive wildlife species found among this nearly 800-

17 Explore the Carson National Forest Wetland Jewels

NWI and Indigenous Knowledge

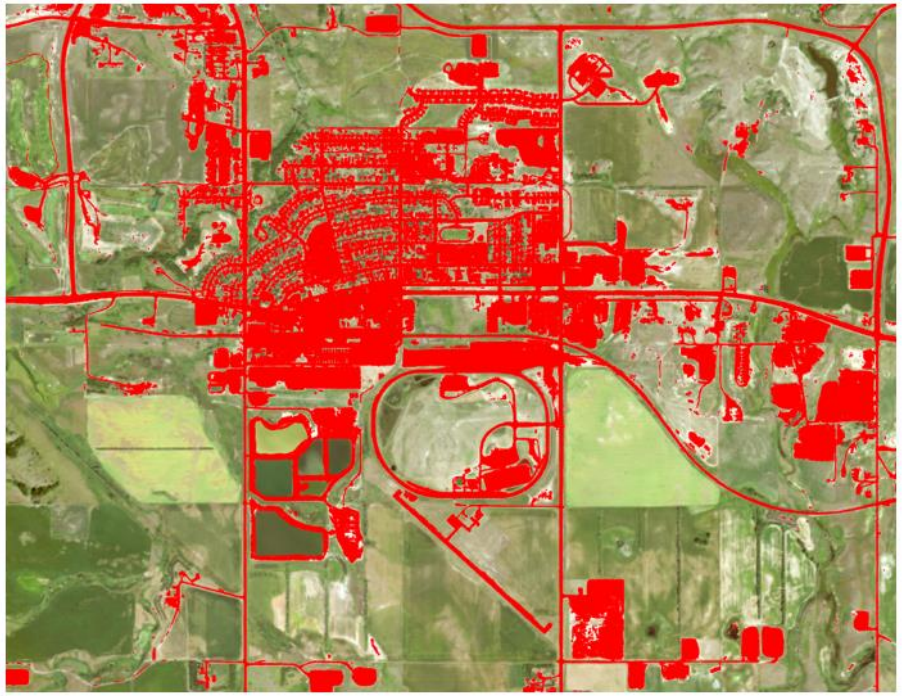
NWI and Indigenous Knowledge

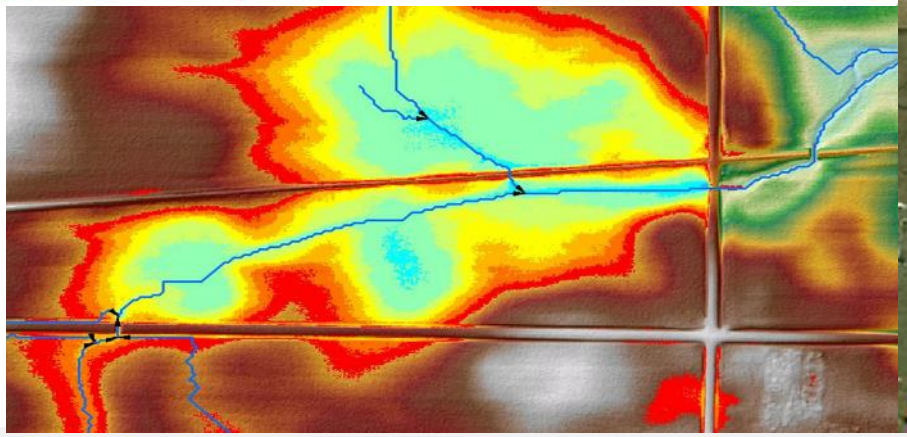
NWI and Indigenous Knowledge

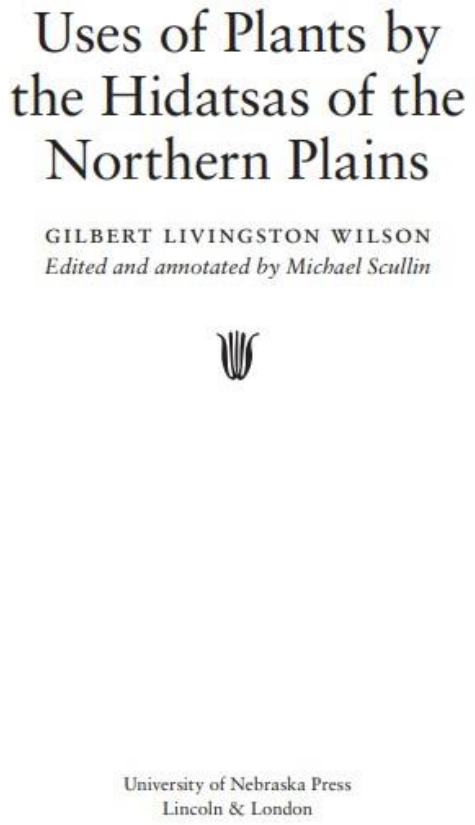


NWI and Indigenous Knowledge

NWI and Indigenous Knowledge







NWI and Indigenous Knowledge

NUETA HIDATSA SAHNISH COLLEGE
Tribally educated; globally prepared.

Contact

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507-457-8746

The Pew Charitable Trusts

Alex Moya

Mike Wissner

Celebrating 50 Years of the National Wetlands Inventory Program

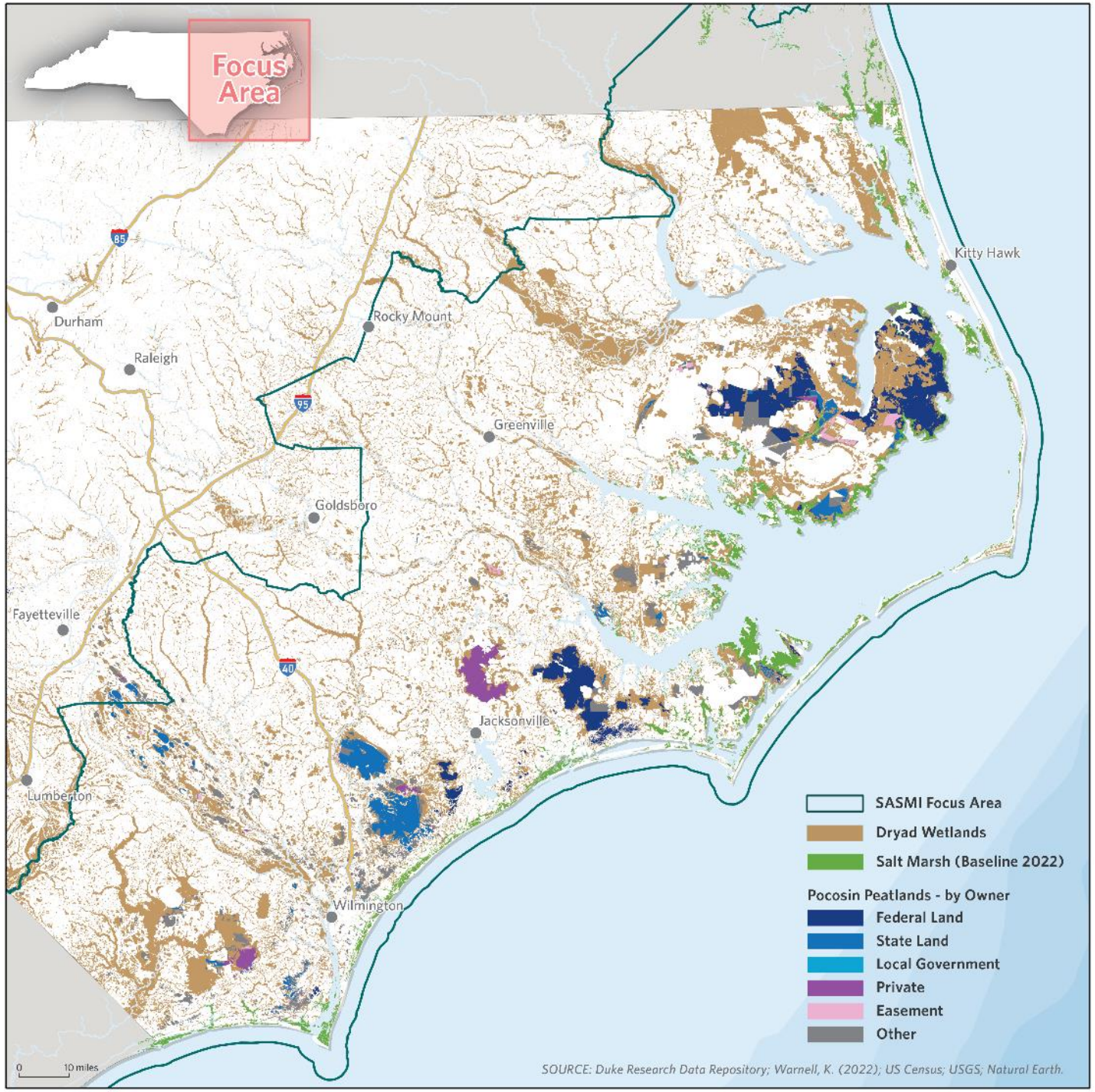
The Pew Charitable Trusts

June 24, 2025

Pew

How Pew Uses the National Wetland Inventory

- U.S. Conservation program advances commonsense, collaborative solutions that account for the impacts of a changing environment on nature & communities
- We are a data-driven organization and rely on research and science to achieve our goals
- Protecting and restoring **coastal wetlands** & **peatlands** to curb carbon pollution, support coastal resilience
- “You manage what you measure” – leveraging national data (NWI, CCAP) to help states understand coastal wetland and peatland extent as a basis for carbon estimates
    - U.S. peatlands mapping project – conservation & restoration hotspots
- Understanding change: leveraging “Status & Trends” to advance policies and funding to conserve at-risk wetlands (e.g., saltwater wetlands, forested tidal wetlands)


Focus Area
Kitty Hawk
Durham
Rocky Mount
Raleigh
Greenville
Goldsboro
Fayetteville
Jacksonville
Lumberton
Wilmington
85
95
40
SASMI Focus Area
Dryad Wetlands
Salt Marsh (Baseline 2022)
Pocosin Peatlands - by Owner
Federal Land
State Land
Local Government
Private
Easement
Other
0
10 miles
SOURCE: Duke Research Data Repository; Warnell, K. (2022); US Census; USGS, Natural Earth.

Pew

Dewberry

Phil Thiel

Hillary Palmer

Dewberry

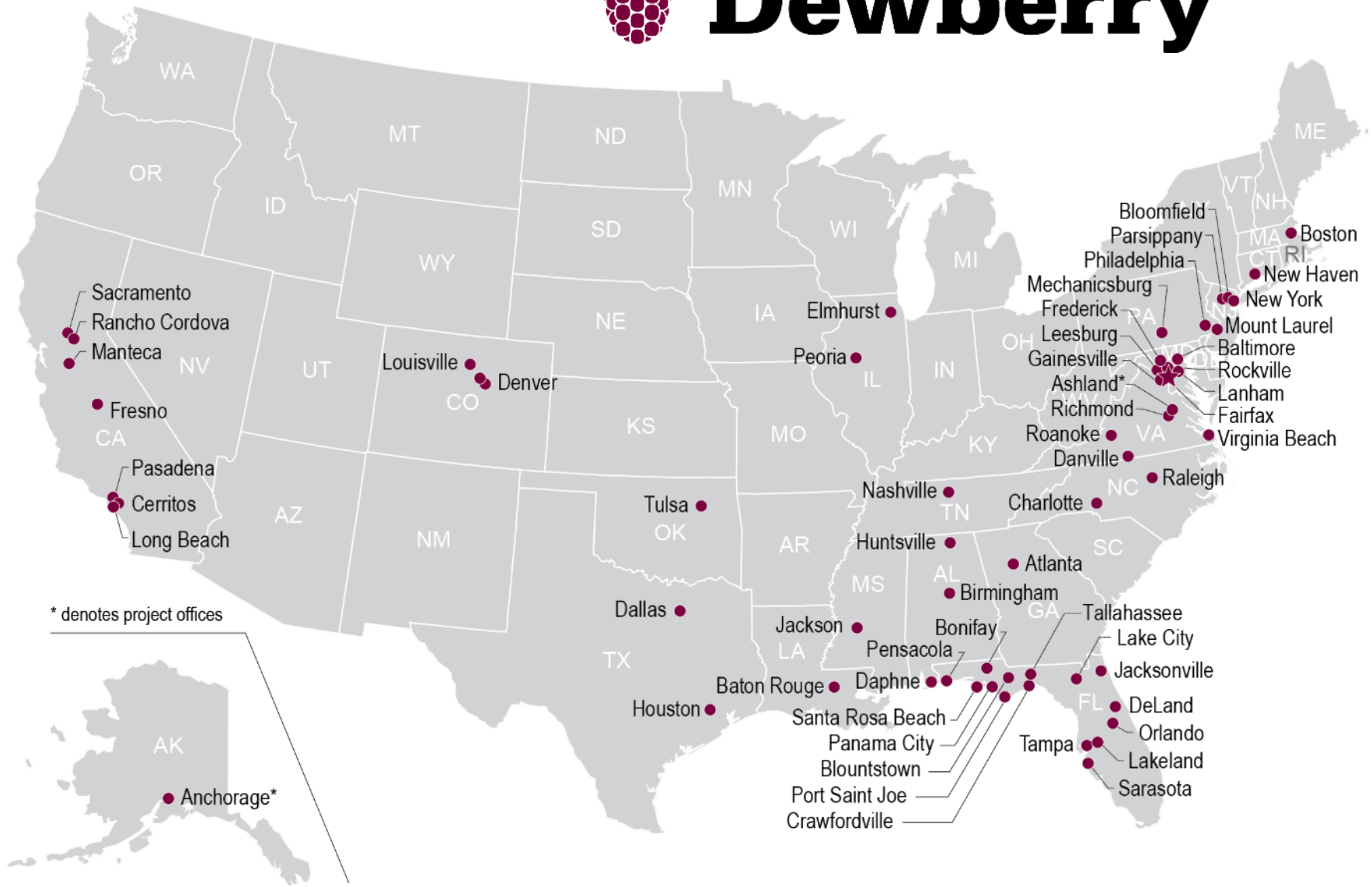
2,000+ EMPLOYEES

>55 LOCATIONS nationwide

Providing

- **ARCHITECTURE**
- **ENGINEERING**
- **CONSTRUCTION**
- **ENVIRONMENTAL**
- **GEOSPATIAL** services

65+ YEARS helping clients build and shape communities



How do we use NWI data?

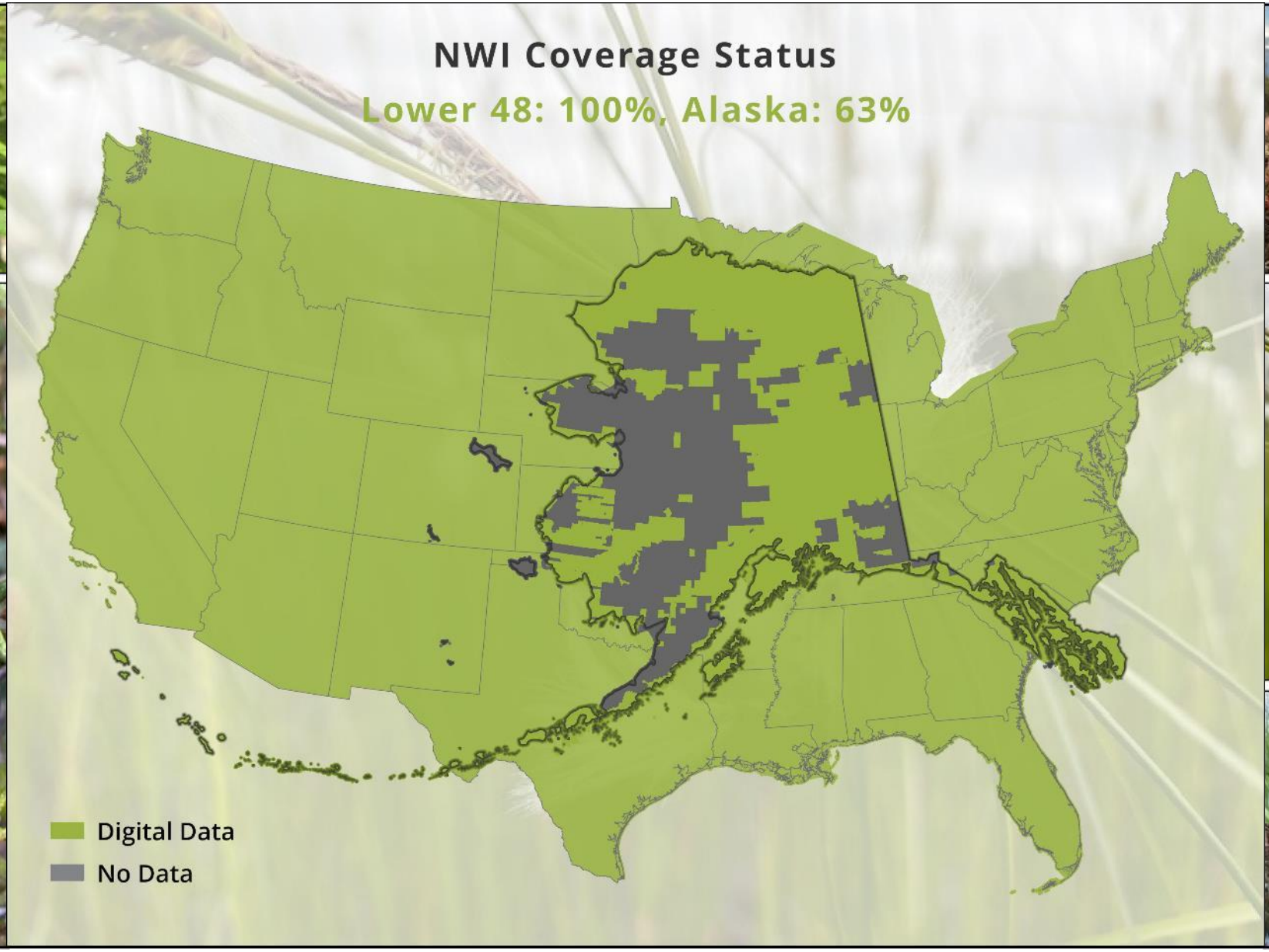
- **Land Use and Infrastructure Planning**
  - Guides agriculture, transportation, and utility planning
  - Early detection & avoidance of these areas saves tons of time & money
  - Using wetlands as an indicator for animal habitat informs project design
- **Watershed & Floodplain Management**
  - Enhances flood risk assessments in FEMA hazard mitigation projects
- **Storm & Surge Modeling**
  - How much precipitation / coastal surge can a landscape absorb?

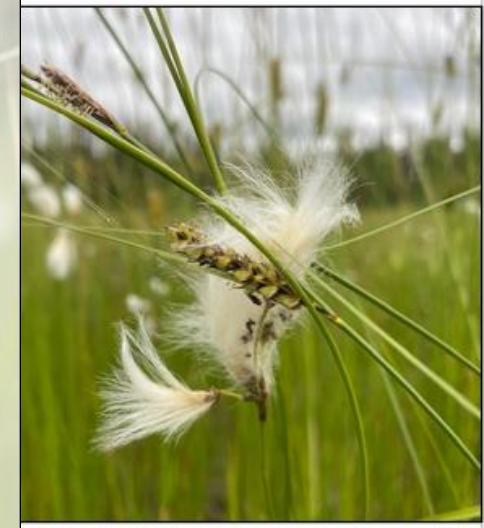
What Makes NWI Data Unique?

- **Standardized Classification using the Cowardin System**
  - Wetland type, water regime, vegetation, substrate…etc.
  - Includes more detail than other land cover datasets
- **Provides Insight into Function & Ecology**
  - More than just the presence/absence of wetlands
- **Polygonal Geometry (not just points/pixels)**
  - Lends itself to area calculations for impact analysis or overlays
- **Professional Methods for Data Development**
  - High-resolution imagery interpretation + field verification

NWI Coverage Status

Lower 48: 100%, Alaska: 63%





When New Industry Looks at Doing Business in Alaska, they ask …

- **Where** are the…customers, fisheries, mineral deposits?
- **Who** owns the land?
- **Where** are the nearest roads/bridges/ports/rail/utilities?
- **What** permits are required for this area and type of project?

ALL these questions need to be EASILY answered, before they can secure investors and move to design phase.

Dewberry

Photos from Bering Glacier NWI/EDH Project

Thank you!

Phil Thiel pthiel@dewberry.com

Hillary Palmer hpalmer@dewberry.com

Delaware Department of Natural Resources and Environmental Control

Mark Biddle

How Delaware Benefits from National Wetland Inventory Data

Mark Biddle, PWS
Environmental Program Manager
Delaware Department of Natural Resources and Environmental Control

DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

Delaware Wetlands
Purify Provide Protect
http://de.gov/delawarewetlands

NAWM Webinar - Celebrating 50 years of NWI 6.24.2025

The National Wetlands Inventory Proves Valuable in Assessing Wetland Protection, Health, and Function in Delaware.

Three Examples of Use:

1. Periodic mapping and inventory including status and trends.

2. Comparing wetland health with functional prediction

3. Evaluating regulatory protection with changing federal jurisdiction.

Spotted Water Hemlock
(*Cicuta maculata*)
B.Haywood

Imagery: Only a snapshot in time – degree of wetness varies

2007

2012

2017

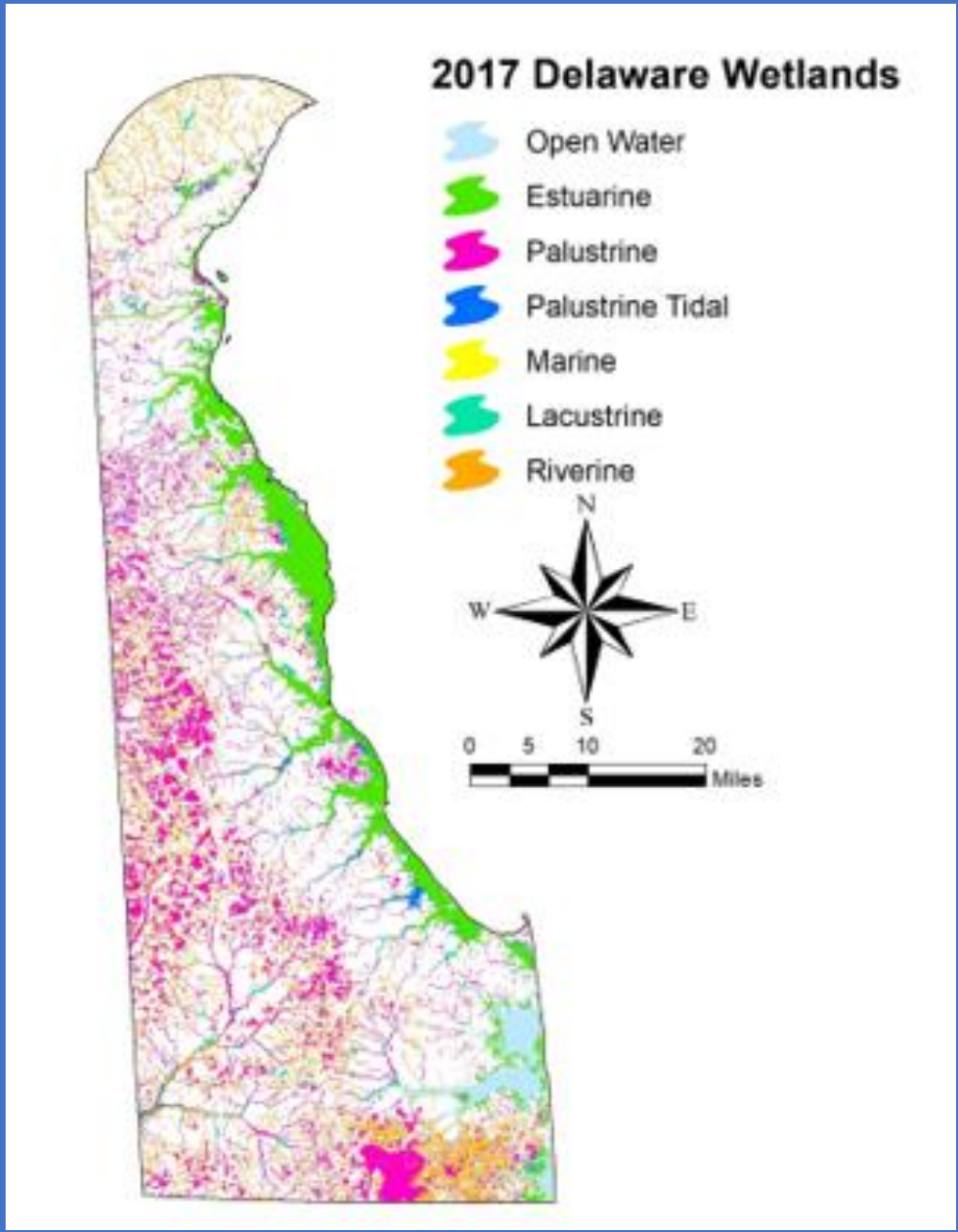
NWI Version 2 methodology

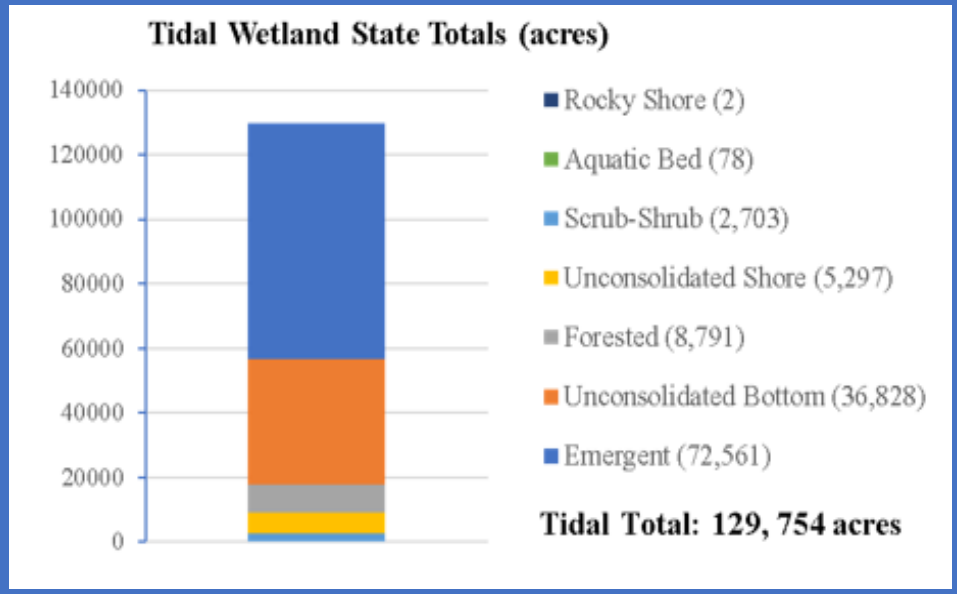
Mapped wetland and deepwater habitats as in past and applied Cowardin et al. (1979) to all polygonal features

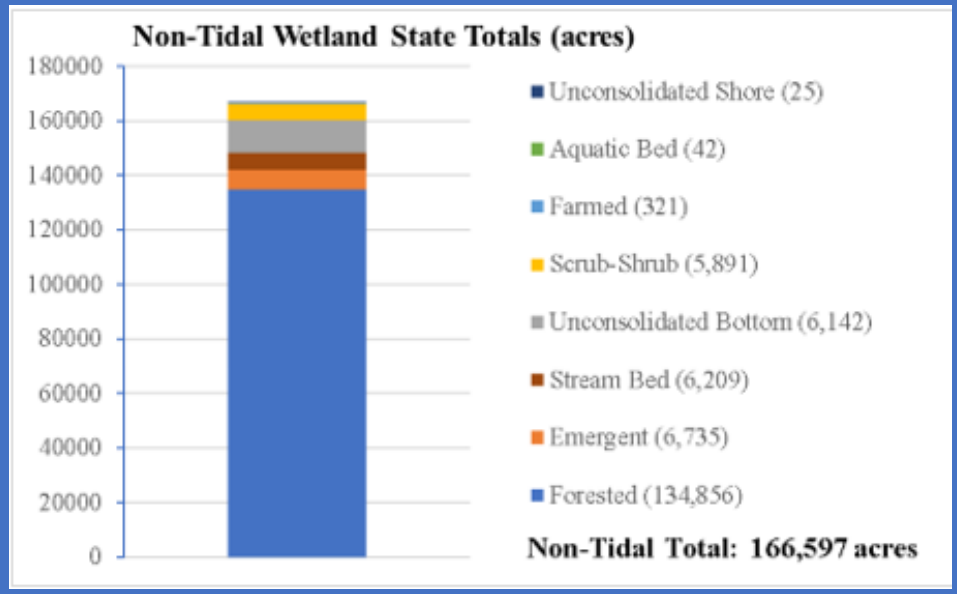
Incorporated hydrography data (NHD) into the mapping for a comprehensive data set of all wetlands and surface waters

Hydrography data became separate polygons

Allows for more accurate adaptive management, geospatial summaries, and modeling


2017 Delaware Wetlands
Open Water
Estuarine
Palustrine
Palustrine Tidal
Marine
Lacustrine
Riverine
N
W
E
S
0 5 10 20
Miles


Tidal Wetland State Totals (acres)
140000
120000
100000
80000
60000
40000
20000
0
Rocky Shore (2)
Aquatic Bed (78)
Scrub-Shrub (2,703)
Unconsolidated Shore (5,297)
Forested (8,791)
Unconsolidated Bottom (36,828)
Emergent (72,561)
Tidal Total: 129, 754 acres


Non-Tidal Wetland State Totals (acres)
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
Unconsolidated Shore (25)
Aquatic Bed (42)
Farmed (321)
Scrub-Shrub (5,891)
Unconsolidated Bottom (6,142)
Stream Bed (6,209)
Emergent (6,735)
Forested (134,856)
Non-Tidal Total: 166,597 acres

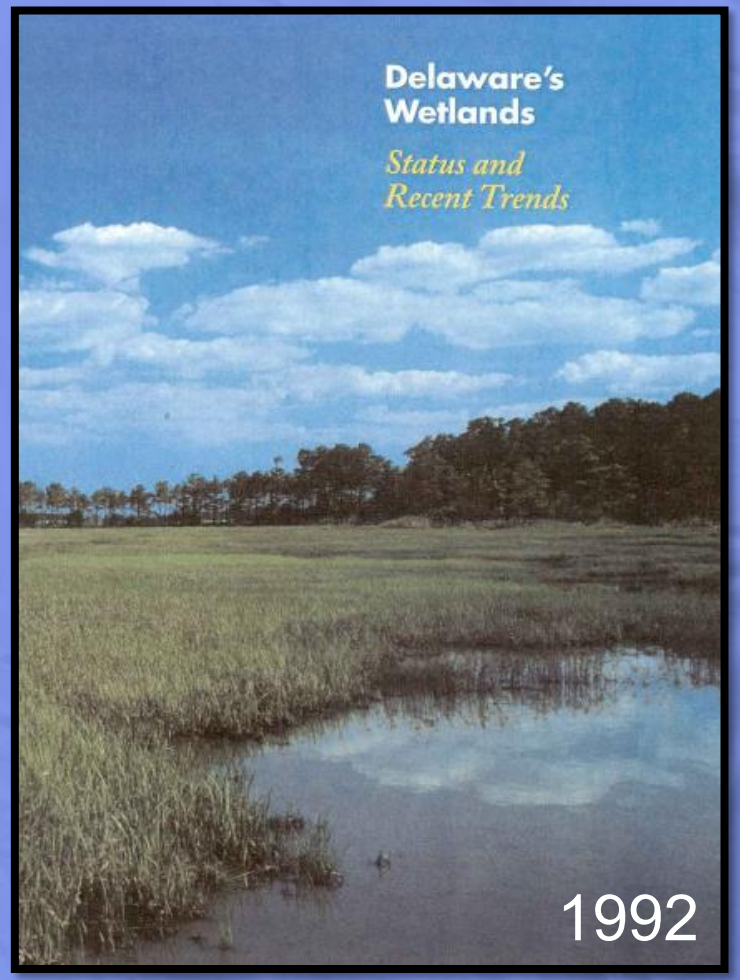
Assessing Wetland Loss, Gain, and Change 2007-2017 (acreage and function)

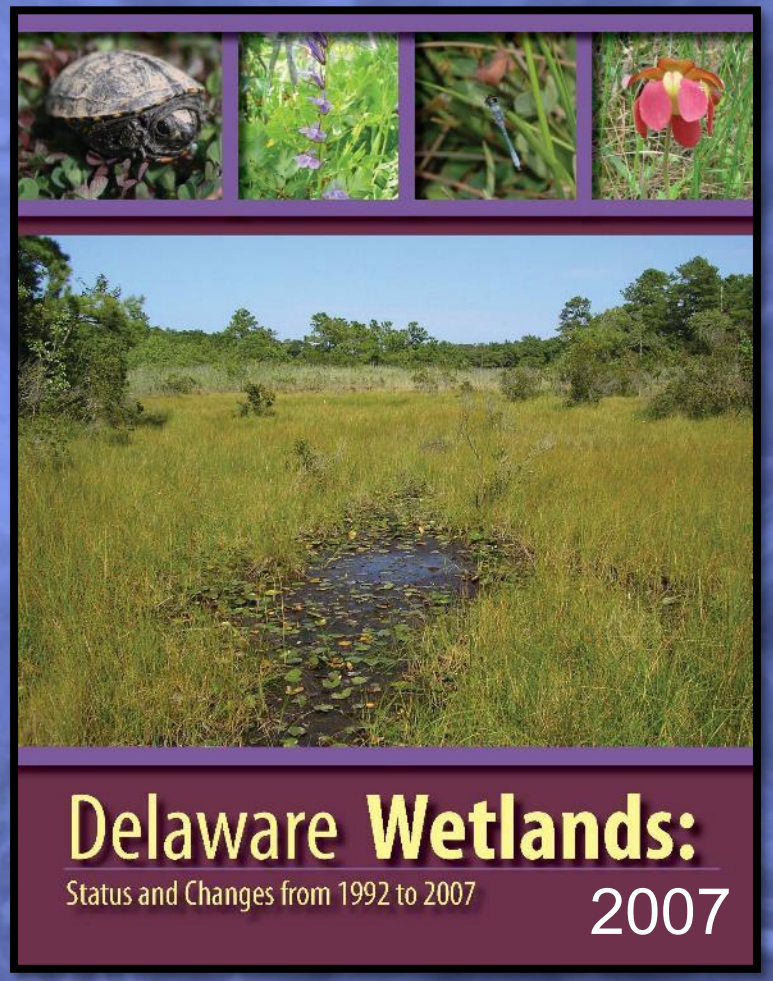
Mapping provides opportunity to track loss/gain/change over time for spatial extent and functional prediction

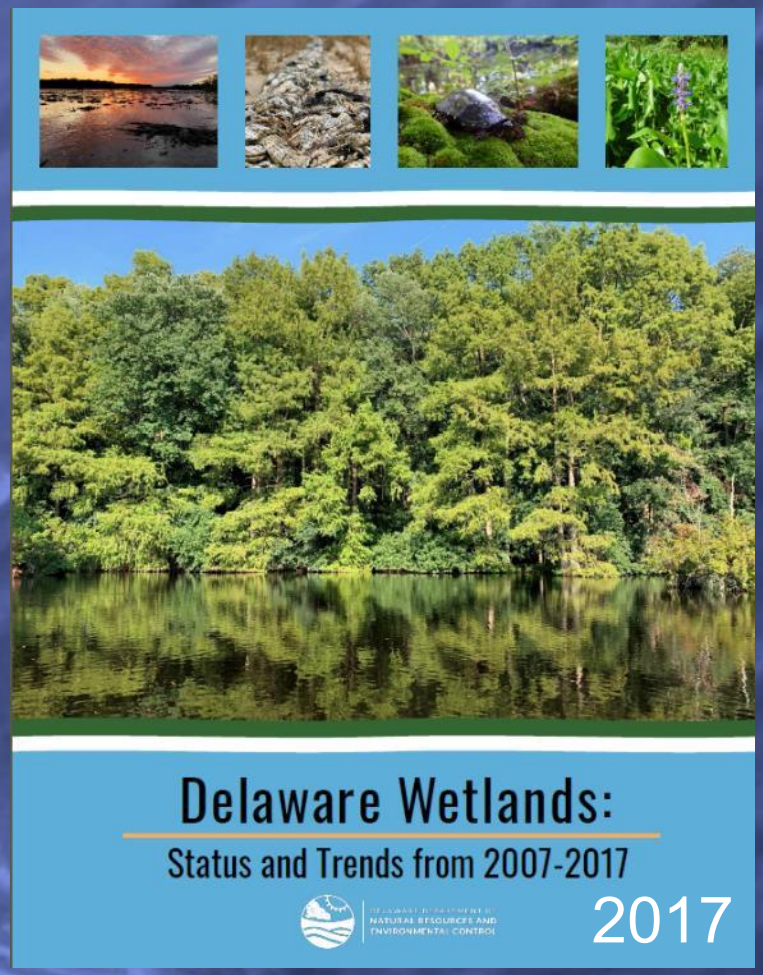
Delaware has three Status and Changes reports

- 1982-1992 (10 years) – 1,905 acres net vegetated loss
- 1992-2007 (15 years) -- 3,126 acres net vegetated loss
- 2007-2017 (10 years) – 3,011 acres net vegetated loss

Ability to attribute cause of loss/gain/change







- Have four statewide wetland mapping efforts (1982, 1992, 2007, 2017)
- Status and Changes reports
- Ability to track wetland acreage and change in type, gains and losses
- LLWW can assess at the landscape level the potential of wetlands to perform certain functions

Wetland Functional Analysis

Use of abiotic features to predict wetland functions

LLWW (Tiner, 2003)
Landscape Position, Landform, Water Flow Path, Waterbody Type (derived from HGM classification)

First applied in Delaware as part of the 2007 statewide wetland mapping

Ability to predict at landscape level the potential for wetland types to perform 11 functions at a high or moderate level

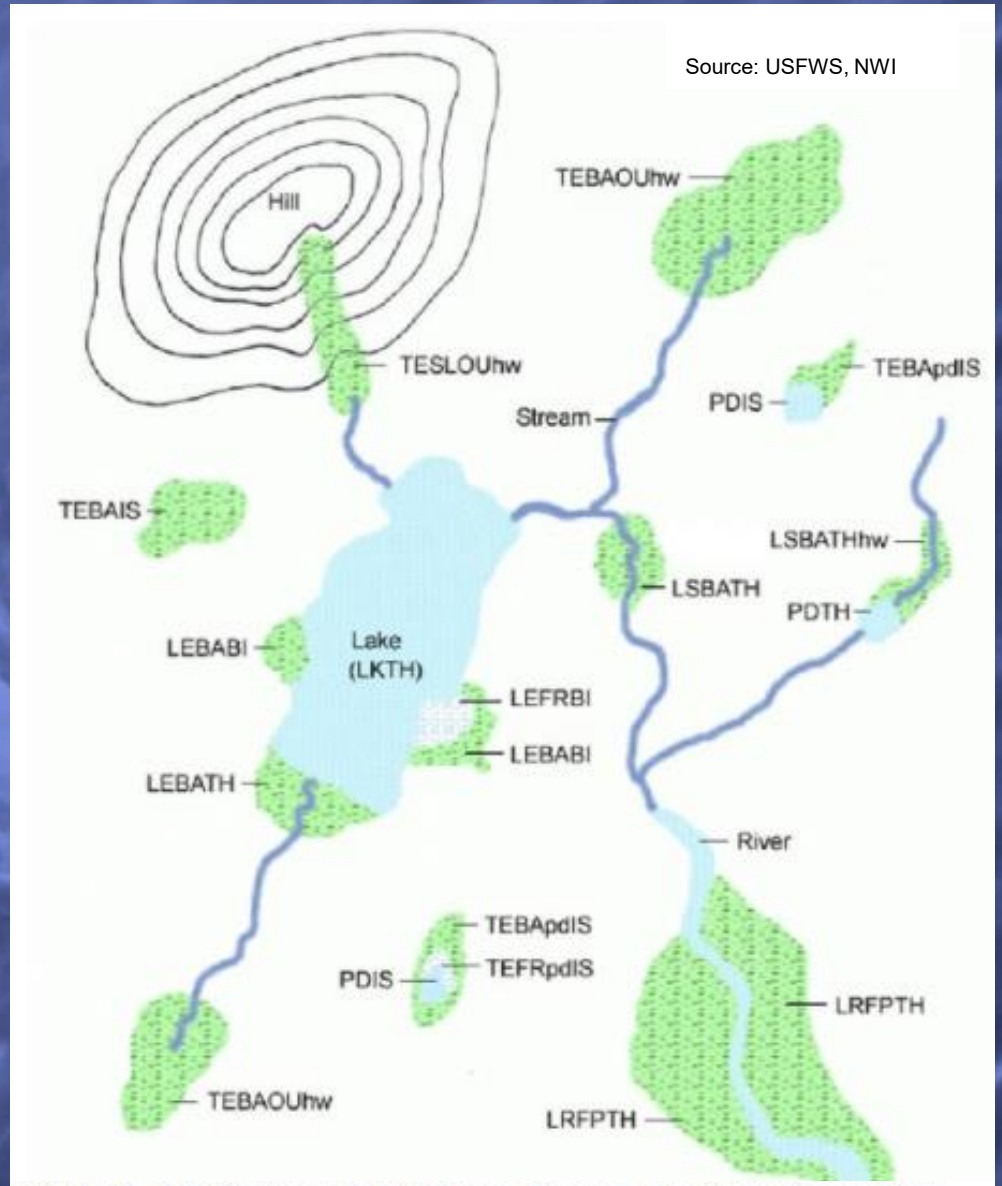


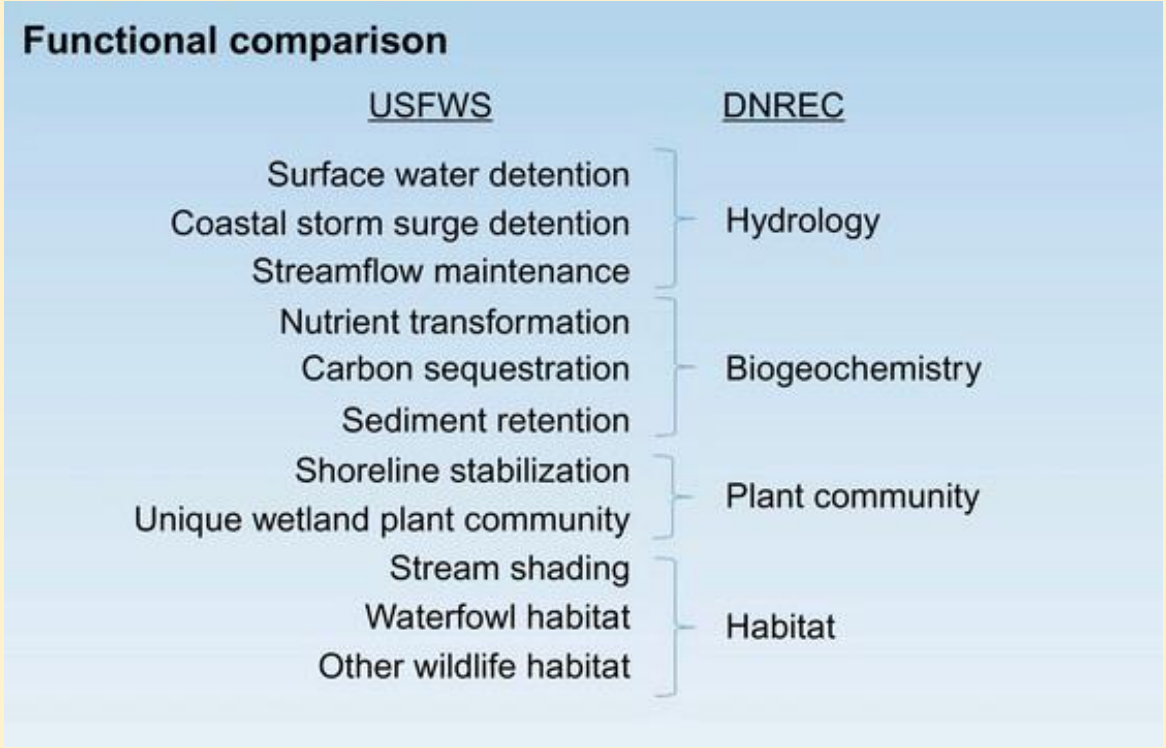
Figure 1. Application of LLWW descriptors to a region with nontidal wetlands. Landscape positions: LR – lotic river, LS – lotic stream, LE – lentic, and TE – terrene; Landforms: BA – basin, FR – fringe, FP – floodplain, SL – Slope; Water flow paths: OU – outflow, IS – isolated, TH – throughflow, BI – bidirectional-nontidal; other descriptors: pd – pond (association), hw – headwater; Waterbodies: PD – pond, LK – lake. Note: Landscape position can be added to lakes and ponds if desirable.

- **What if we compared site-level functional condition to the landscape level prediction of functional condition?**

- Delaware has completed site-level wetland condition assessments (by HGM type) for all watersheds statewide using HGM based methods (DECAP, DERAP).

- Wetland condition assessments evaluate levels of stressors and disturbance compared to a set of reference wetlands.

- Uses 5 functional categories to determine the Index of Wetland Condition (IWC) that shows how far removed a wetland is from the ability to perform certain functions.



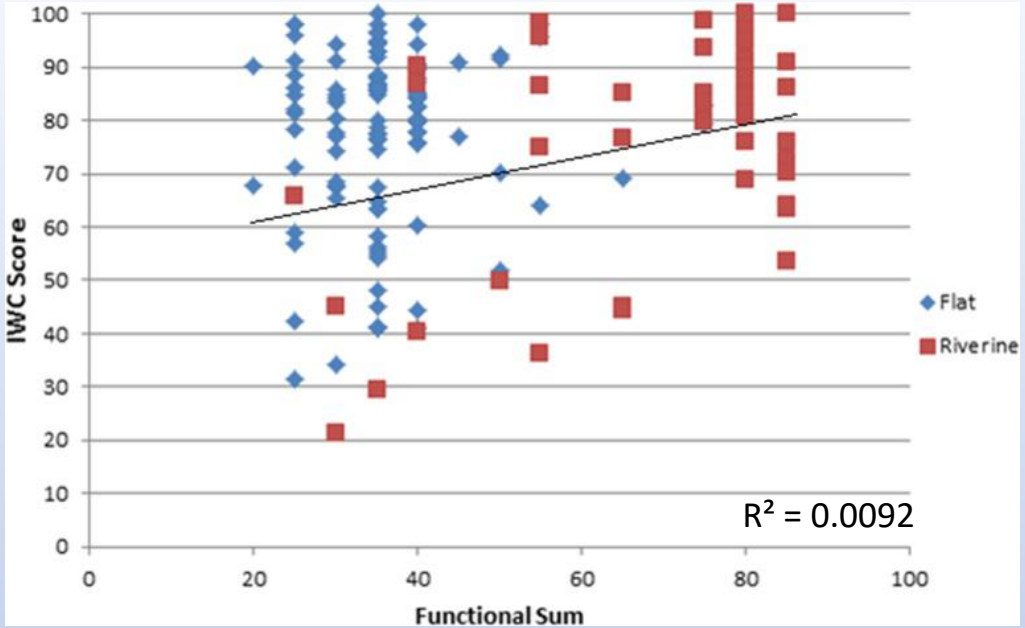
Landscape-level predicts function based on abiotic factors (LLWW) assigning a high or moderate category

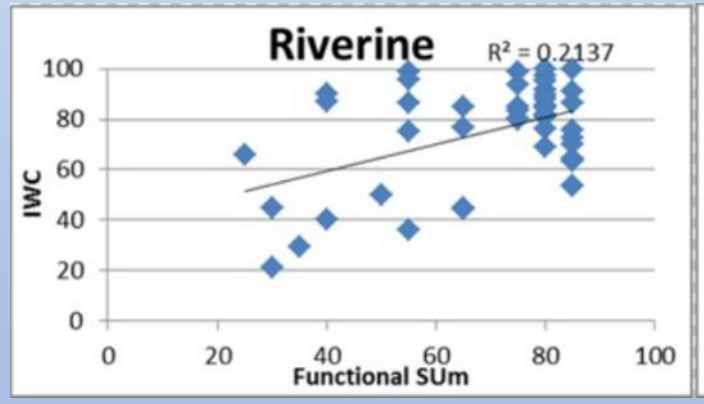
Site-level uses stressors and disturbance to determine function using wetland condition scoring

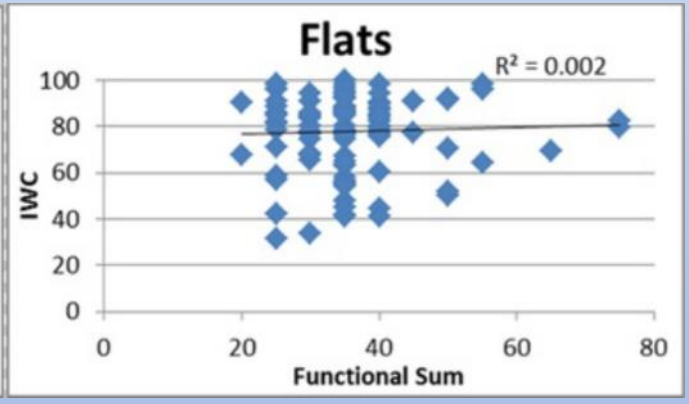
Comparing categorical rankings (landscape-level) to numeric rankings (site-level) is challenging

For numerical comparison purposes, landscape-level high were given a score of 10, and moderate 5

Allowed for summation of all predicted functions (functional sum) for comparison to site-level scores





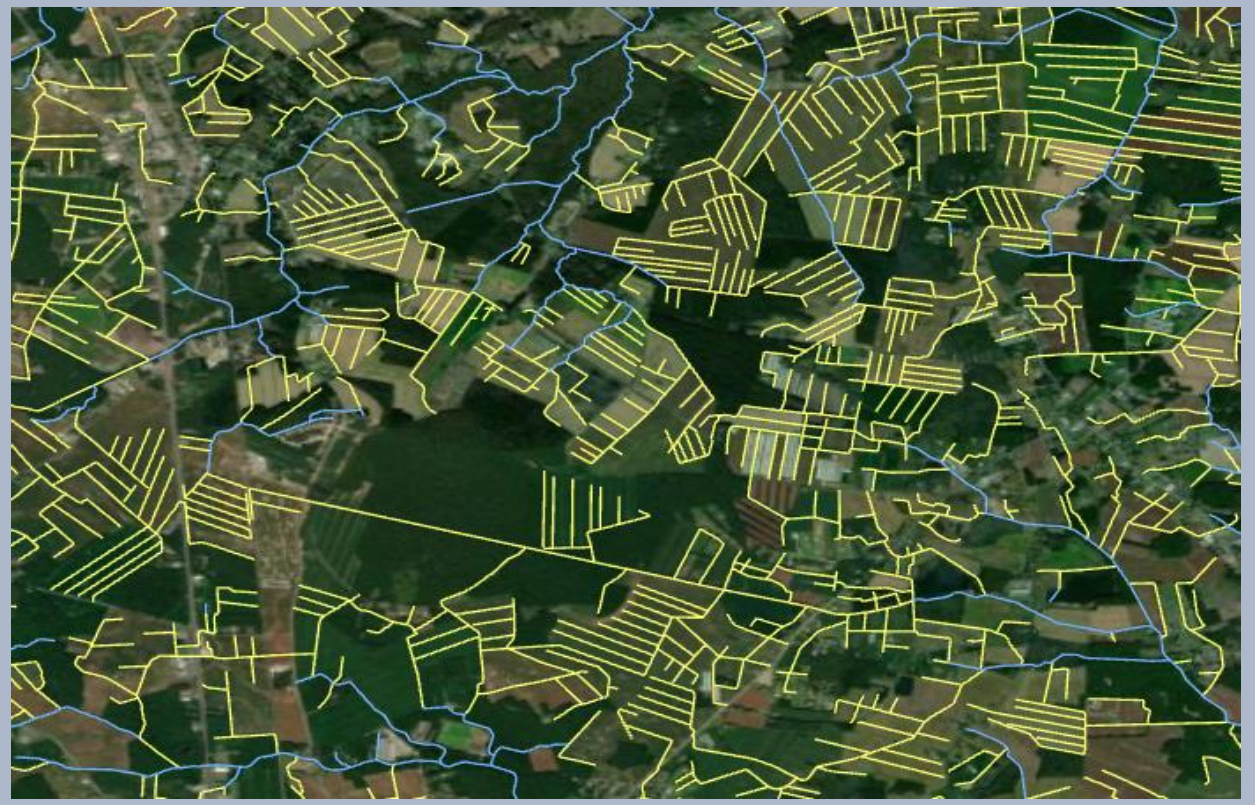


** Lack of strong correlation reveals improvement needed In landscape level prediction, however, both methods can Inform the other going forward to improve accuracy.

Post-Sacket Analysis:

- Used NWI and NHD
- Removed any Estuarine or Marine, and all freshwater tidal from NWI data
- Buffered NHD at 1m for a conservative approach
- Established break points for NHD segments
- Further classified categories
  - Isolated NWI polygons
  - Connected NWI polygons
  - Perennial NHD segments (includes artificial and connector)
  - Intermittent polygons
  - Intermittent NHD segments (includes canal/ditch)

Example of grid ditches for drainage



Delaware's Landscape

Lowest lying state in the U.S.
90% Coastal Plain (remainder Piedmont)
Large areas poorly and very poorly drained soils
Extensive ditching primarily for agricultural drainage

Non-tidal Features

NWI polygons

- Isolated
- Perennial connected (incl. NHD artificial and connector)
- Intermittent not connected (incl. NHD canal/ditch)

NHD segments

- Perennial (incl. artificial and connector)
- Intermittent (incl. canal/ditch)

** Post Sackett assessment predicted more than 70% of Delaware's nontidal wetlands are left without protection.

Provides efficient and cost-friendly data to monitor and assess wetland extent and condition.

Allows for comparing wetland status and trends over time and plan for conservation or restoration efforts.

Supplies data and information enabling more accurate prediction of wetland function across the landscape.

Assists in determining potential changes to regulatory jurisdiction due to changing jurisdictional scope.

Thank you for the opportunity to present and celebrate NWI!

Mark Biddle, PWS
Environmental Program Manager
Delaware DNREC, Division of Watershed Stewardship
Watershed Assessment Section
302-739-9939
Mark.Biddle@delaware.gov

DELAWARE DEPARTMENT OF
NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL

Missouri Department of Conservation

Frank Nelson

Missouri NWI

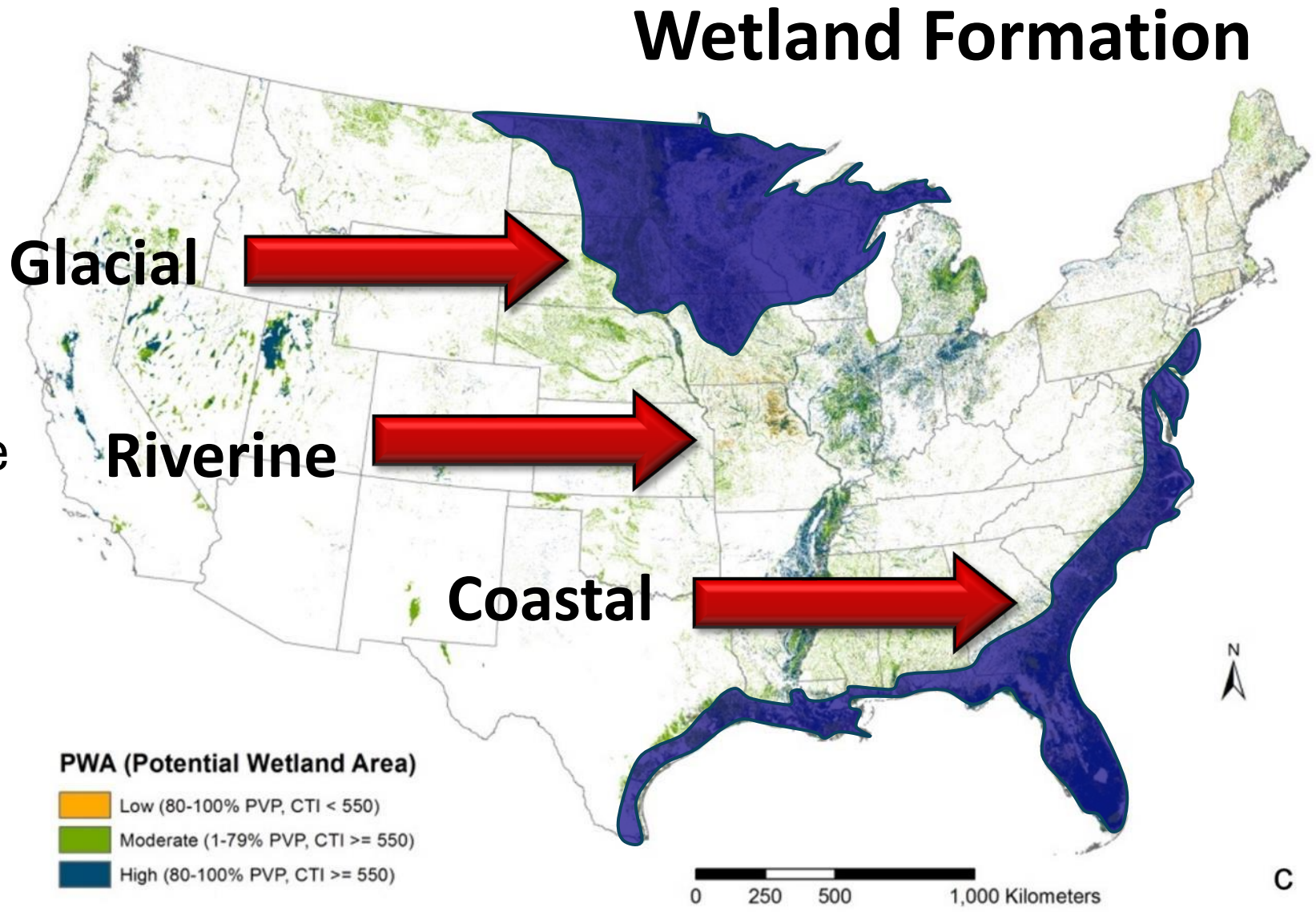
Critical Linkages

Frank Nelson, Wetland Coordinator,

Missouri Dept. of Conservation

Extent of Wetlands in the US

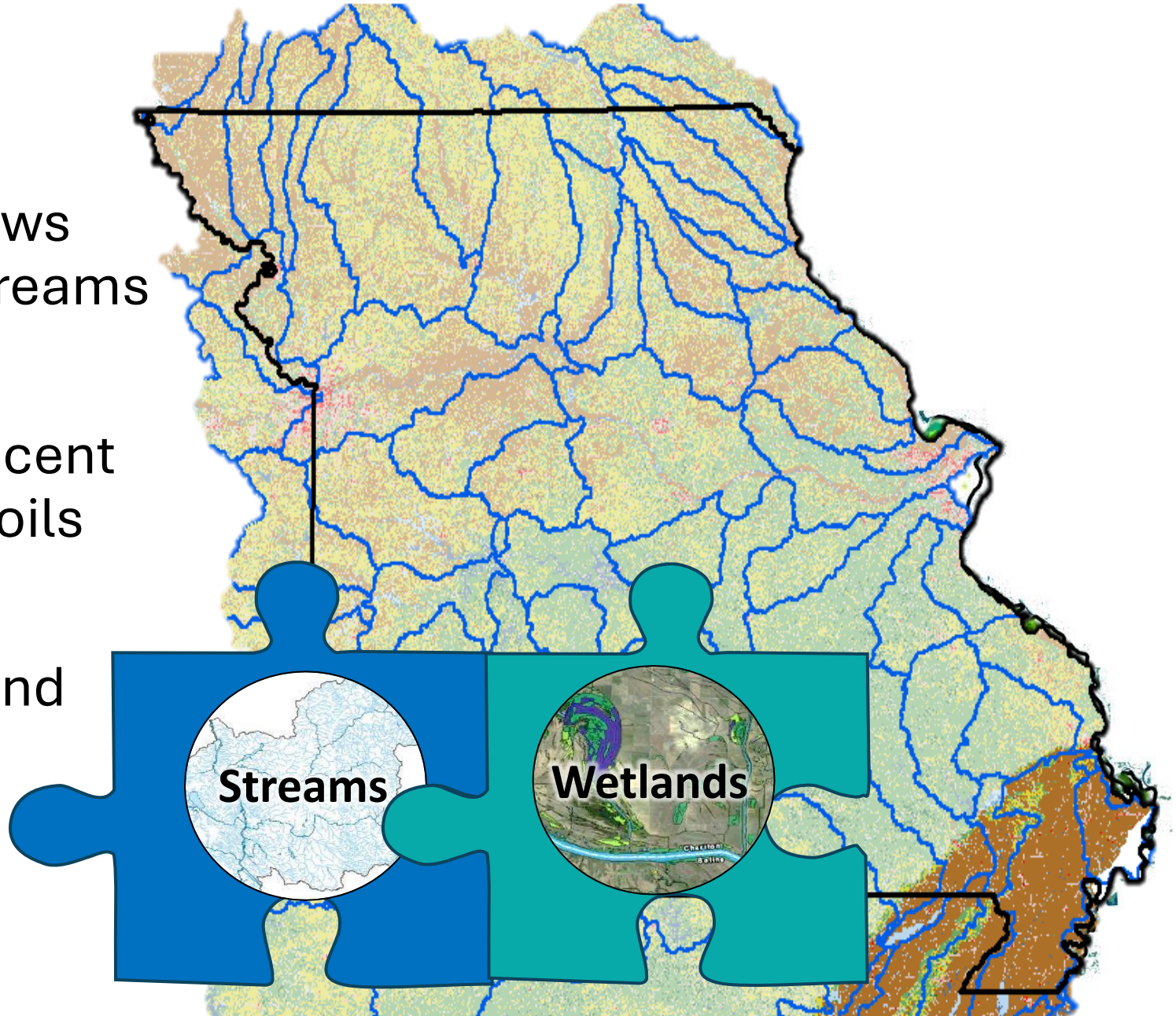
- Wetland extent varies across North America
- Missouri's wetlands shaped by fluvial/riverine processes



Horvath, E.K., Christensen, J.R., Mehaffey, M.H. and Neale, A.C., 2017. Building a potential wetland restoration indicator for the contiguous United States. Ecological indicators, 83,

Extent of Wetlands in Missouri

- Distribution of NWI follows Missouri's Rivers and Streams
- Many fall within the adjacent floodplain and alluvial soils
- And influenced by the land use in the surrounding watersheds

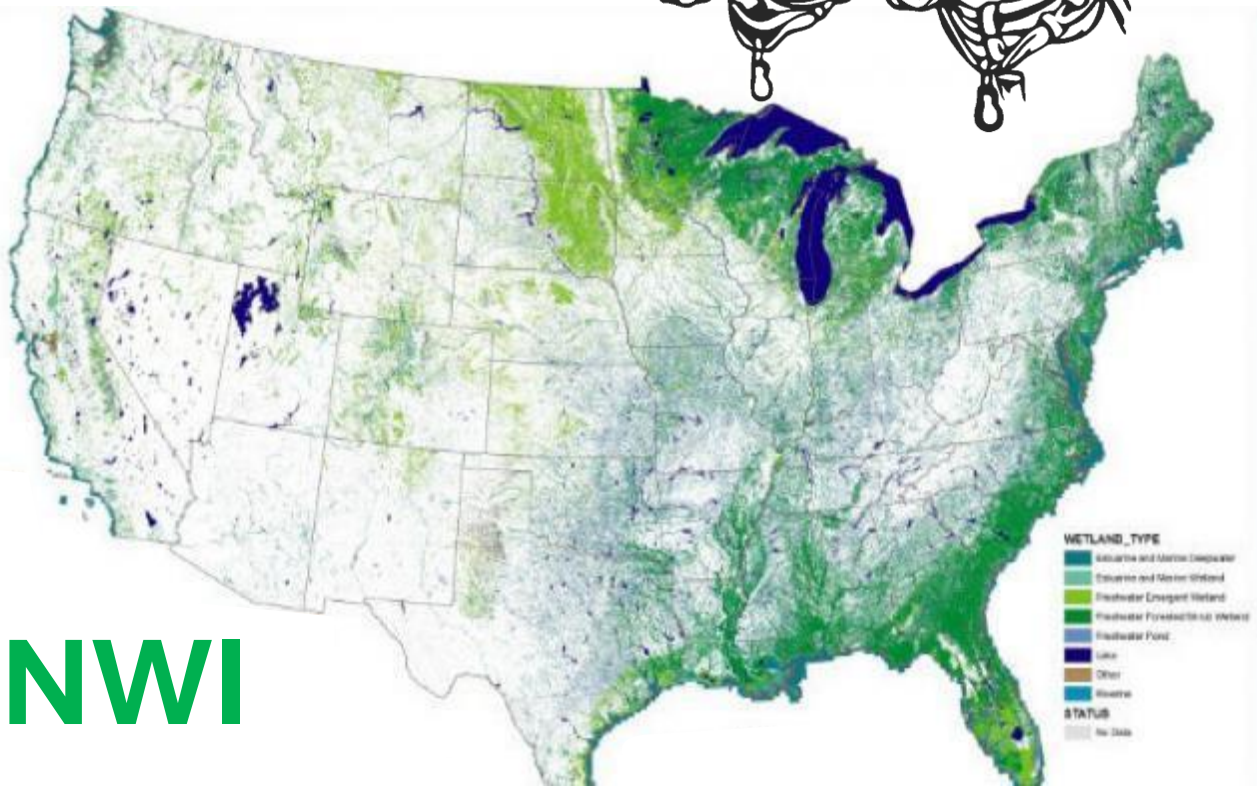


National Blue-Green Digital GIS Infrastructure

Geospatial Workhorses across
public and private sectors

NHD

National Hydrography Dataset



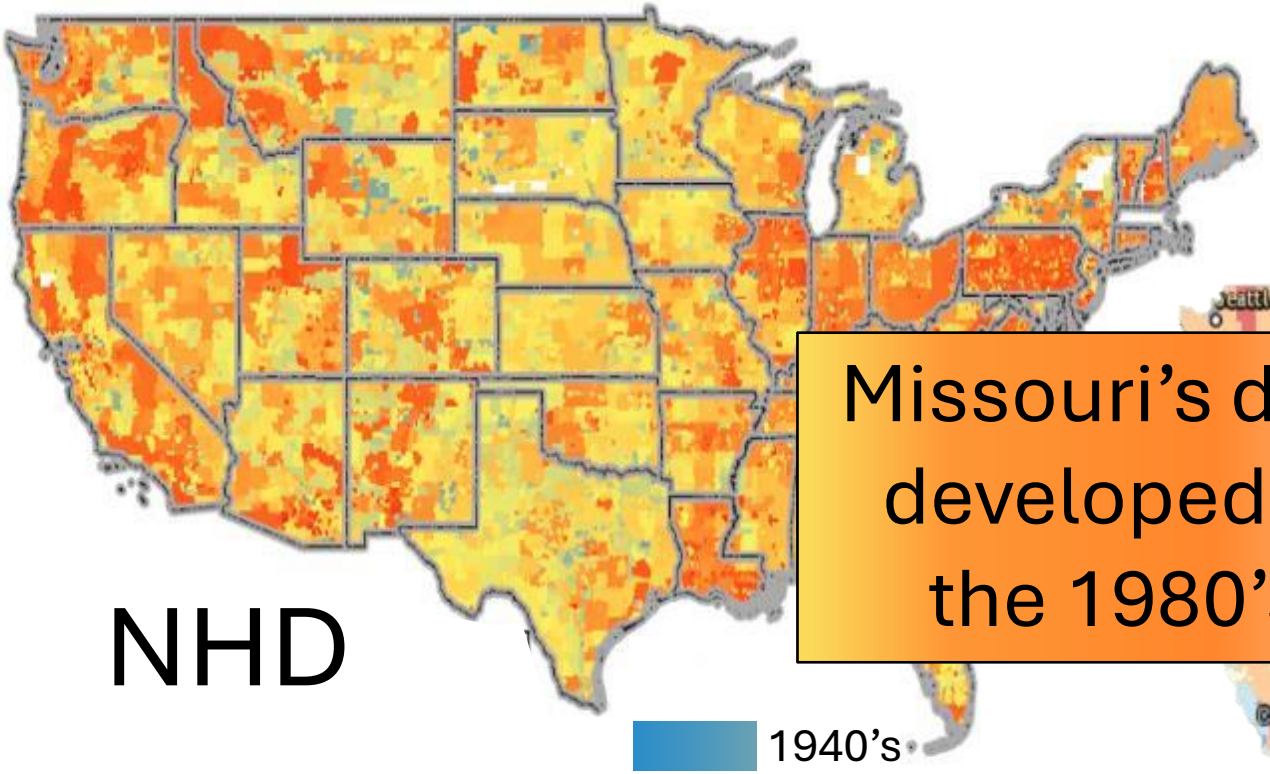
NWI

National Wetlands Inventory

USGS Map, Al Rea,
https://idwr.idaho.gov/wp-content/uploads/sites/2/gis/20170309-Presentation-HydroTWG.pdf

National Blue-Green Digital GIS Infrastructure

Spans over 64 years



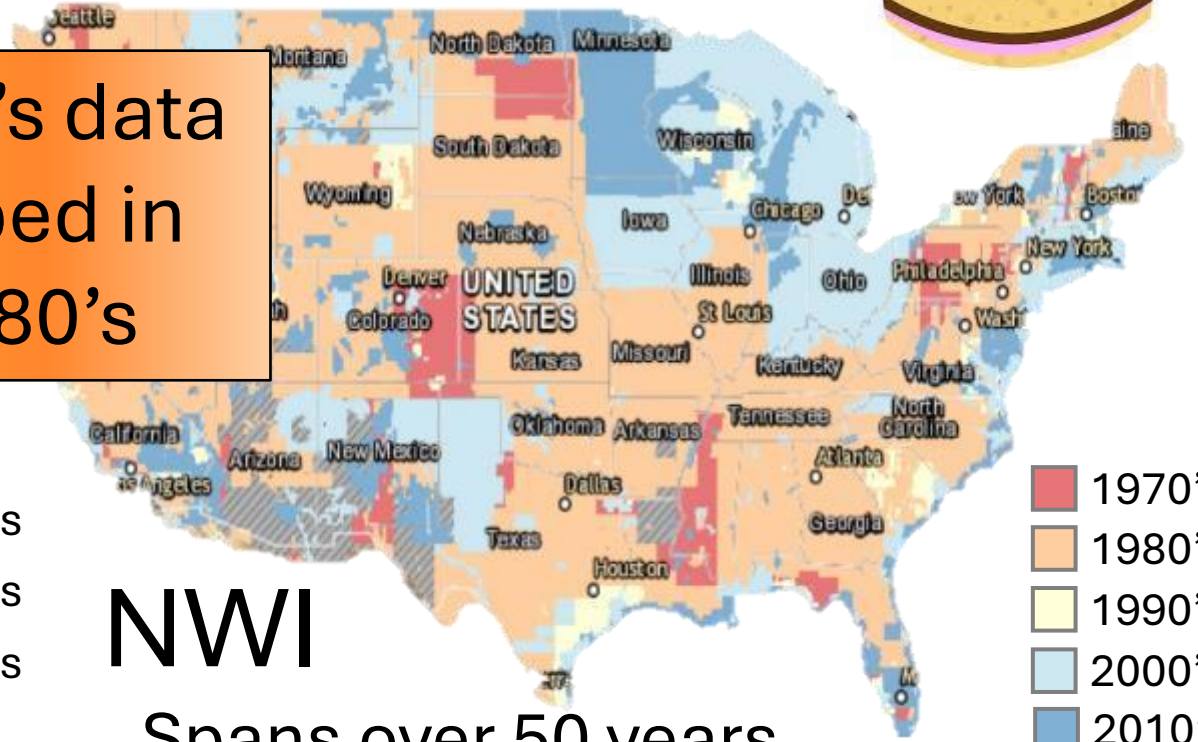
NHD

1940's
1950's
1960's
1970's
1980's
1990's
2000's

Impacts of Aging

Data used with caveats

Missouri's data developed in the 1980's



NWI

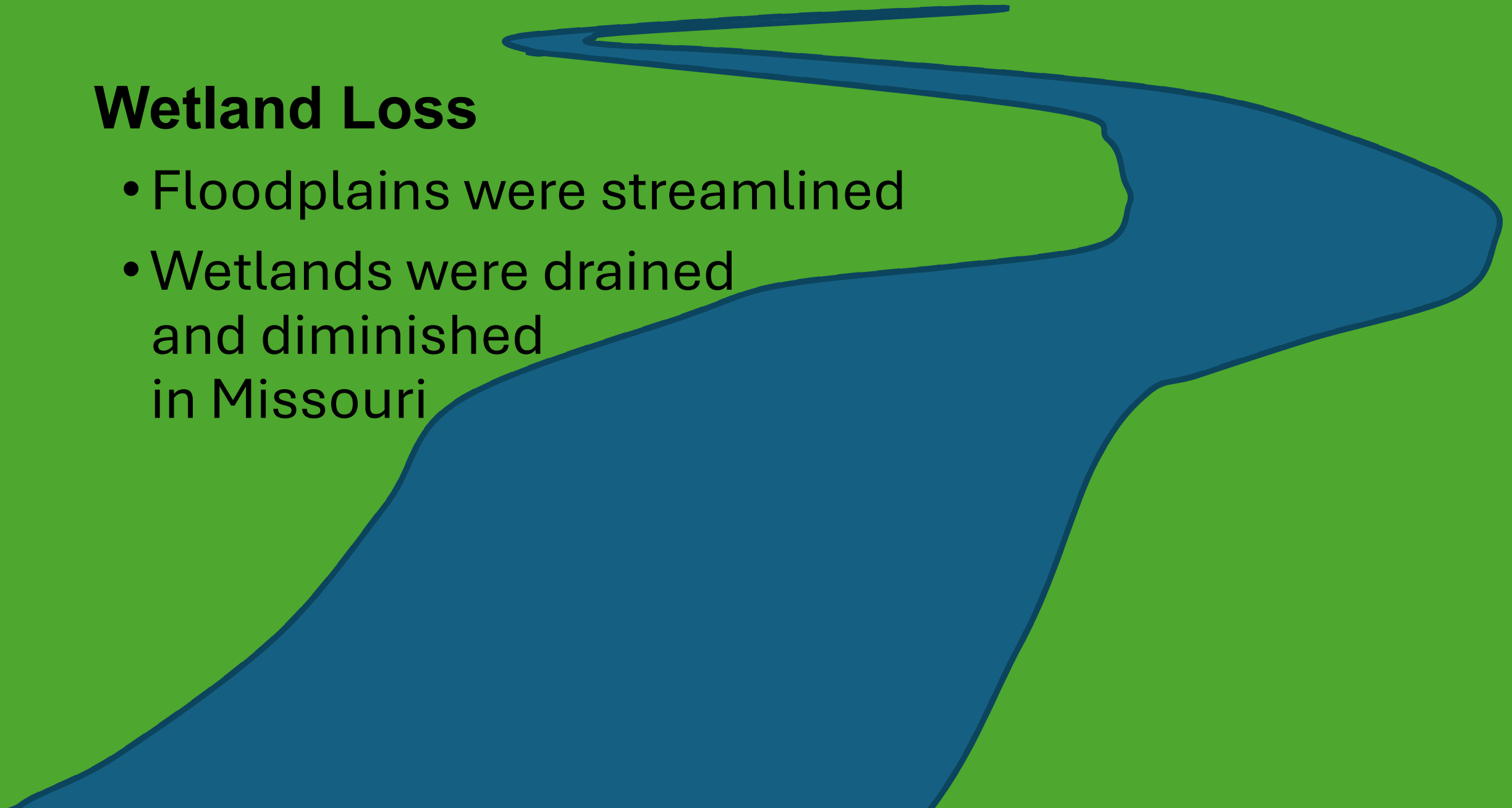
1970's
1980's
1990's
2000's
2010's

Spans over 50 years

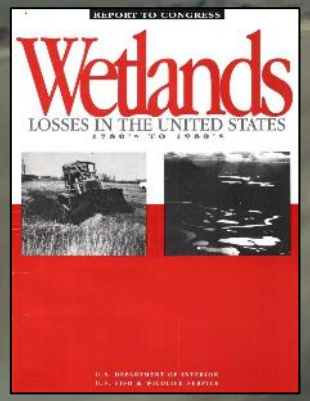
Information from Analisa Stasey, USGS

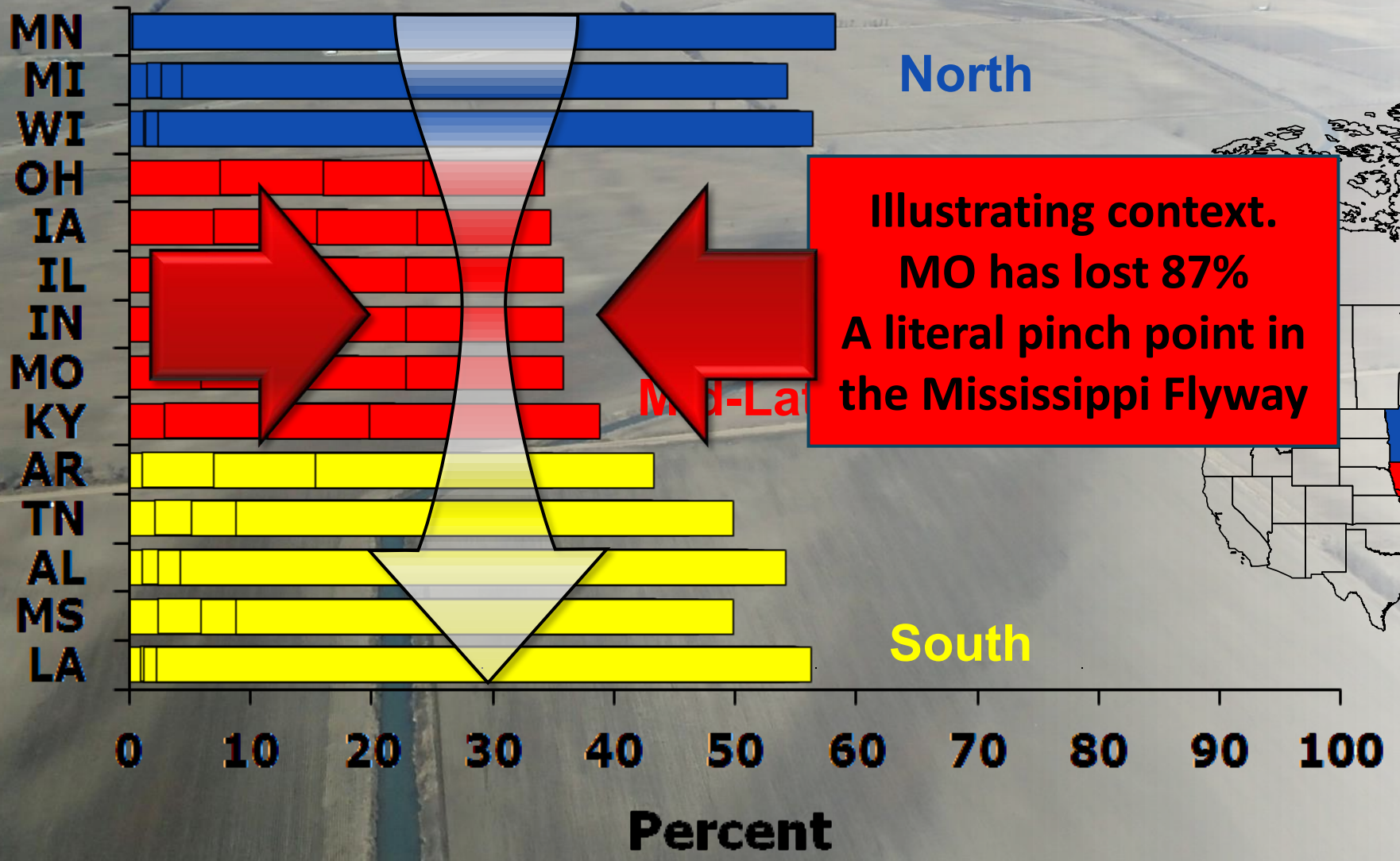
Wetland Loss

- Floodplains were streamlined
- Wetlands were drained and diminished in Missouri

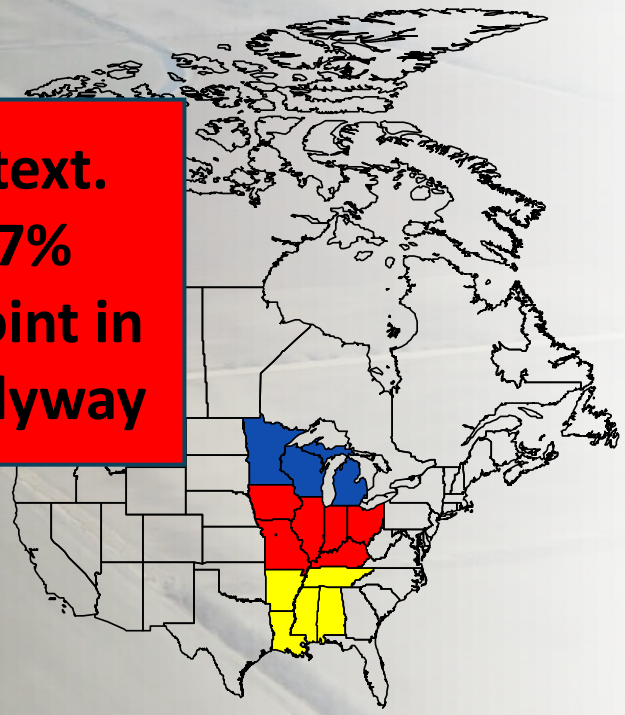


National Status and Trends Reports



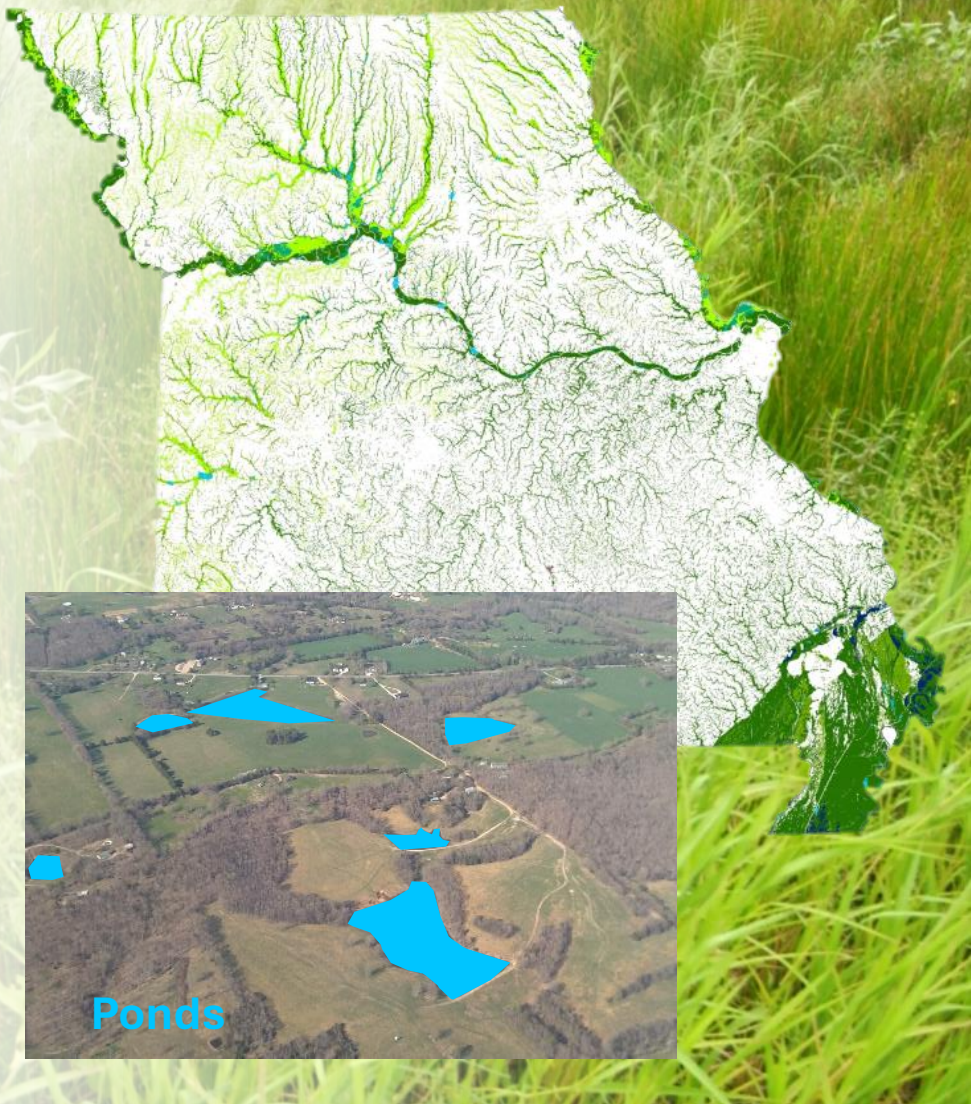


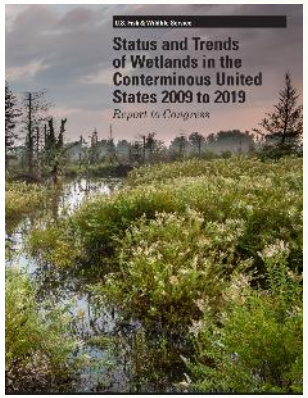
Illustrating context.
MO has lost 87%
A literal pinch point in
the Mississippi Flyway



National Status and Trends Reports

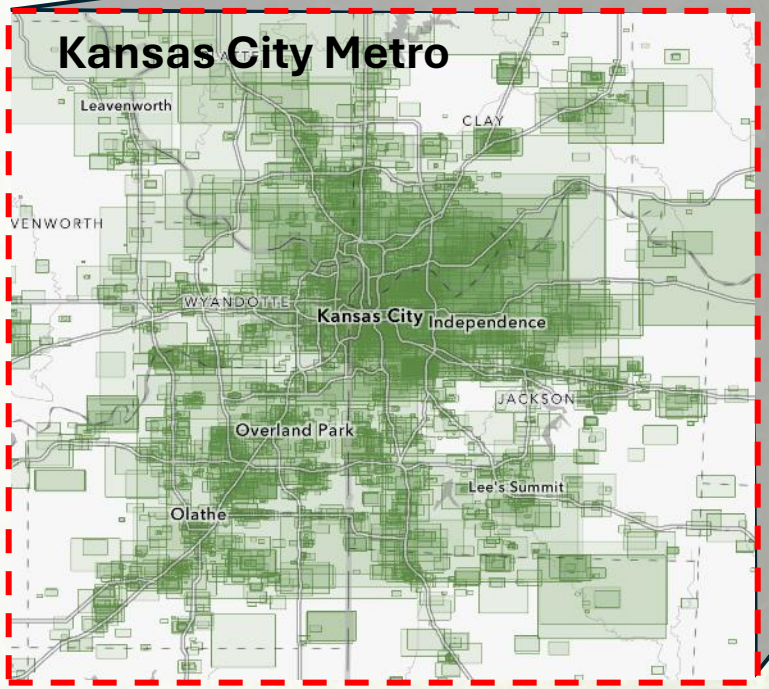
- Tracks with observations in Missouri
  - National data comes in handy to cite
- Net wetland loss increased substantially (>50%) since 2009
  - Loss of forested wetlands
  - Increase in ponds

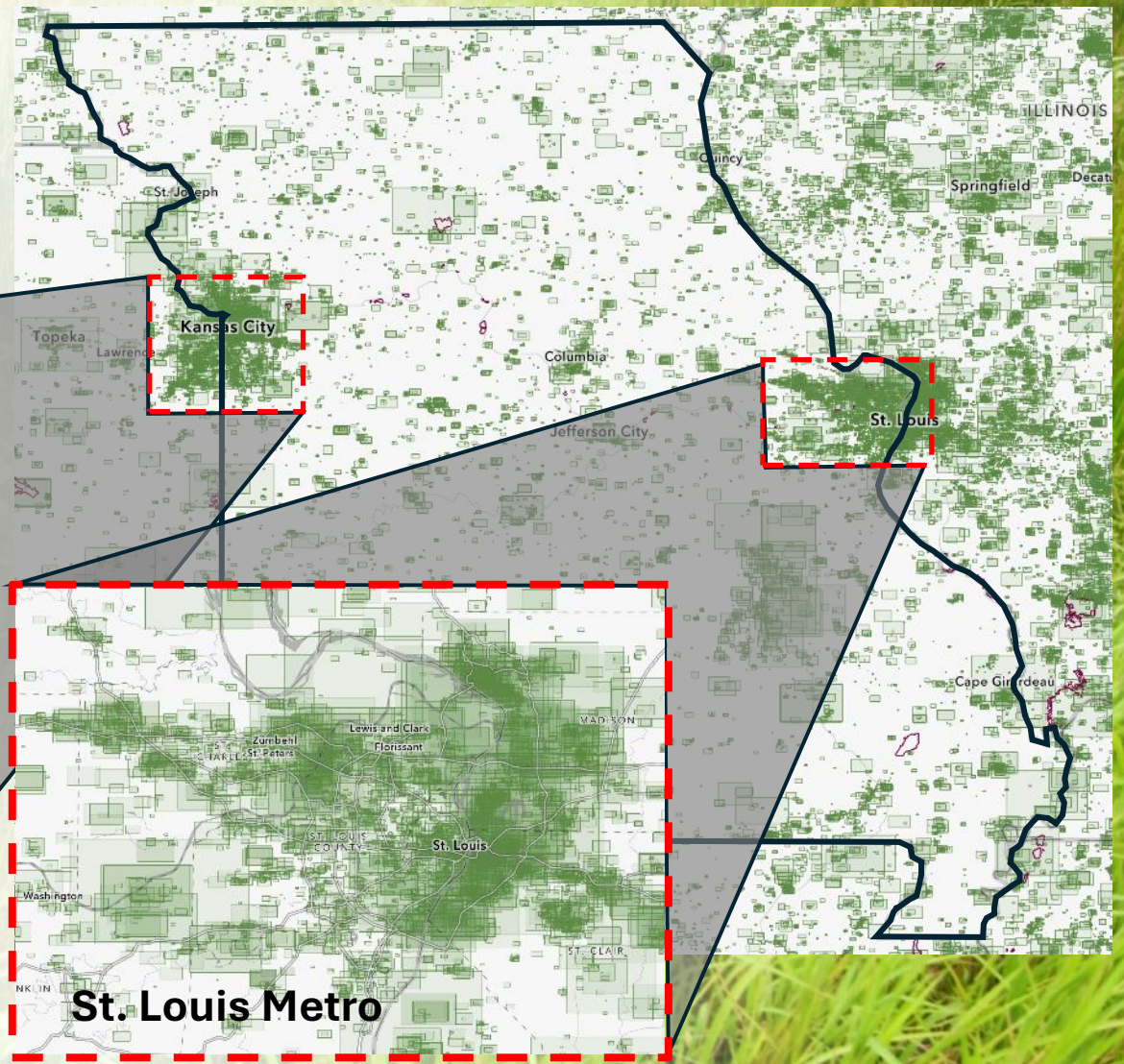




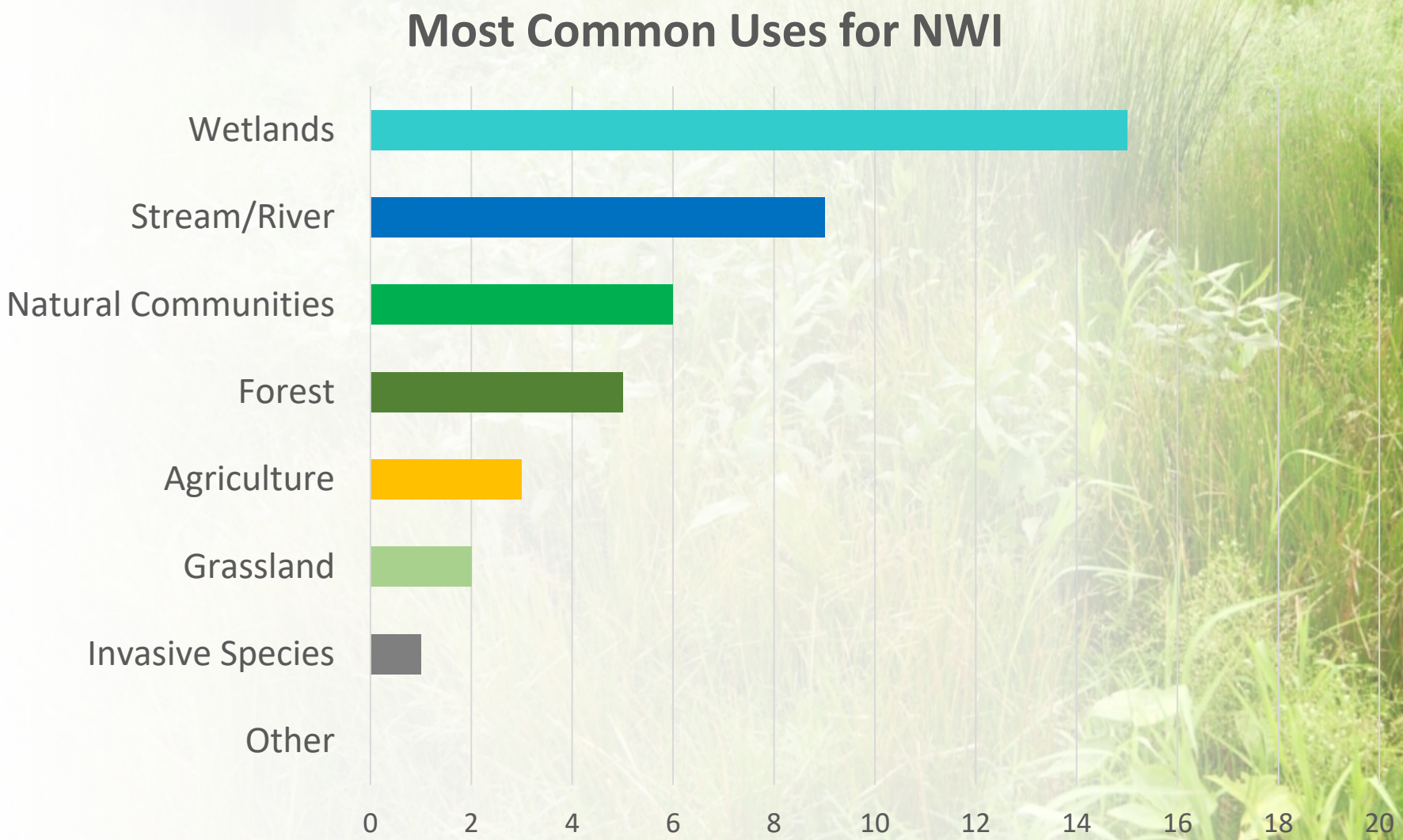
Use of NWI GIS data across Missouri

- Data frequently downloaded in and around urban centers
- Focus is on development and potential environmental impacts





Use of NWI GIS data within MDC

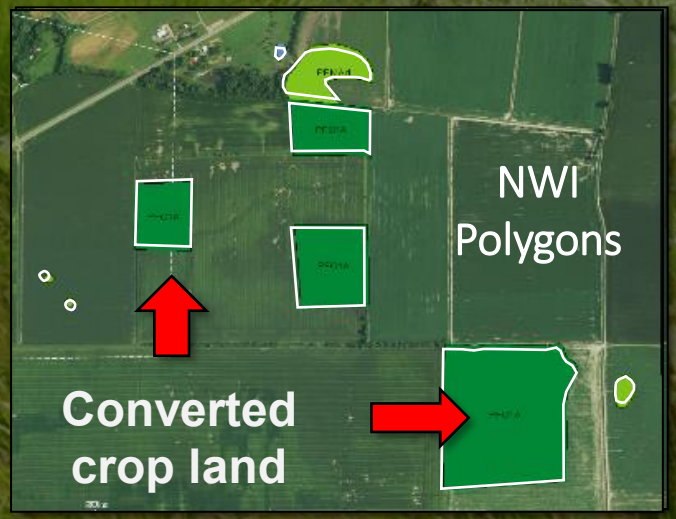


Current Uses For NWI within MDC

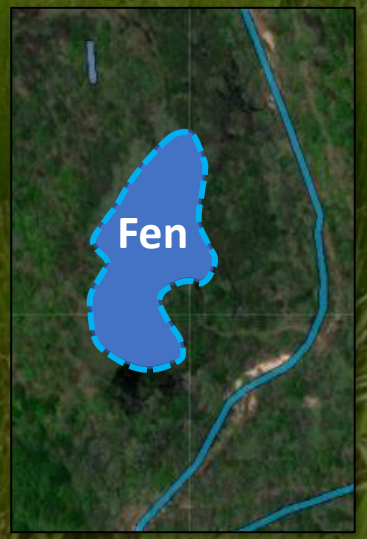
- Identify extent of known wetlands
  - To search for Species of Conservation of Concern
  - To search for unique wetlands and their condition
    - Potential fens as identified as PEMb
- Environmental review
- Research, monitoring, planning
- Wetland construction and management
- Wetland determinations
- Restoration

Changes and Uncertainty: Wetlands

Cont. Wetland Loss



Restored Wetlands

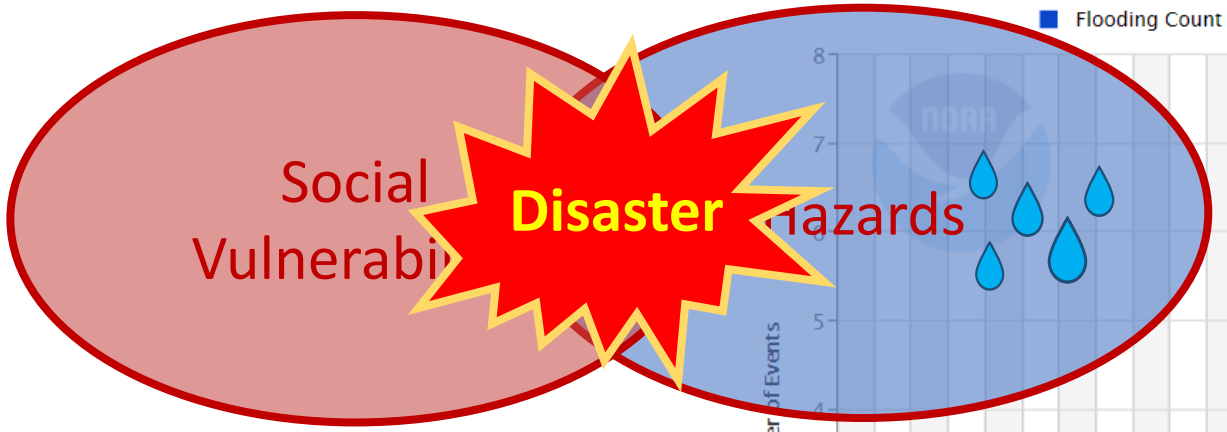


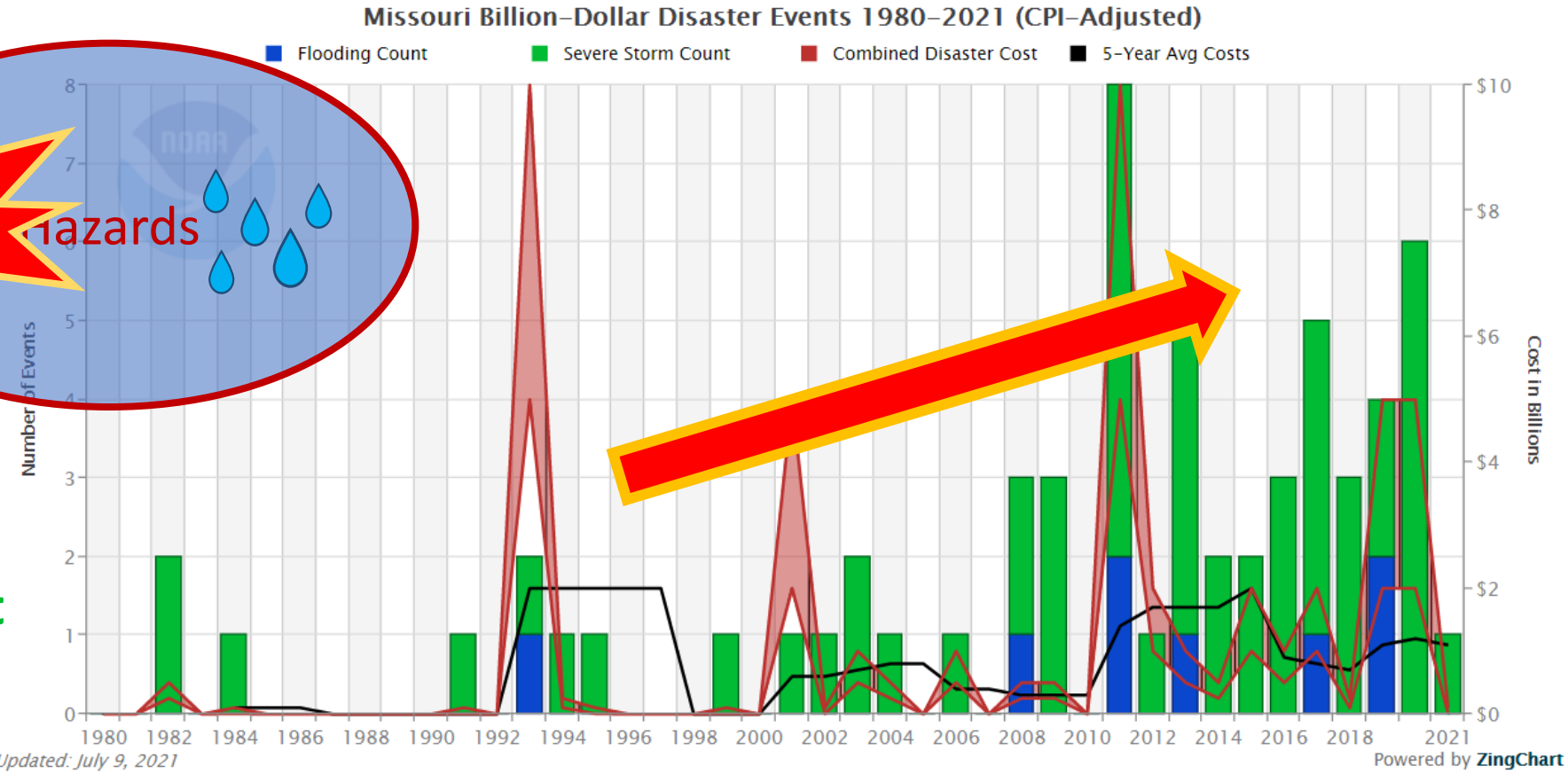
Unmapped Wetlands

- How many wetlands exist in Missouri?
- What type?
- What has restoration potential?

Changes in Climate and Disaster Events

1980's → 1990's → 2000's → 2010's → 2020's





Disaster Frequency Associated with:

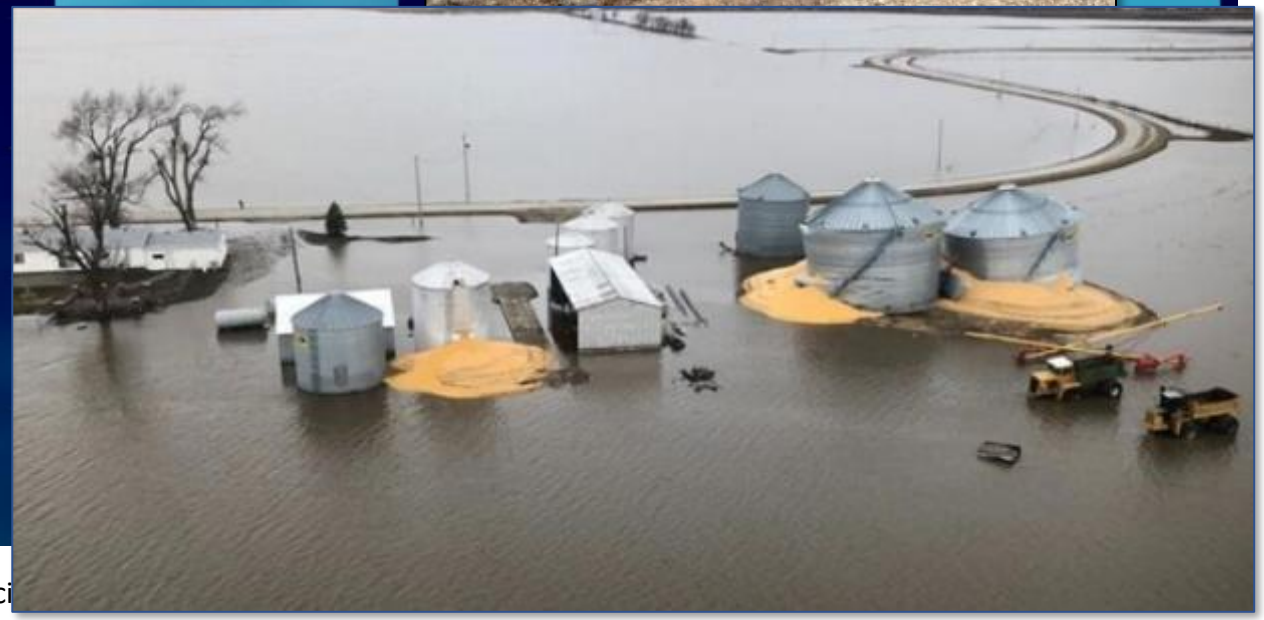
- **Severe Storms Count**
- **Flooding Count**

NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2021). https://www.ncdc.noaa.gov/billions/, DOI: 10.25921/s

Changes in Climate a

1980's | 1990's | s

Cassville, MO



Social Vulnerabi

Disaster

Hazards

More Inland Flooding

Increase in flood severity index…it's happening

https://www.climatecentral.org/outreach/alert-archive/2016InlandFlooding.php?market=kansasci

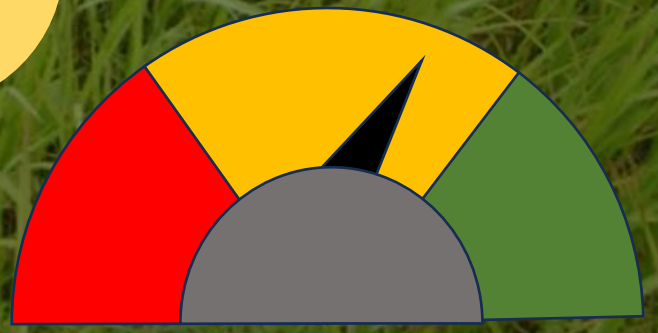
Van Westen, C.J., 2013. Remote sensing and GIS for natural hazards assessment and disaster risk management. *Treatise on geomorphology*, *3*, pp.259-298.

Changes and Uncertainty: Wetlands

- What was limiting us and our partners from prioritizing wetland conservation statewide?

Need to update MO NWI

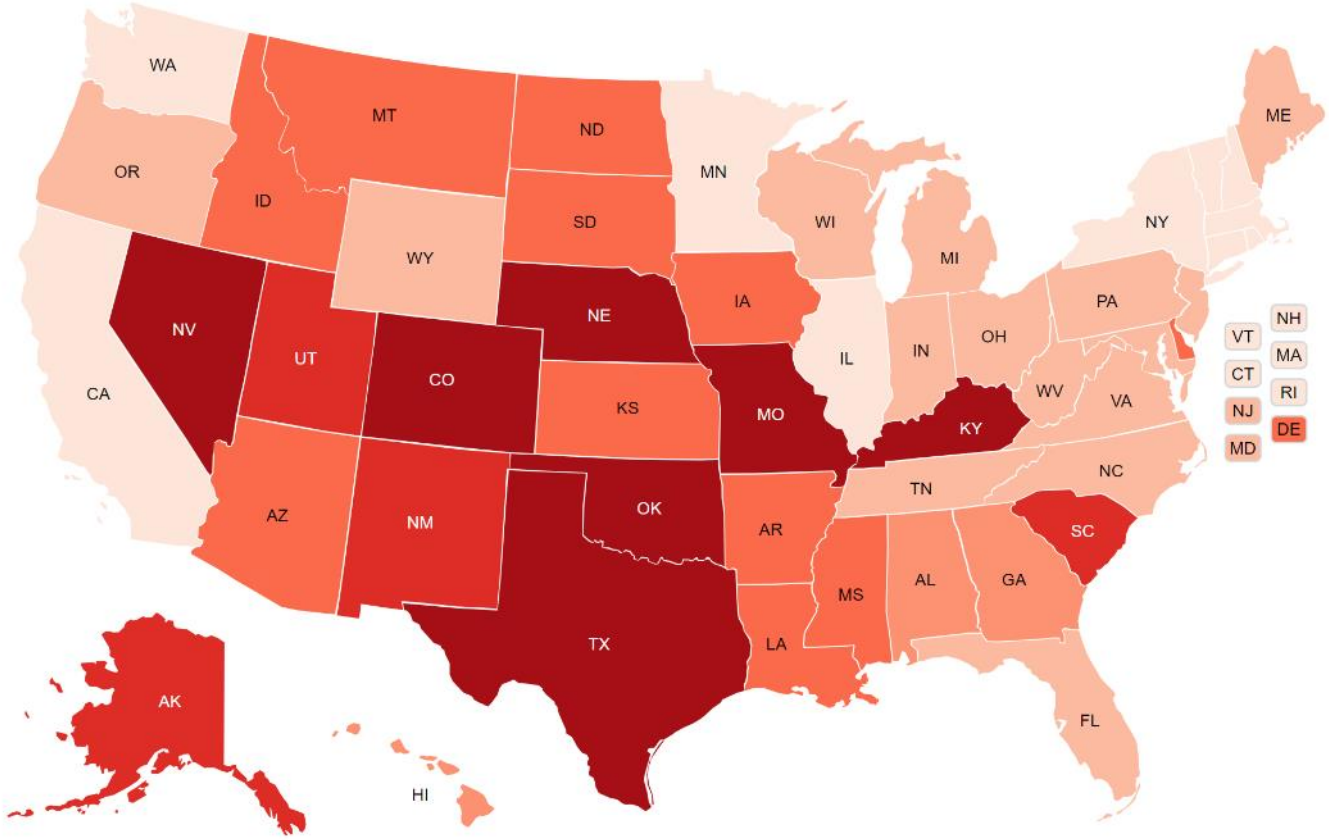
- How many wetlands exist in Missouri?
- What type?
- What has restoration potential?



Wetlands and Streams Most in Danger After the U.S. Supreme Court's *Sackett v. EPA* Ruling

Changes to Legal Protections Increase Wetland Vulnerabilities

Missouri doesn't have state protections and has always deferred to federal protections



← Wetlands and streams most at risk of harmful development and pollution

Wetlands and streams with some protections from harmful development and pollution →

Wetlands and Streams Most in Danger After the U.S. Supreme Court's Sackett v. EPA Ruling - Earthjustice

New Uses For updated NWI+

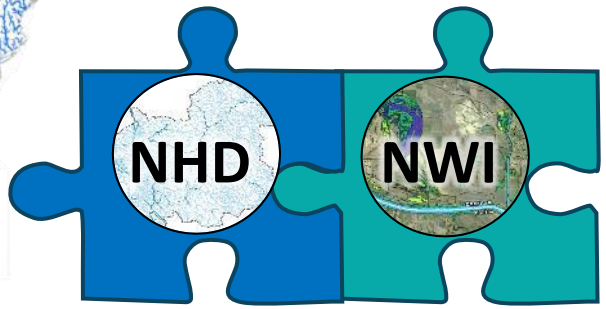
Future Applications

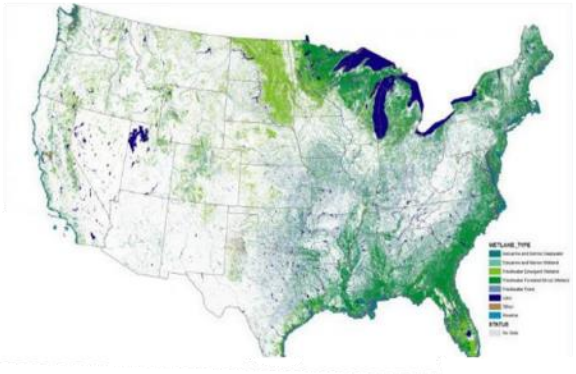
- Create a better/accurate baseline of wetlands in Missouri
- Use to prioritize Wetland Conservation:
  - Protection
  - Management
  - Enhancement
  - Rehabilitation
- Consider Nature-Based Solutions to reduce Flood Risks

Bridges, T. S., J. K. King, J. D. Simm, M. W. Beck, G. Collins, Q. Lodder, and R. K. Mohan, eds. 2021. Overview: International Guidelines on Natural and Nature-Based Features for Flood Risk Management. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Updating MO's Stream and Wetland GIS Layers

- 2020 Discussions Among Partners





Who is interested in collaborating?

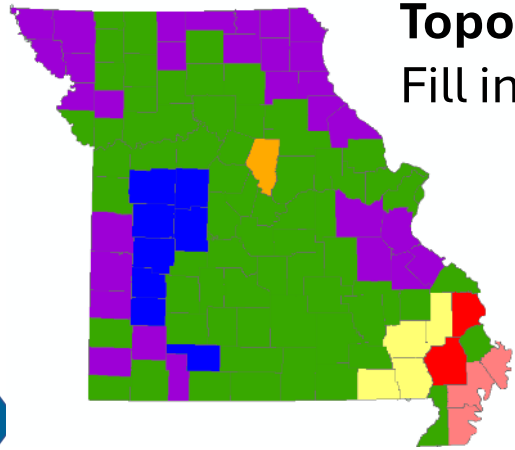
Updating MO's Stream and Wetland GIS Layers

- 2022 Actions Among Partners

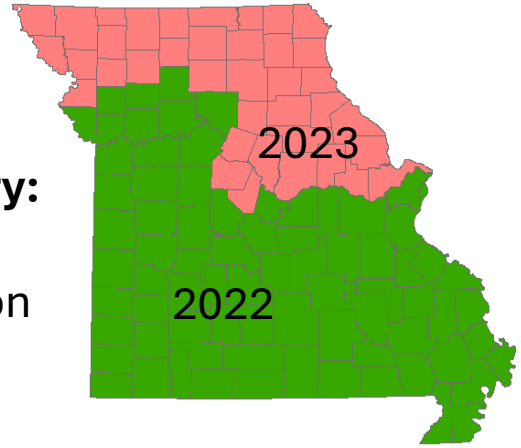
- Coordinate Steps
  - Lidar
  - Leaf-Off Imagery
  - Leaf-On Imagery
  - Hydrography 1st
  - Wetlands 2nd

Updated Hydro and Wetlands Layers for Missouri

Acquire base layers:



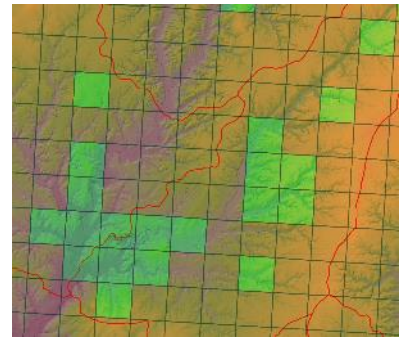
Topography:
Fill in gaps



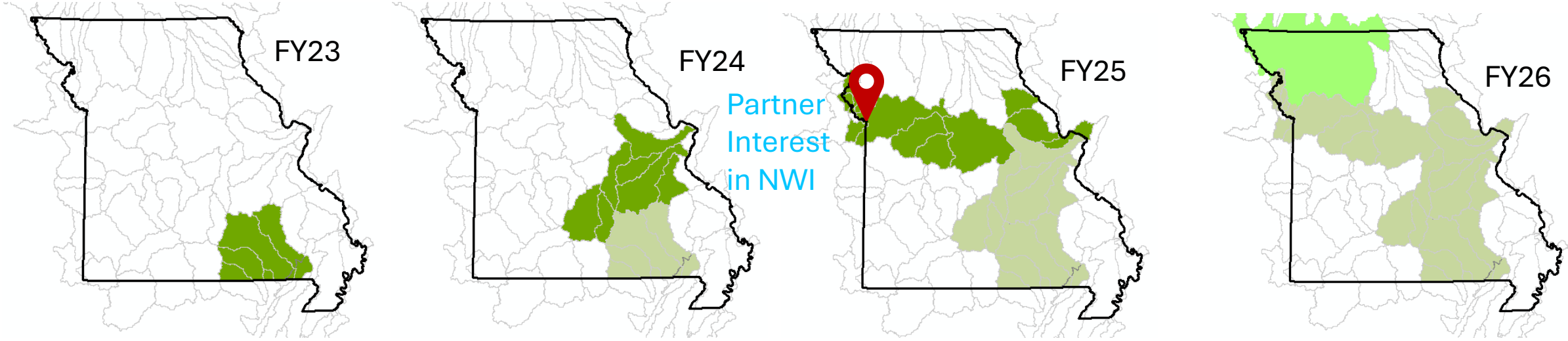
Leaf-Off Imagery:
Current and
Higher Resolution

Updating MO's Stream and Wetland GIS Layers

- NHD is now elevation derived hydrography **(EDH)** data
- As collaboration of agencies, incrementally working our way across Missouri



Online Review Portal



Updating MO's Stream and Wetland GIS Layers

Updating EDH: Small Watershed Examples

Halbrook Branch:

Small Watershed Dent Co.

Old NHD:

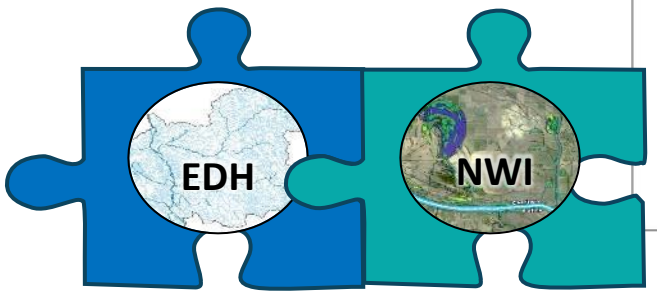
12 Open Water Bodies

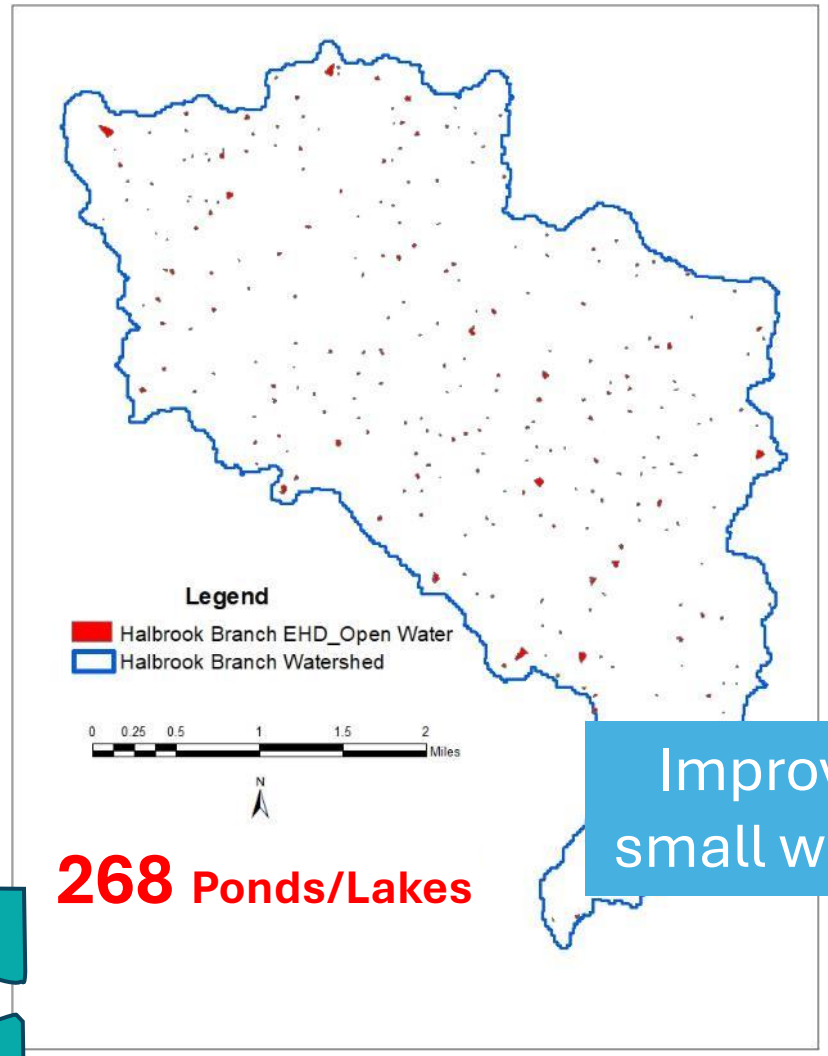
18 1st Order Streams

EDH:

268 Open Water Bodies

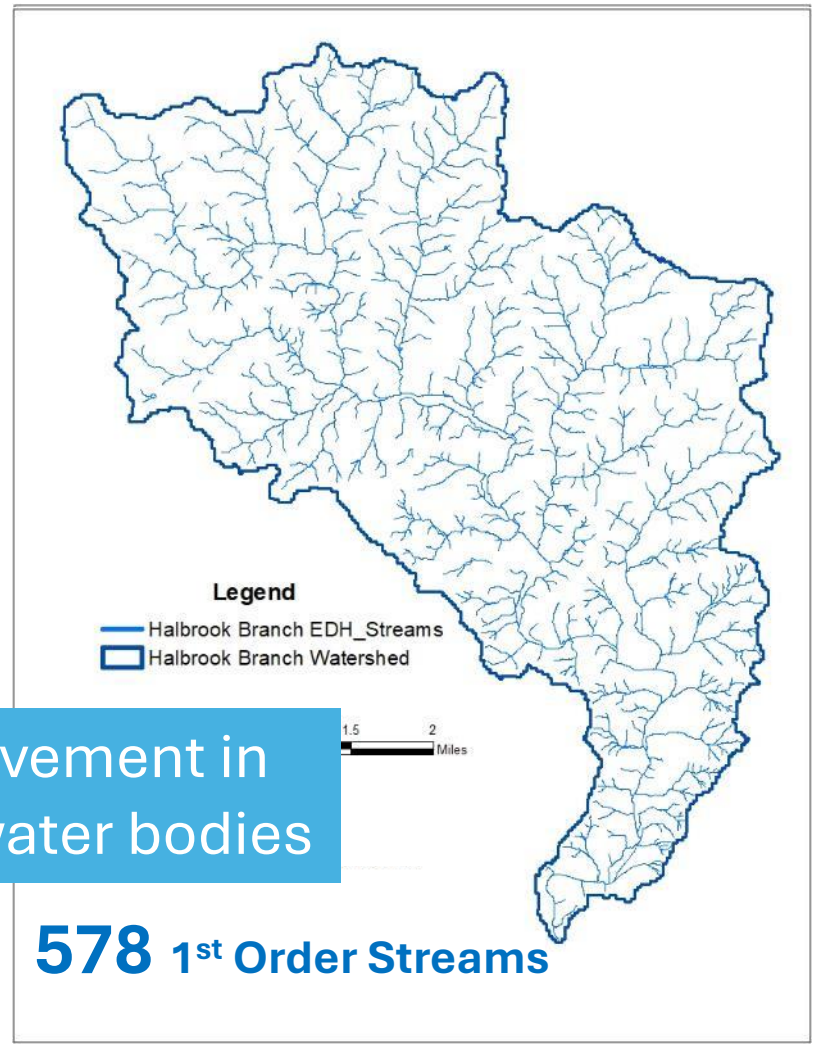
578 1st Order Streams





268 Ponds/Lakes

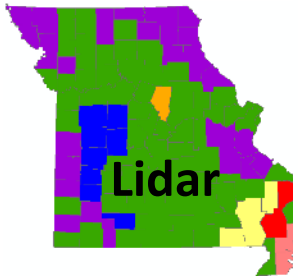
Improvement in small water bodies

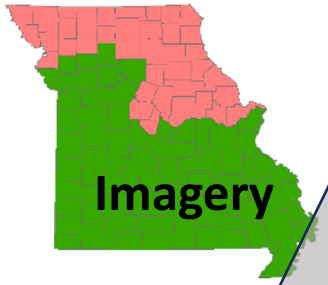


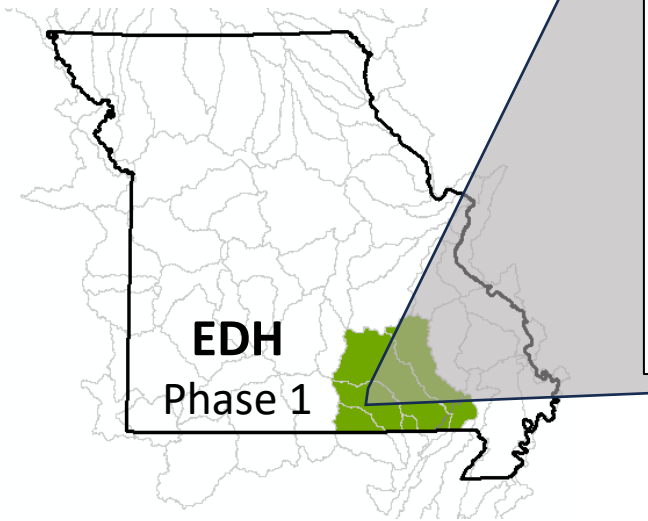
578 1st Order Streams

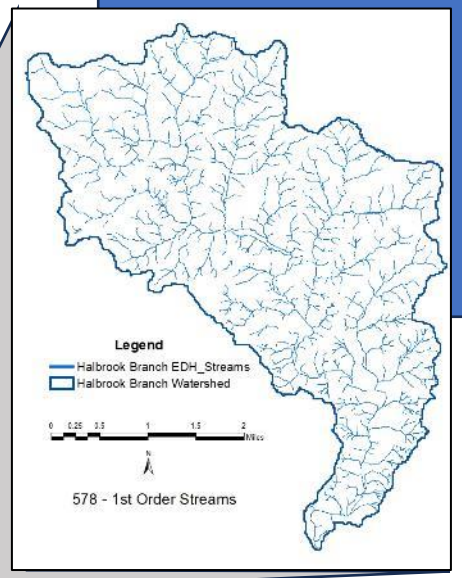
Using EDH as Springboard into NWI+

- Just Beginning
  - MDC—State Funds
  - KC Water—EPA WPP Grant

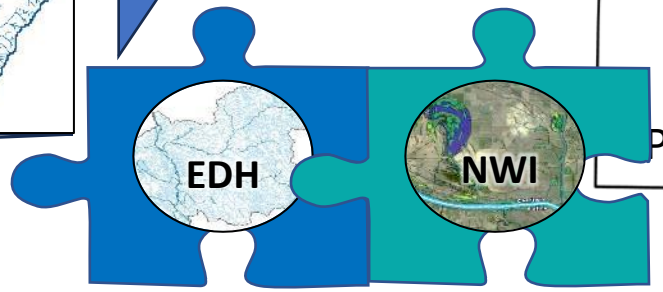


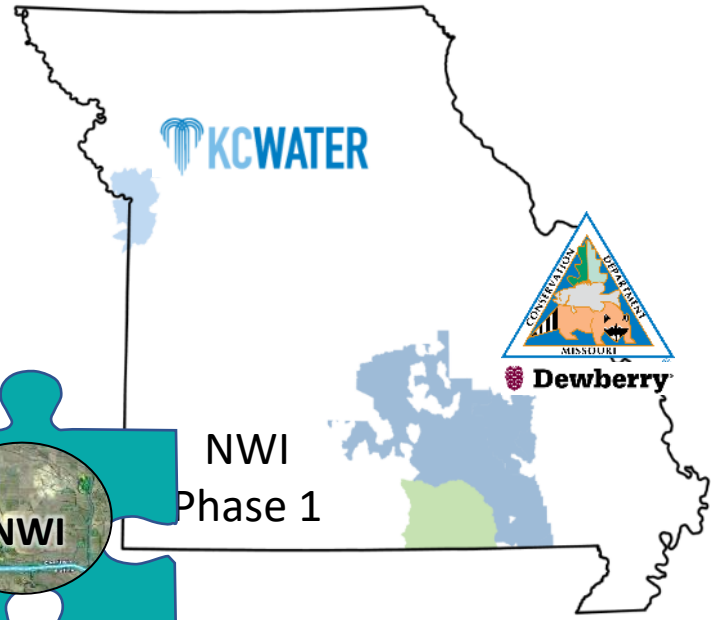






- Efficiencies Using EDH Deliverables
  - Reduces double handling
    - Hydro-enforced DEM's
    - Stream flow network
  - Incorporation of pond polygons smaller than federal standard





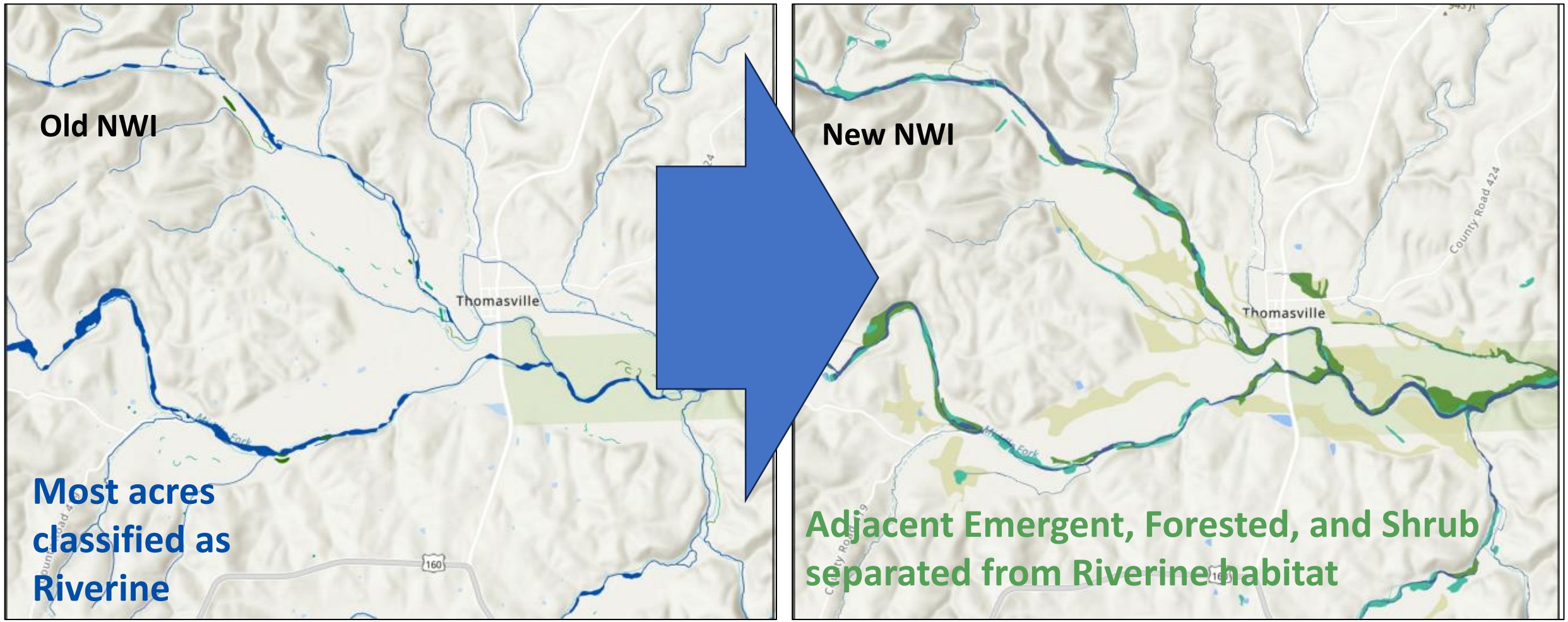
NWI Updates

FY26

FY25

Comparison of Old NWI to New NWI

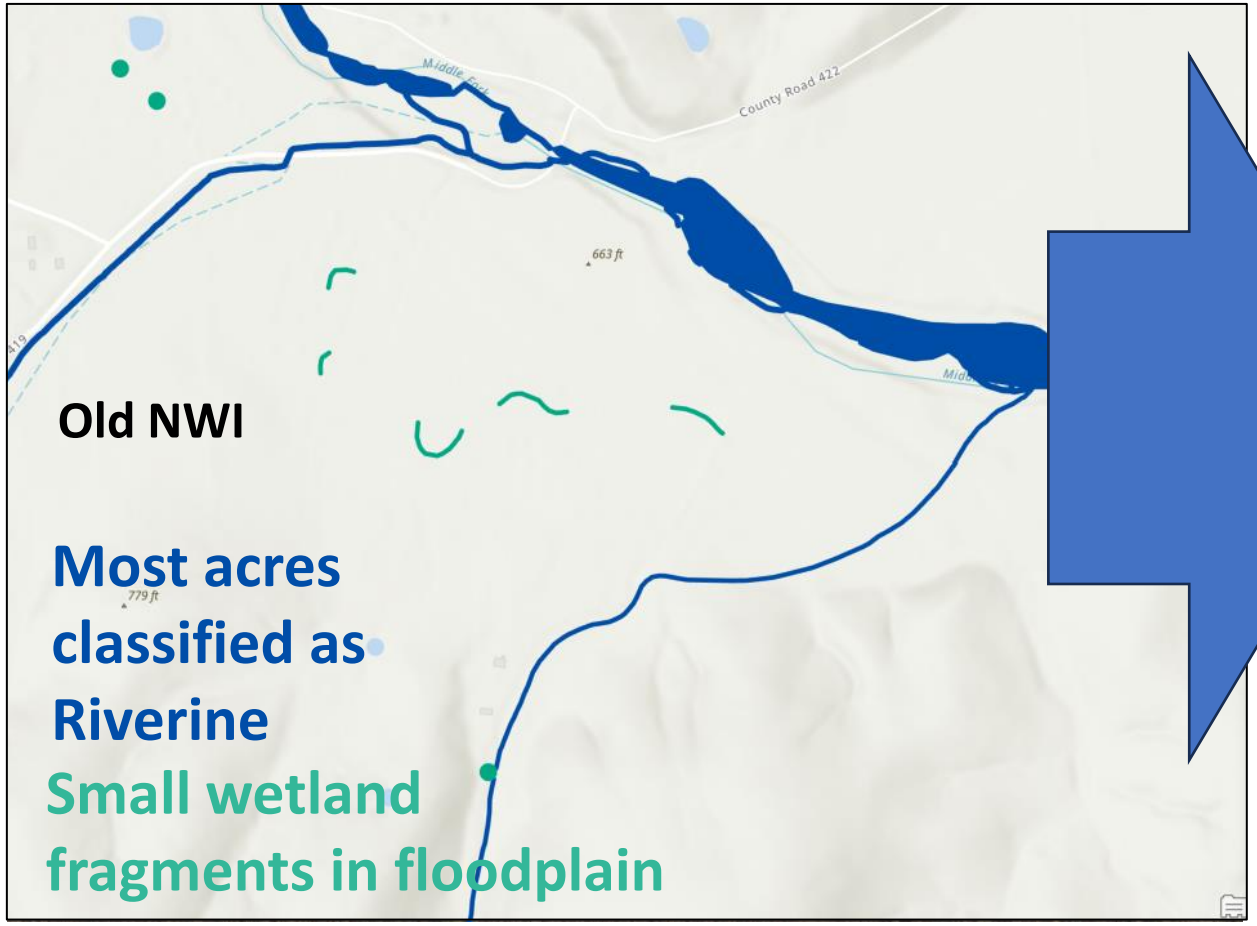
- Pilot Area: 4 square miles, in the Ozarks near Thomasville

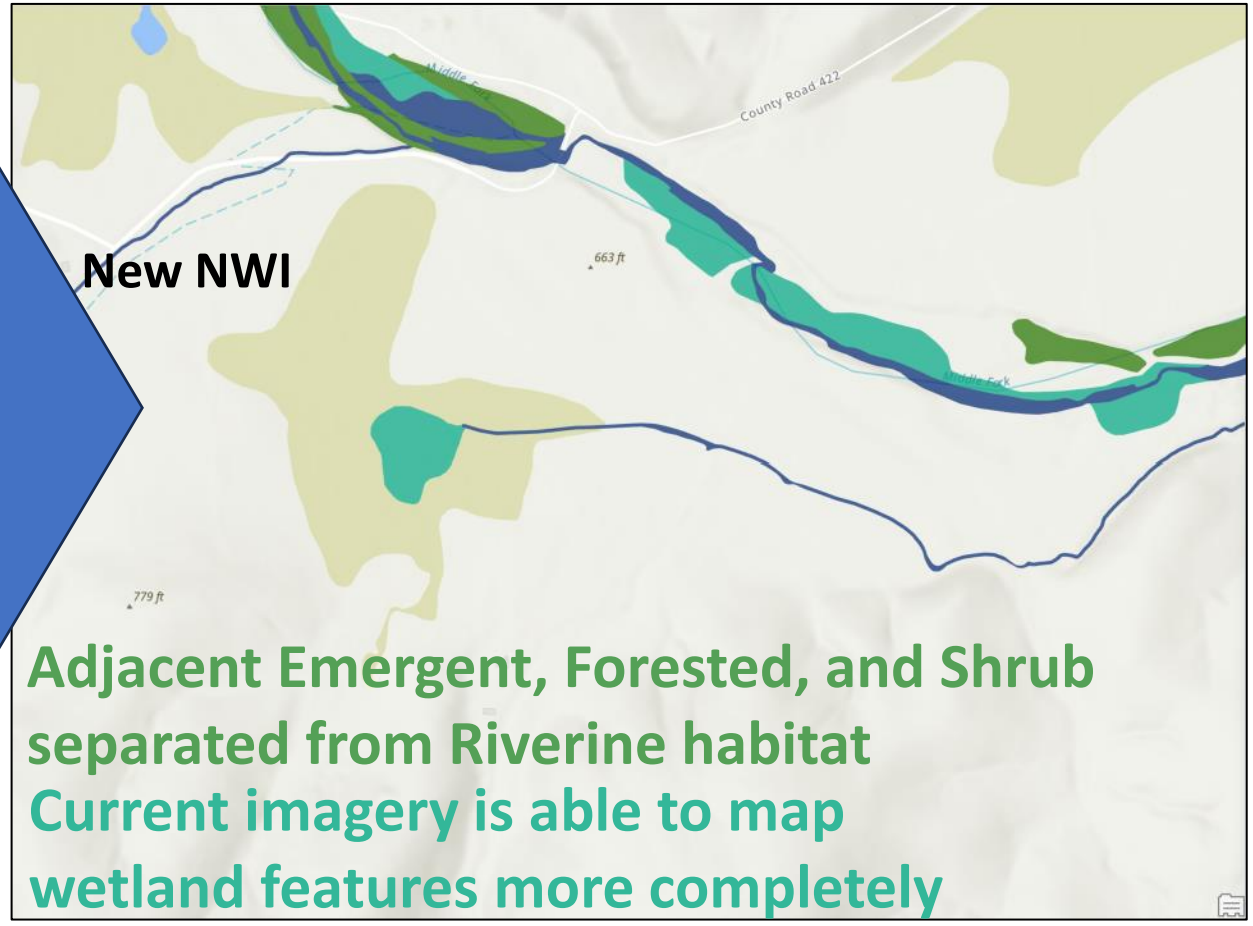


Comparison of Old NWI to New NWI

- Pilot Area: 1 mile across, in the Ozarks near Thomasville

Emergent Wetland
Forested Wetland
Pond
Riverine
Other (Farmed)





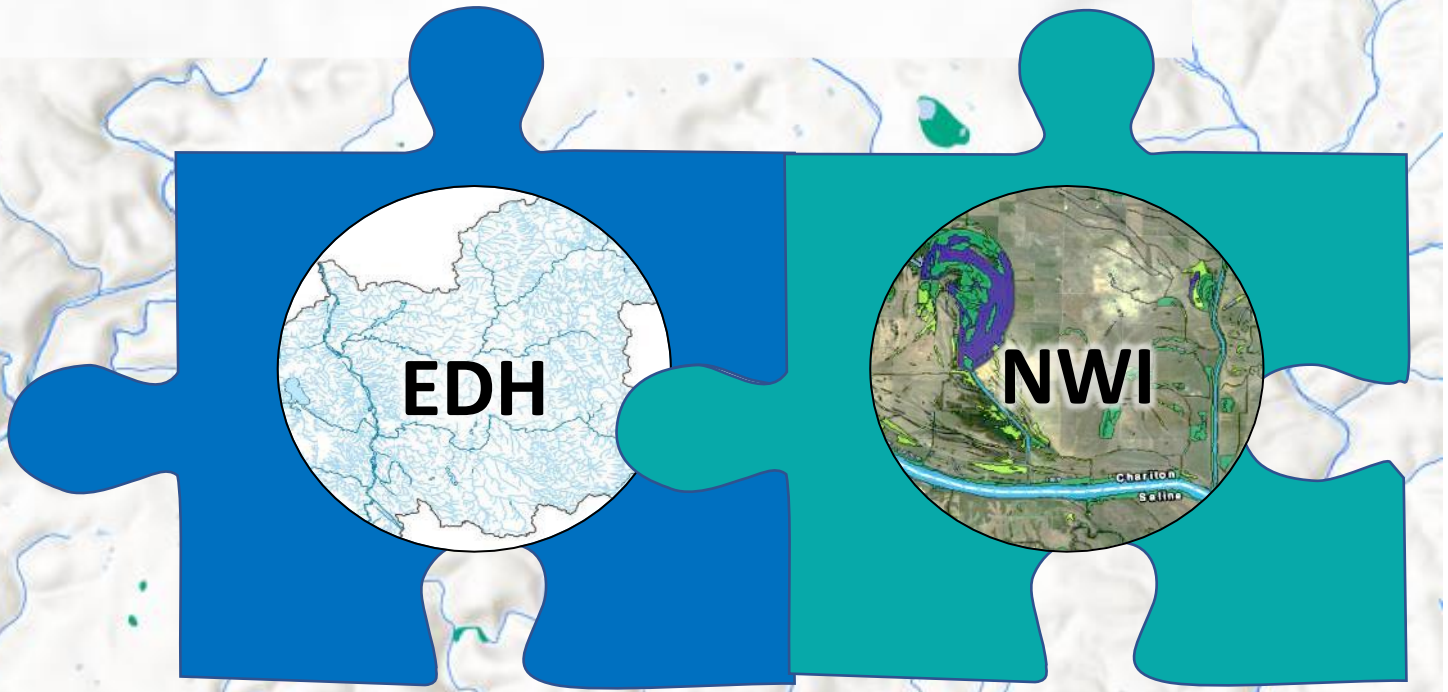
Updating MO's Stream and Wetland GIS Layers

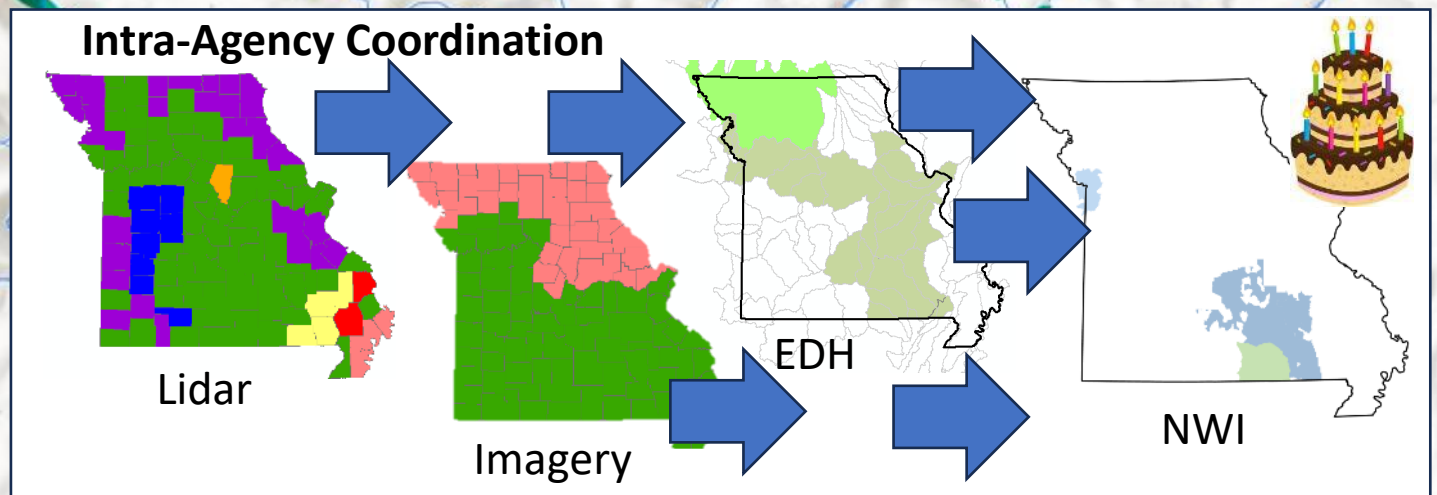
NWI and other National GIS Data is Critical

- Serves an important role for multiple agencies and organizations

Integration is Necessary

- Focusing on a coordinated watershed approach for multiple GIS layers is and will benefit future wetland conservation





US Fish and Wildlife Service

Rachel Sullivan

Migratory Bird Program

North American Wetlands Conservation Act (NAWCA)

's

National Wetlands Inventory (NWI)

Rachel Sullivan
GIS/Data Steward for NAWCA & NMBCA
Migratory Bird Program
U.S. Fish & Wildlife Service
June 24, 2025

PHOTO: *Louisiana Department of Wildlife & Fisheries*
Russell Sage & Bodcau WMAs Wetland Enhancement , Louisiana

What is NAWCA?

North American Wetlands Conservation Act

- Competitive grant program
- Voluntary
- Non-regulatory
- Public-private funding

PHOTO: *Great Land Trust/Bob Waldrop*
Upper Cook Inlet: Potter Marsh Watershed, Alaska

NAWCA Accomplishments

- 3,300 projects
- 7,000 partners
- 32.6 million acres
- $2.28 billion Grant
- $4.53 billion Match

PHOTO: *California Waterfowl Association/Zach Stratton*
California Central Valley Coastal Wetlands Project II, California

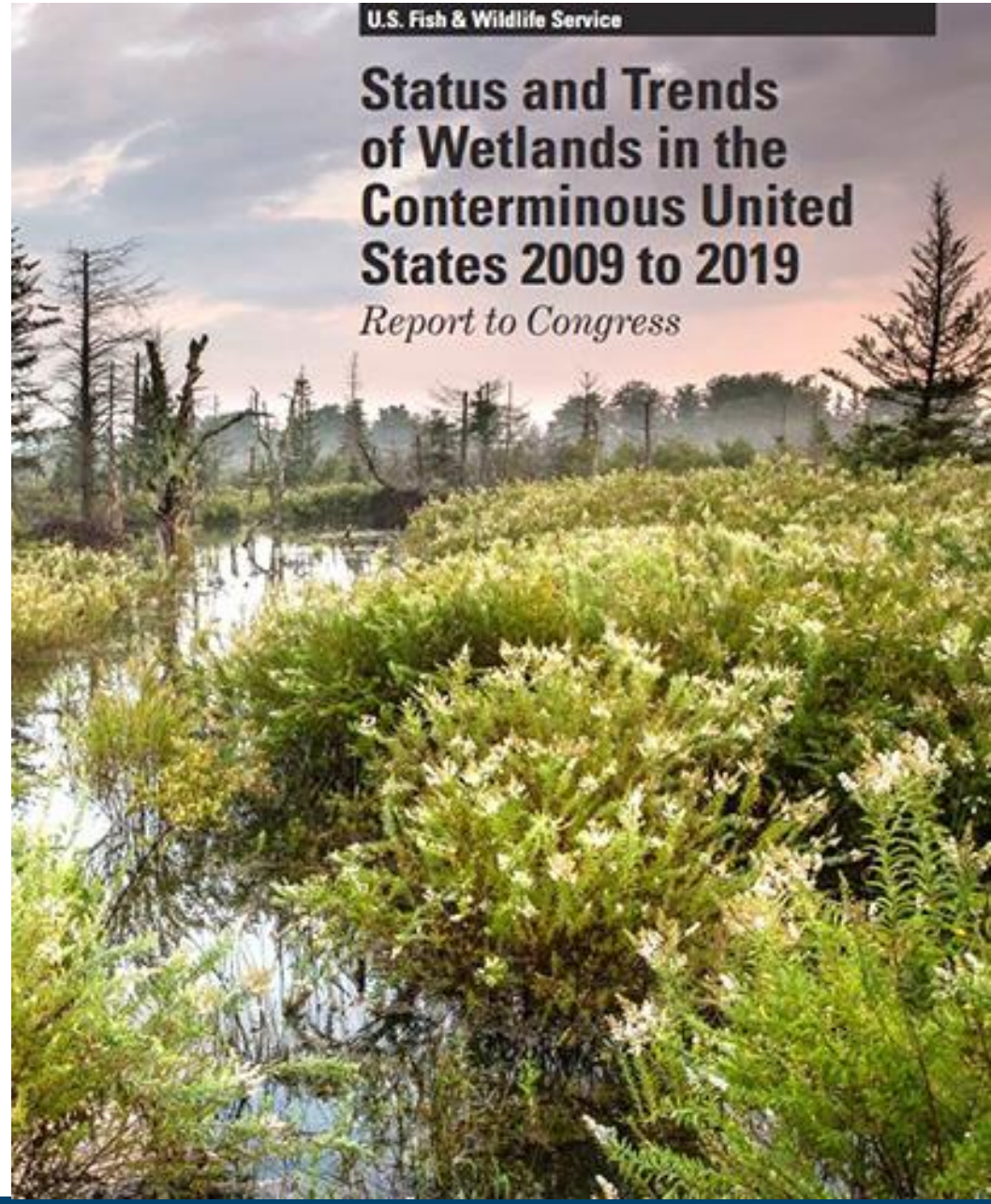
NAWCA & NWI

- NWI & Status & Trends data are used for every US NAWCA project!
- Technical Assessment Question (TAQ):
  - TAQ #4 – How does the proposal relate to the national status and trends of wetlands types?
  - Worth up to 10 points out of 100
- NAWCA applicants are encouraged to use:
  - NWI Wetlands Mapper
  - Downloads of the wetlands data
  - Wetlands Web Mapping Services for ArcGIS

PHOTO: *Ducks Unlimited*
Eastern South Dakota Wetlands VII, South Dakota

Status & Trends Report

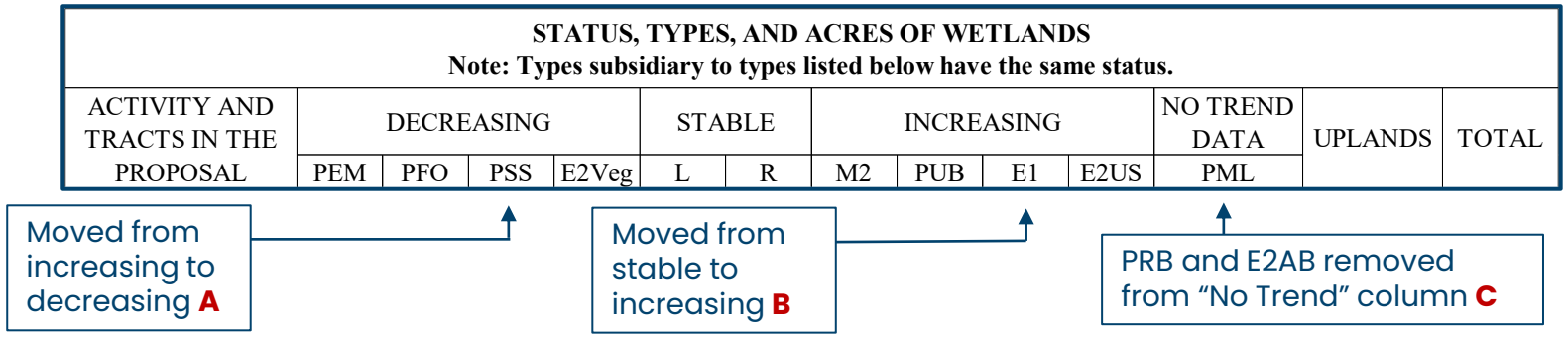
- Consultation with NWI staff after S&T is published
- TAQ #4 revisions



Updated TAQ #4

A: Palustrine scrub-shrub (PSS) moved from increasing to decreasing

- 2009-2019: Decreased by 96,500 ac
- Causes: Net loss to upland (e.g., human alteration) and change to palustrine forested wetland (e.g., natural succession)



B: Estuarine sub-tidal (E1) moved from stable to increasing

- 2009-2019: Increased by 56,000 ac
- Causes: Net gain from intertidal vegetated, i.e., mainly saltmarsh but also shrub (mangroves)
- Changes consistent with sea level rise

C: Palustrine rock bottom (PRB) and estuarine intertidal aquatic bed (E2AB) removed from table

- Types are relatively rare and not differentiated in Status and Trends study.
  - PRB is included in the PUB type.
  - E2AB is included in the E2US type.

Thank you!

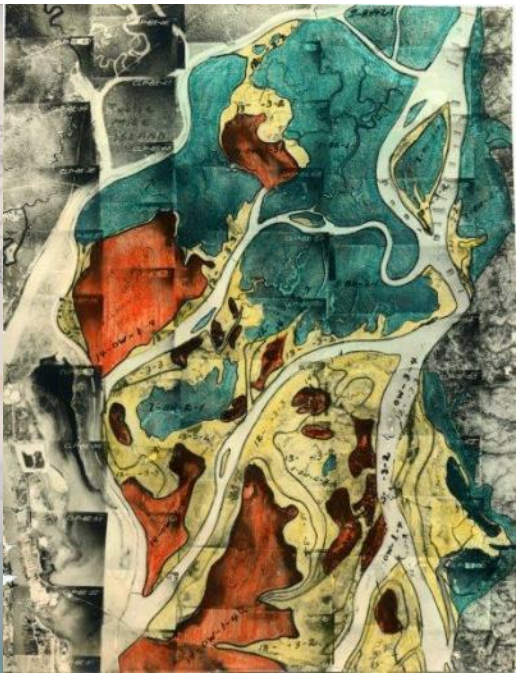
My contact:
Rachel_Sullivan@fws.gov

General NAWCA contact:
dbhc@fws.gov

PHOTO: *West Creek Conservancy/Brett Rodstrom*
Lake Erie Coastal Wetlands IV, Ohio

PHOTO: *Ducks Unlimited/Coryna Hebert*
Lower Bear River Great Salt Lake II, Utah

Questions?



Thank you NWI!