

# Recognizing Wetland Habitat and Management Potential on Private Lands

Jason Fleener, Wisconsin DNR



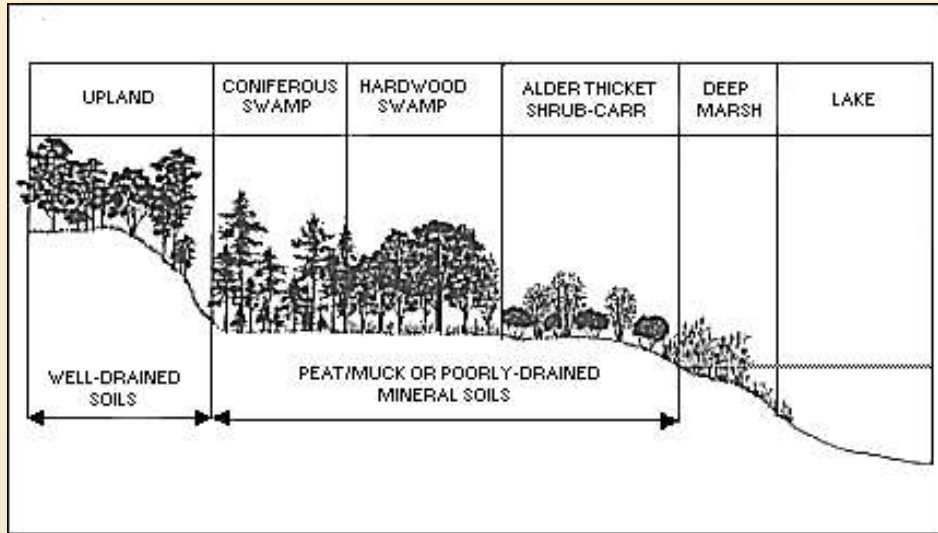
# Overview

- Wetland classification 101
- Components of wetlands and opportunities for management
  - Soil characteristics
  - Plant communities
  - Alterations to hydrology
- Cooperation with Surrounding Land Owners

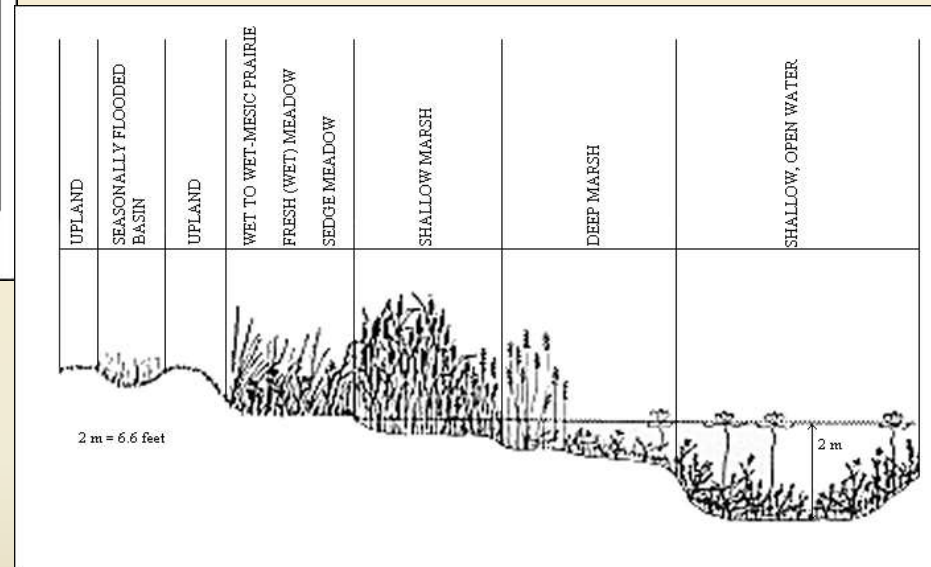
# Wetland Classification 101



# General hydrology and wetland characterizations



Generalized cross section of wetland plant communities in a lake basin



Generalized cross section of a meadow-marsh-open water complex



# Seasonal (Vernal) Hardwood Forest



Dry season



Wet season

# Floodplain Forest



← August

April





# Seasonal/Temporary Open Wetlands



## Shallow, open water wetlands





# Marshes



Deep



Shallow



# Inland Fresh Meadows



Sedge meadow



Wet prairie



Wet meadow



Calcareous fen

## Fresh Meadow of Bluejoint Grass (Autumn)





# Shrub swamps

Shrub carr



Alder thickets



# Wooded swamp

Hardwood swamp



Coniferous swamp





# Bogs



Open bog

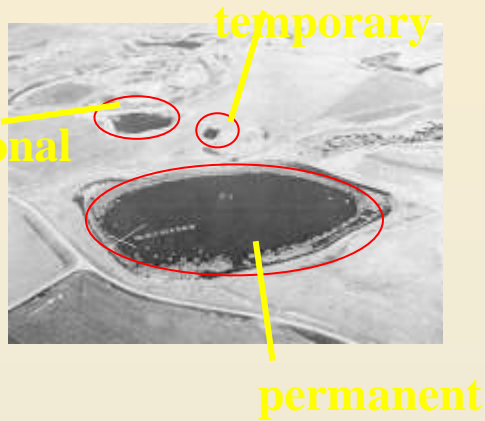


Coniferous bog/muskeg



# What is a wetland?

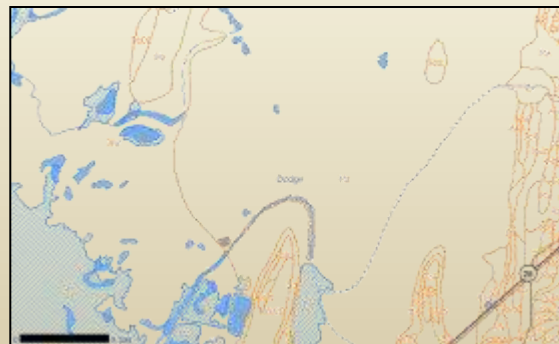
**Water  
(hydrology)**



**Wetland  
Plants**



**Hydric  
Soil**



# Wetland Plants (Hydrophytes)

The Good, The Bad, and The Ugly



# Invasive Plant Species – The Bad and The Ugly

## Characteristics

- Thrive in disturbed areas
- Thrive in nutrient rich wetlands
- Reduce diversity in the vegetative community
- Often become too dense to provide good bird habitat
- Often poor sources of nutrition for birds



# Reed Canary Grass





Elizabeth J. Czarapata



Elizabeth J. Czarapata





# Reed Canarygrass Control Practices: Effects and Management Recommendations

A reference table for landowners and  
restoration professionals

Please cite as: Wisconsin Reed Canarygrass Management Working Group. 2006. Reed canarygrass control practices: effects and management recommendations



# Narrow-Leaved & Hybrid Cattail











# *Phragmites* (Giant Reed Grass)







# Purple Loosestrife





# Giant Ragweed



# Invasive Plant Management Recommendations

- Maintain buffer areas surrounding wetlands
- Limit nutrient application within watershed
- Spray
- Mow/Cut
- Burn
- Water level manipulation
- Bio-control
- Carp Control
- Grazing/Haying
- Consult with a professional

# Hydric Soils

- Characteristics
  - Poorly drained
  - Show signs of retaining water
  - Anaerobic reactions
  - Types
    - Organic soils (muck or peat)
    - Mineral soils (clays and loams)



# Two Categories of Soil Material

## Organic horizons

- Consist of decomposed organic material
- An organic soil has at least 16 inches of decomposed organic material in the upper 32 inches, or any thickness over bedrock



A1,  
Histosol





# Two Categories of Soil Material

## Mineral horizons

- Primarily sand, silt, and clay, with varying amounts of organic matter



# Typical Colors of Mineral Hydric Soils

Hydric



Upland

What we are looking for in the field!

# Redoximorphic Features





# Sedimentation and agricultural runoff in wetlands



# Moist Soil Management



# Disking and Cultipacking

- Finish disc and cultipacker to break up soil and reduce soil pores
- Disturbance leads to establishment of annuals and early successional plants
- Planting is usually not necessary







Smartweed (*Polygonum spp.*)



Jewelweed (*Impatiens spp.*)



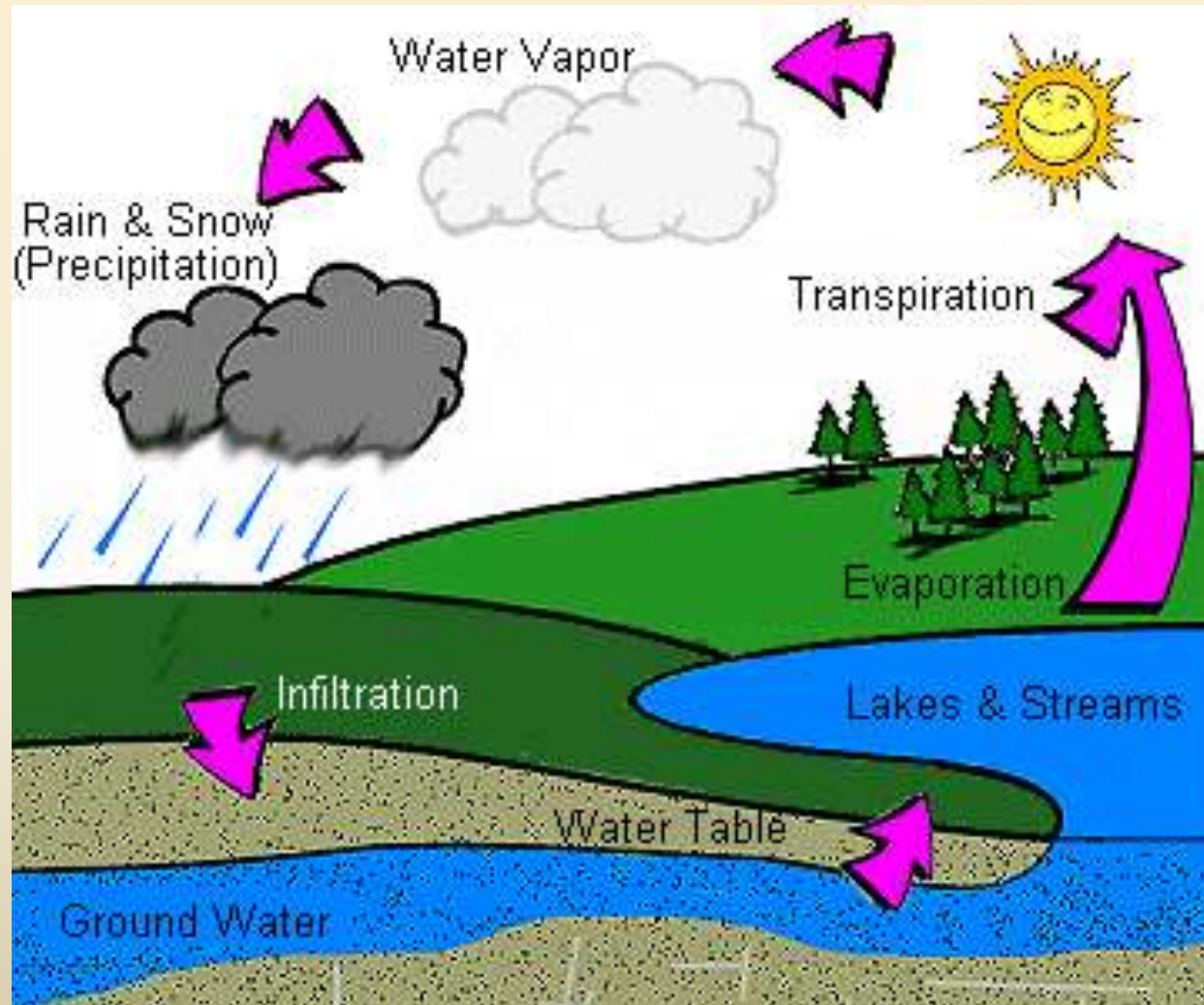
Beggarticks (*Bidens spp.*)

# Managed Drawdowns

- Requires water control structures on impoundments
- Exposes soil and invertebrates
- Critical for shorebirds
- Regenerates new vegetation and controls invasive species
- Mimics natural drought conditions



# Hydrology





# Wetland Loss: Agriculture and Development

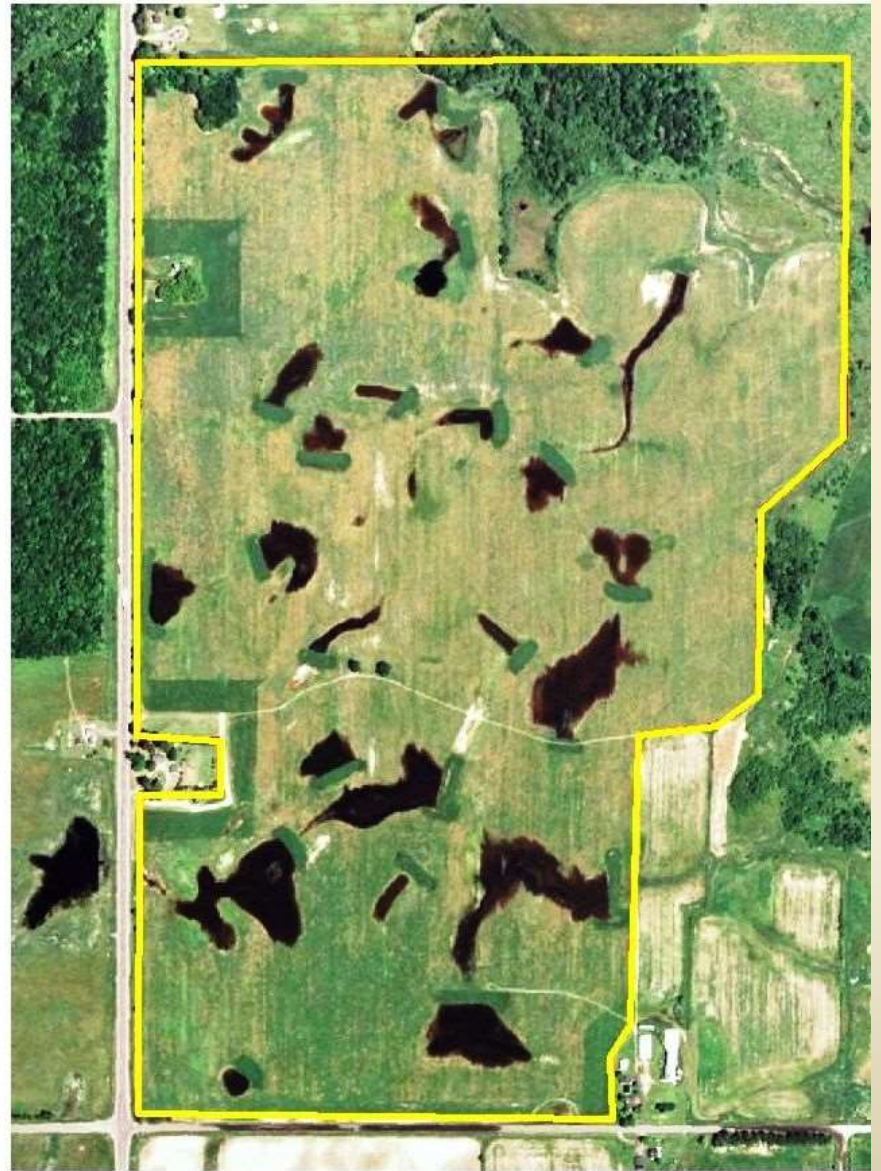




# Before and After a Wetland Restoration



Before Restoration



After Restoration



# Drainage Ditches







Surface/Subsurface drainage -  
Ditch Plug





# Drainage Tiling









0 120 240 480 Feet





# Look for tile outlets along ditches



# Tile Probe











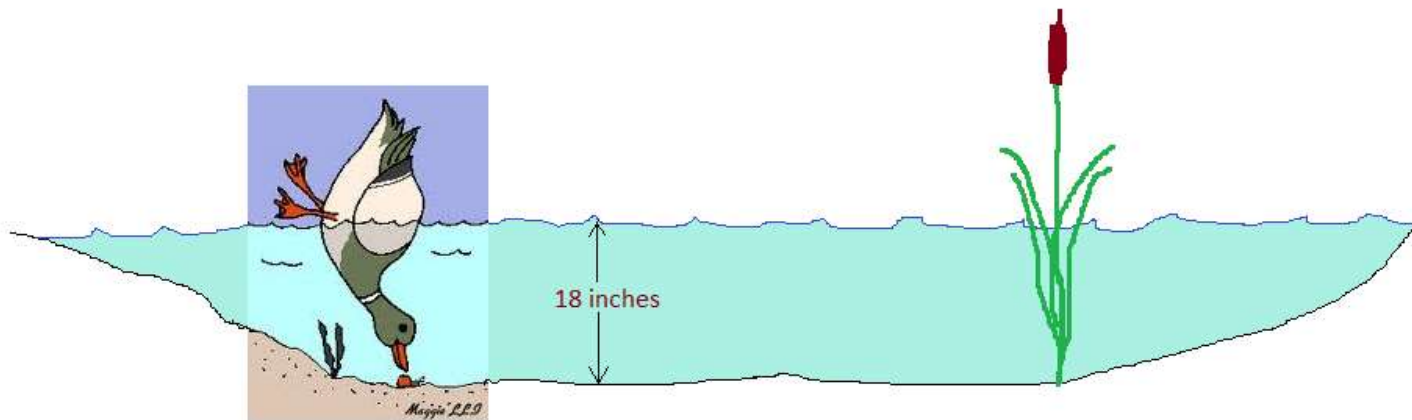


# Ponds vs. Scrapes



# Wetland Scrapes

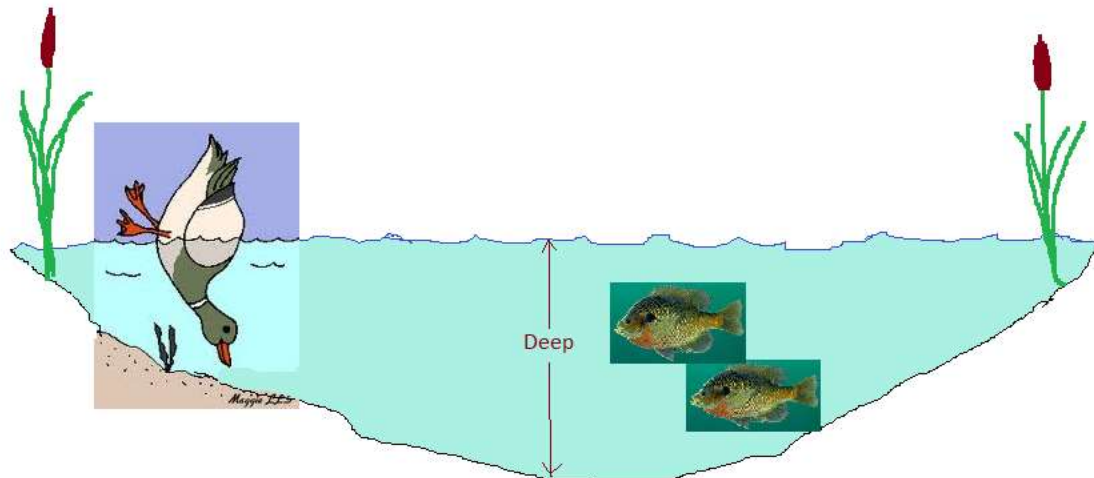
- Shallow (usually < 3 ft. deep)
- Gradual slopes
- Capable of supporting emergent vegetation throughout
- Microtopography
- Higher bird use and diversity
- Can dry out during droughts
- Mimic natural potholes





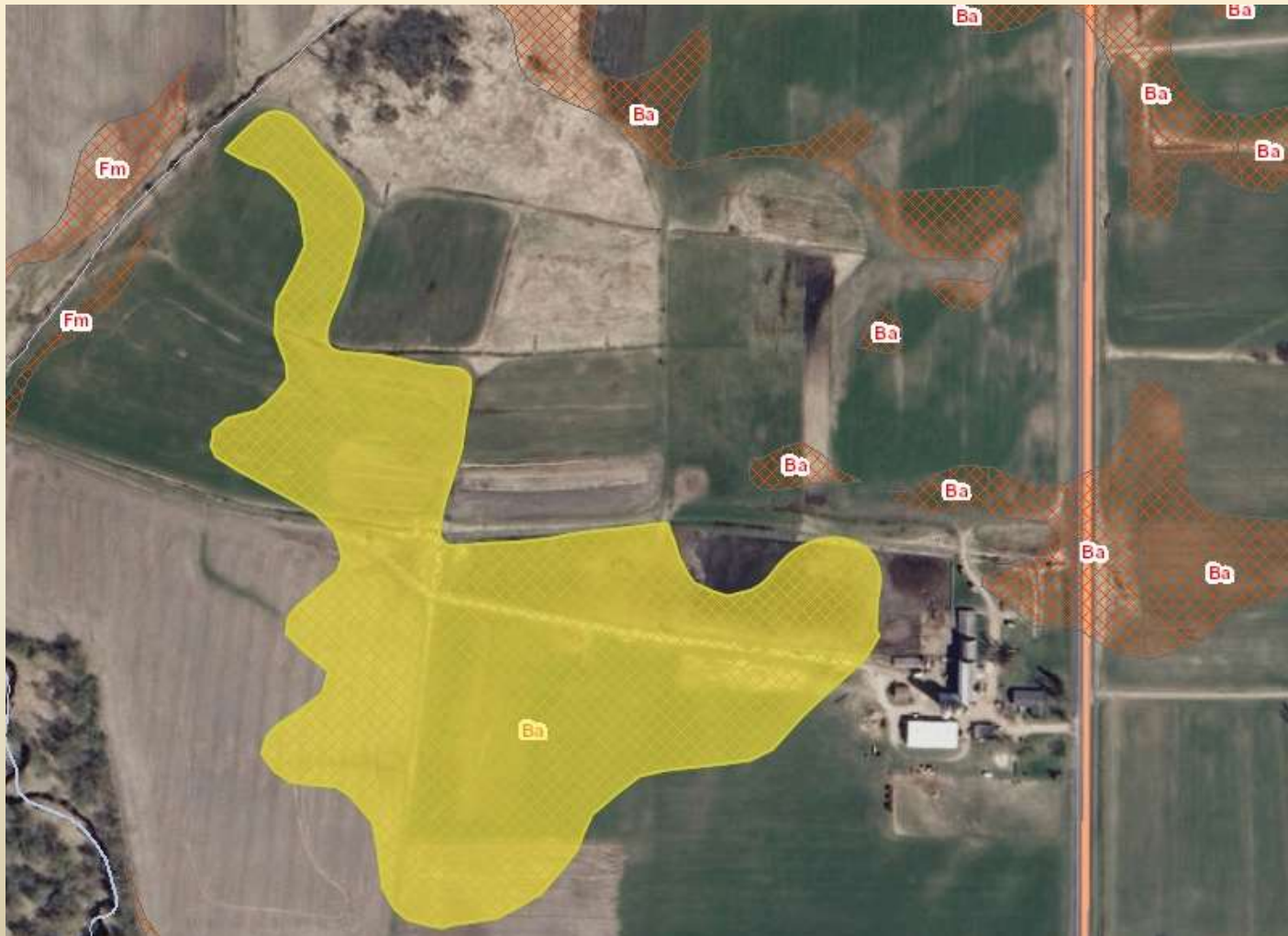
# Ponds

- Deeper (>3 ft.)
- Steeper slopes
- Capable of only supporting emergent vegetation around perimeter
- May also contain floating and submersive vegetation in deeper areas
- Limited value to birds and less diversity
- Support fish and more aquatic organisms
- Usually stays wet during a drought



# Potentially Restorable Wetlands (PRW)

<http://dnrmaps.wi.gov/sl/?Viewer=SWDV>





# Think Big: Talk to Neighbors



# Summary

- Wetland classification
- Wetland plant ID and management
- Wetland soils and management
- Wetland hydrology and restoration
- Cooperation with other land owners
- Restored and managed wetlands will attract more birds



Thank you

