

# The Development of a Multiple Collaborator Venture Connected to the National Wetland Condition Assessment in North Dakota



*North Dakota*  
Department of Agriculture



Shawn DeKeyser, Christina Hargiss,  
Lindsey Meyers, Mike Ell



**National  
Wetlands  
Condition  
Assessment**

**Assessing the Nation's Waters**

# National Wetland Condition Assessment - Overview

- **Assessment of wetlands of the contiguous United States and Alaska**
- **First ever national survey of the condition of the nation's wetlands**
- **1,179 total wetland sites were visited in 2011**

# National Wetland Condition Assessment – Why?

- Determine the ecological integrity of the nations wetlands
- Build state and tribal capacity for wetland monitoring and analyses
- Promote collaboration across jurisdictional boundaries
- Achieve a robust, statistically-valid set of wetland data
- Develop baseline information to evaluate wetland trends

# National Wetland Condition Assessment – Intensification Projects

- **Gulf of Mexico Coastal Wetlands Pilot Survey**
- **Mid-Atlantic Inland Wetlands Survey**
- **California Estuarine Assessment**
- **Minnesota Statewide Wetlands**
- **Ohio Wetlands Monitoring Program**
- **New England Coastal Wetlands**
- **North Dakota Prairie Potholes**
- **Southeast Isolated Wetland Assessment**

# National Wetland Condition Assessment – Intensification Projects

- Funding for the intensification projects was given by the National EPA to Regional EPA branches via Wetlands Program Development Grants
- NDSU received funding from one of these grants through the NDDH

# National Wetland Condition Assessment - Design

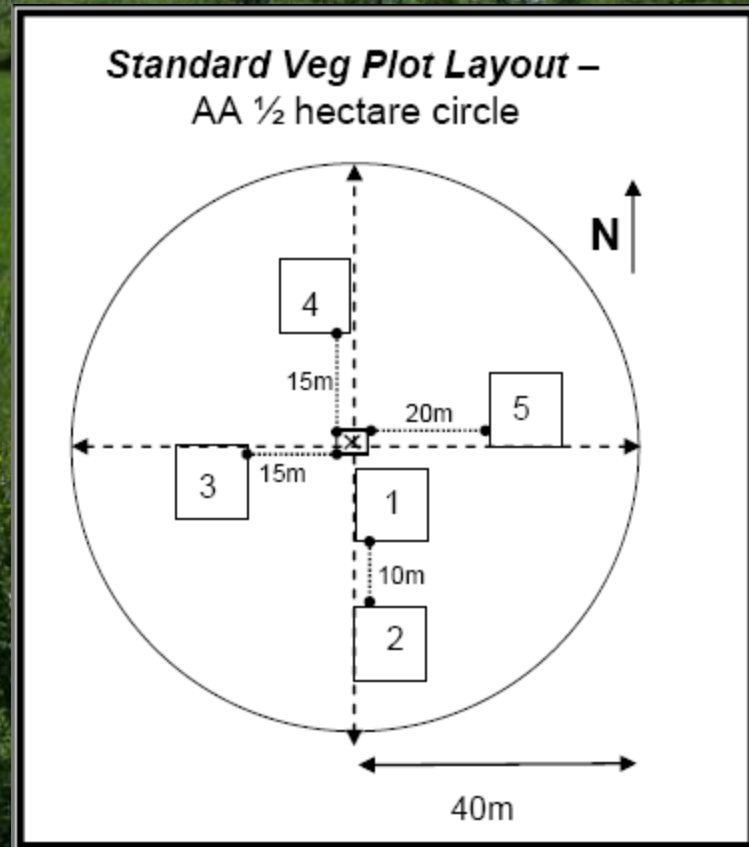
- Design was developed as a collaboration between the EPA and the US Fish and Wildlife Service
- All sites were a part of the US FWS Status and Trend Plots
- Generalized Random Tessellation Stratified survey of the wetland resources within the 2 mile X 2 mile plots





# National Wetland Condition Assessment - Methods

- Vegetation
- Soils
- Hydrology
- Water Quality
- Algae
- Buffer



# North Dakota NWCA and Intensification

- **North Dakota Team Development**
  - Botanist
  - Soil Scientist
  - Water quality specialist
  - Statistical and modeling expertise
  - Organizer

# North Dakota Intensification



- **EPA Interests**
  - Adequate sample size (State and Prairie Pothole Region)

# North Dakota Intensification

A photograph of a lush green field, likely a soybean field, with a line of trees in the background under a clear blue sky. The field is in the foreground and middle ground, and the trees are in the background. The sky is a pale blue with some light clouds.

- **NDSU Research Interests –**
  - Mercury
  - Nutrient cycling (ecosystem services, modeling)
  - Regionally developed methods versus national methods
  - Statewide assessment method (tool)

# North Dakota Intensification

- **ND Department of Health, Division of Water Quality**
  - **NDDH personnel – water quality sampling**
  - **Water chemistry**
  - **Algae samples**

# North Dakota Intensification

The background of the slide is a photograph of a natural landscape. It shows a wide, green field, possibly a meadow or a wetland, with a dense line of trees and shrubs in the distance. The sky is a clear, light blue. The overall scene is bright and natural.

- **Natural Resource Conservation Service**
  - Described wetland soils at every site visited
  - Senior personnel trained junior personnel
  - Reviewed, tested, and validated hydric soil indicators for our region

# North Dakota Intensification



- **NDSU Department of Biological Sciences – Wet Ecosystems Laboratory**
  - **Multi-elemental fingerprinting**
    - **Continue prior wetland research**
    - **Selenium / mercury**

# North Dakota Intensification

A photograph of a lush green field, likely a grassland or prairie, with a dense line of trees in the background. The sky is clear and blue. The text is overlaid on the top left of the image.

- **EPA Western Ecology Division**
  - $N_{15}$  research – nitrogen cycling
  - Ecosystem services



# North Dakota Intensification

The background of the slide is a photograph of a rural landscape. In the foreground, there is a dense thicket of green bushes and small trees. Beyond this, a wide, flat green field stretches towards a line of taller trees in the distance. The sky is a clear, pale blue.

- **North Dakota Department of Agriculture –  
Water Quality Advisory Committee  
– Pesticide sampling**

# North Dakota Intensification Summary

- **North Dakota**
  - NDSU – 20
  - NDDH – 6; Lab ?
  - NRCS – 13 ?
  - NDDA – 1
- **Nationally ?**

# To Name Just a Few

Alan Gulsvig

Lance Duey

Brandon DeFoe

Perry Sullivan

Kristin Brennan

Kyle Thomson

David Zimmerman

Jerome Schaar

Michael Ulmer

Dennis Whitted

Shawn DeKeyser

Jessica Meissner

Jack Norland

Tom DeSutter

Matt Stasica

Skye Gabel

Christina Hargiss

Mike Ell

Grant Neuharth

Paul Olson

Levi Sheff

Patrick Corrigan

Wade Shaver

Brandon Montgomery

Kristen Newman

Keith Jacobson

Mike Hargiss

Pete Wax

Amanda Nahlik

Larry Swenson

Mike Scozzafava

Jessica Johnson

Kevin Horsager

Eva Sebesta

Karl Hermann

Gregg Serenbetz

Marinus Otte

Alex Yellick

Natalie Allen

Donna Jacob

Jeanne Heilig

John Kempenich

