

8420.0526

# Actions Eligible for Credit

# Replacement Crediting System

- The current rule utilizes a two credit system for wetland replacement, with “New Wetland Credit” and “Public Value Credit” (PVC).
- **The new rule converts to a single credit system** by eliminating PVC.

# Allocation of Replacement Credit

- Subp. 1B: This part identifies the amount of credit allowed for each action, however, the actual amount may be less as determined by the LGU. **When the LGU allows less replacement credit than the amounts described in this part, the LGU must provide lower justification for the lower credit allocation.**
- Credit eligibility and allocation amounts must be based on WCA standards and requirements.

# Upland Buffer Areas

- Up to 10% credit for nonnative vegetation.
- Up to 25% credit for native vegetation.
- The area of buffer for which credit is granted must not exceed the area of the replacement wetland.
- Establishment of buffer around existing wetland adjacent to the replacement wetland is eligible for credit when the minimum required widths are maintained and the maximum buffer area is not exceeded.

# Example Buffer Credit



**Buffer Area = 2  
acres x 25%**

**= 0.5 acres of  
credit**

**(For native, non  
invasive  
vegetation)**

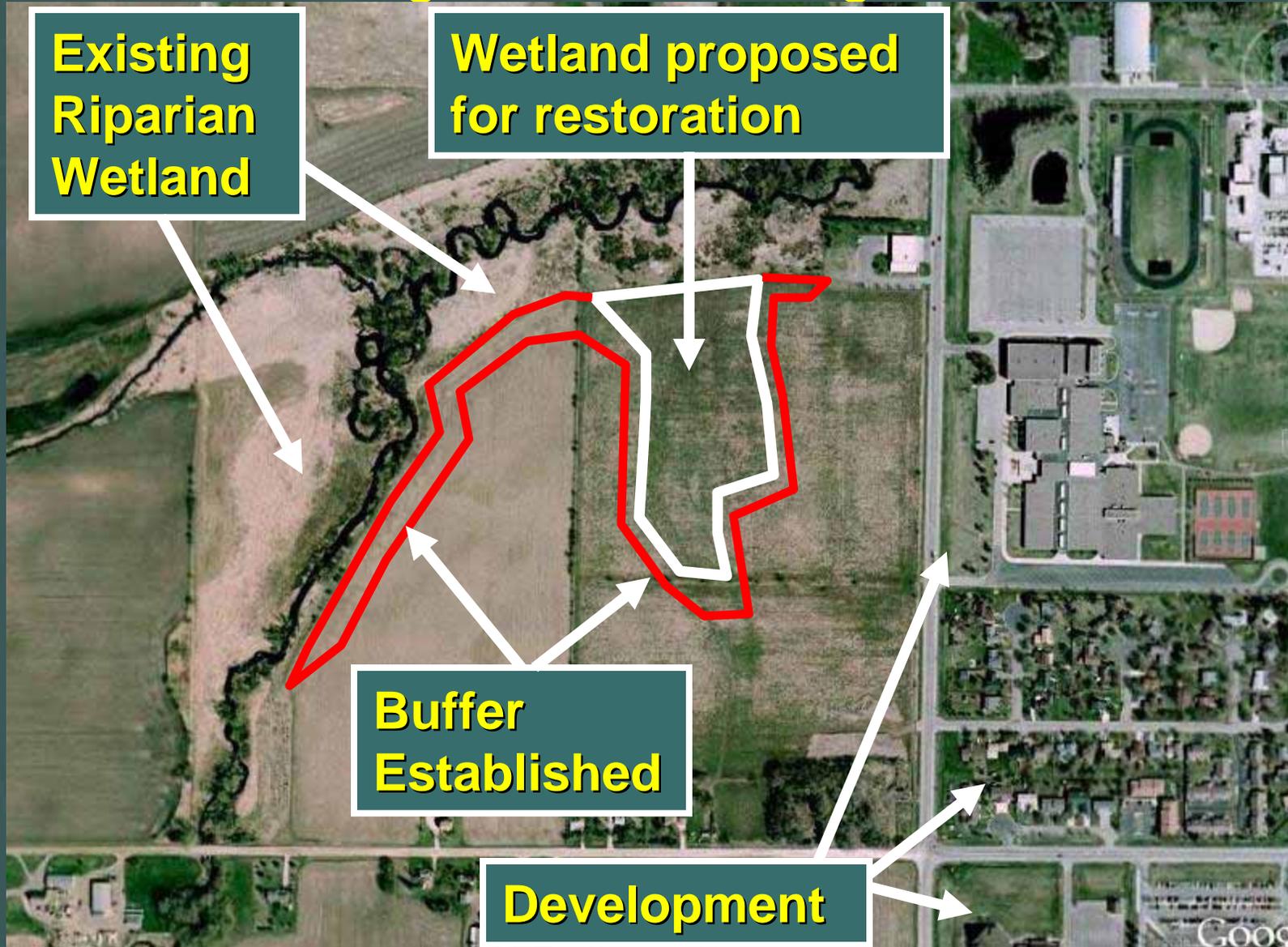
# When can it be appropriate to allow credit for extending to an existing wetland?

**Existing  
Riparian  
Wetland**

**Wetland proposed  
for restoration**

**Buffer  
Established**

**Development**



## Increased Credit for Buffer

- For buffer areas of native, noninvasive vegetation, the LGU may increase the amount of credit to a maximum of 50% **if the TEP finds that additional buffer will improve replacement wetland sustainability and provide significant functional benefits.**

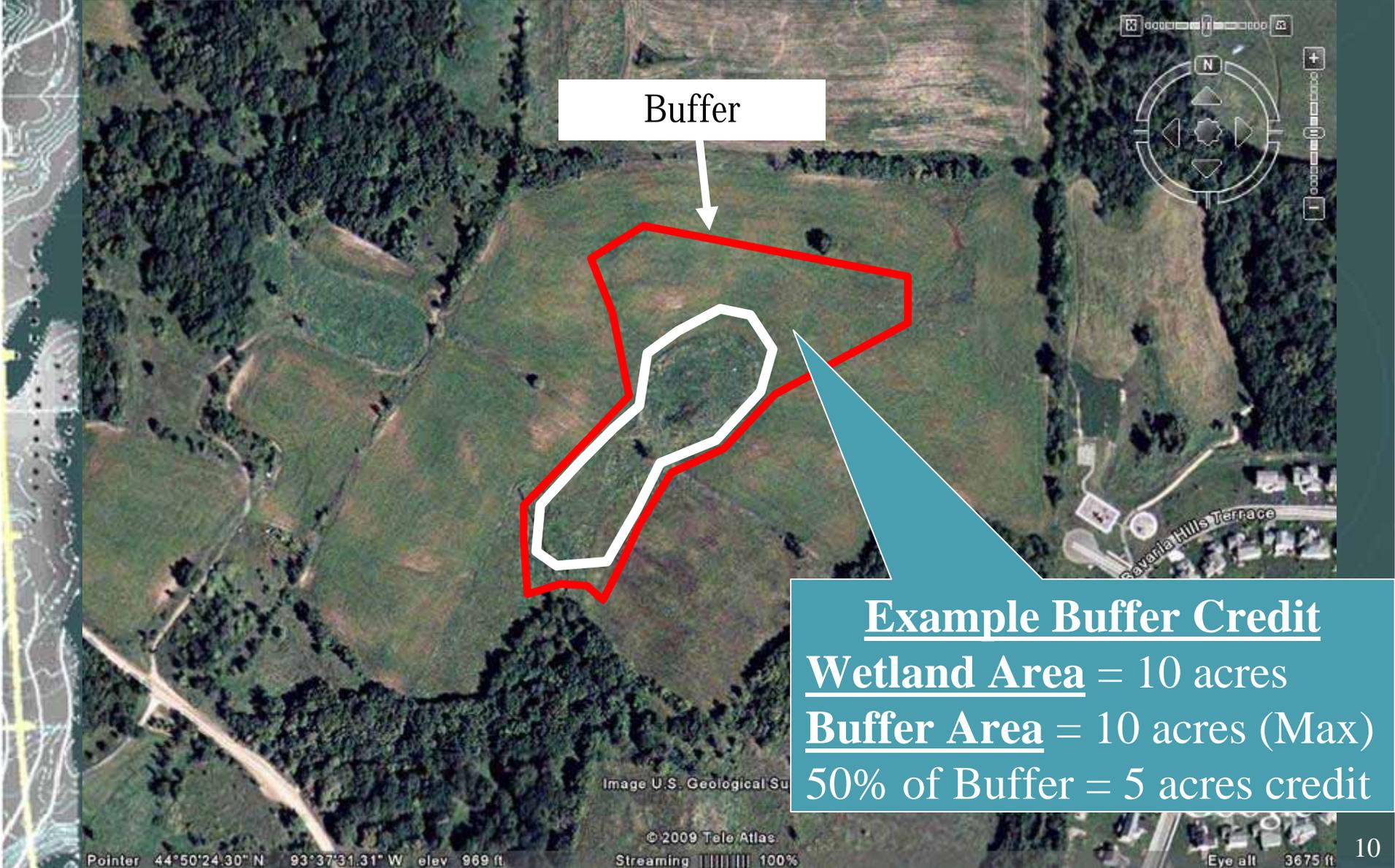
# Increased Credit for Buffer

- Buffers add to replacement wetland sustainability and provide significant functional benefits when they:
  - (1) extend upstream in the watershed, provide slope and soil stability, and otherwise protect and improve water quality;
  - (2) protect valuable native plant communities or habitats that could otherwise be lost or degraded;
  - (3) provide important habitat connections; or
  - (4) otherwise substantially improve important wetland functions based on a functional assessment and consideration of current and future adjacent land use.

## How does this work?

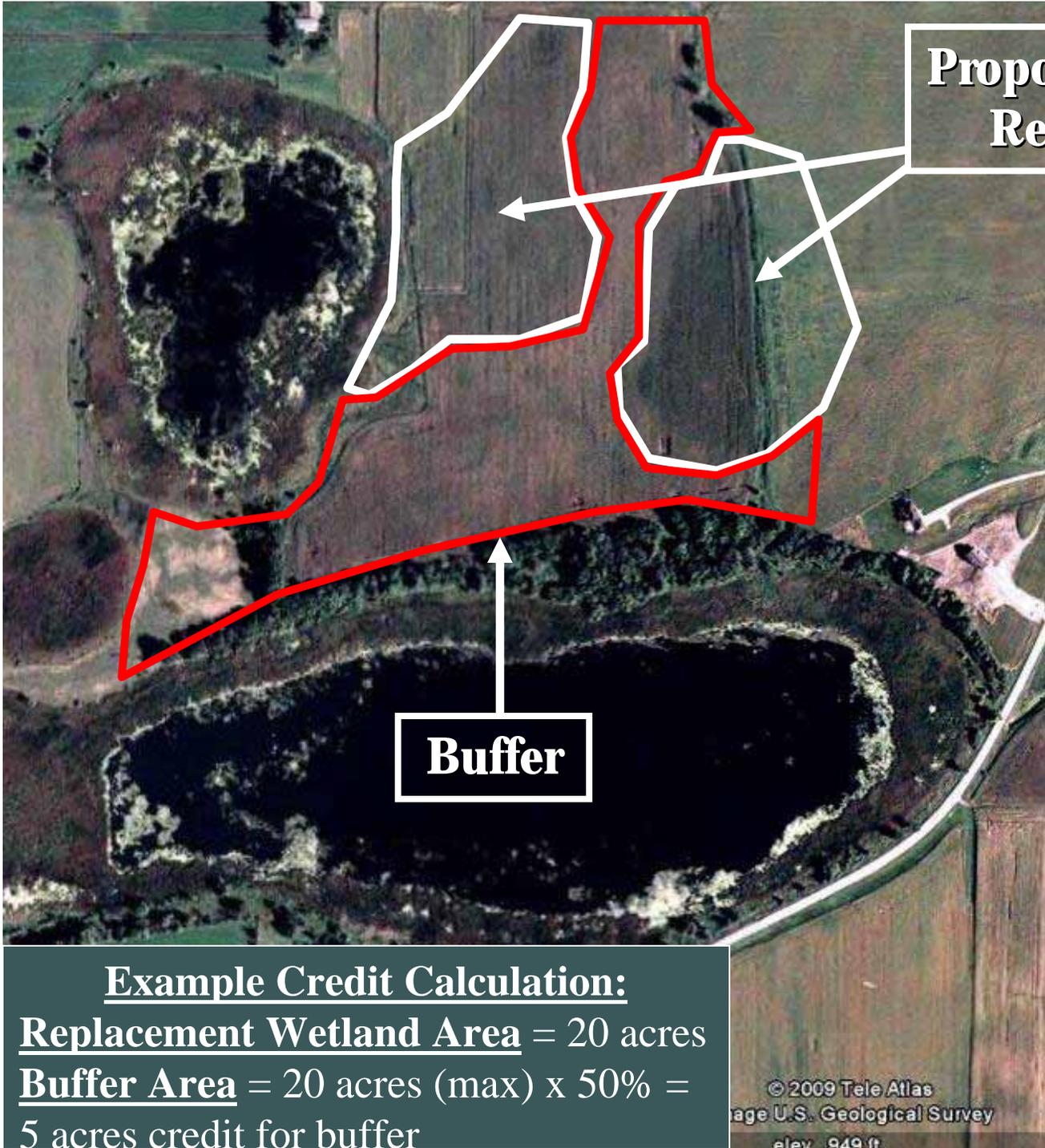
- The applicant must submit the information necessary to **document how the increased buffer width will significantly improve the function and sustainability** of the replacement wetland.
- **The TEP determines whether increased credit can be granted!**
- For sustainability, think in terms of reasonably likely future threats.
- **Need early coordination with TEP** and a pre-application meeting is strongly recommended.

# Example from previous slide: buffer extended to improve water quality in an impaired watershed



Buffer

**Example Buffer Credit**  
**Wetland Area** = 10 acres  
**Buffer Area** = 10 acres (Max)  
50% of Buffer = 5 acres credit



## Proposed Wetland Restorations



Wildlife habitat example  
from earlier slide:  
Connecting multiple wetlands into one functional unit will provide significant habitat benefits both for the restored and existing wetlands, and will improve sustainability by preventing future roads or development.

**Buffer**

**Example Credit Calculation:**  
**Replacement Wetland Area** = 20 acres  
**Buffer Area** = 20 acres (max) x 50% =  
5 acres credit for buffer

# Restoration of Completely Drained Wetland Areas



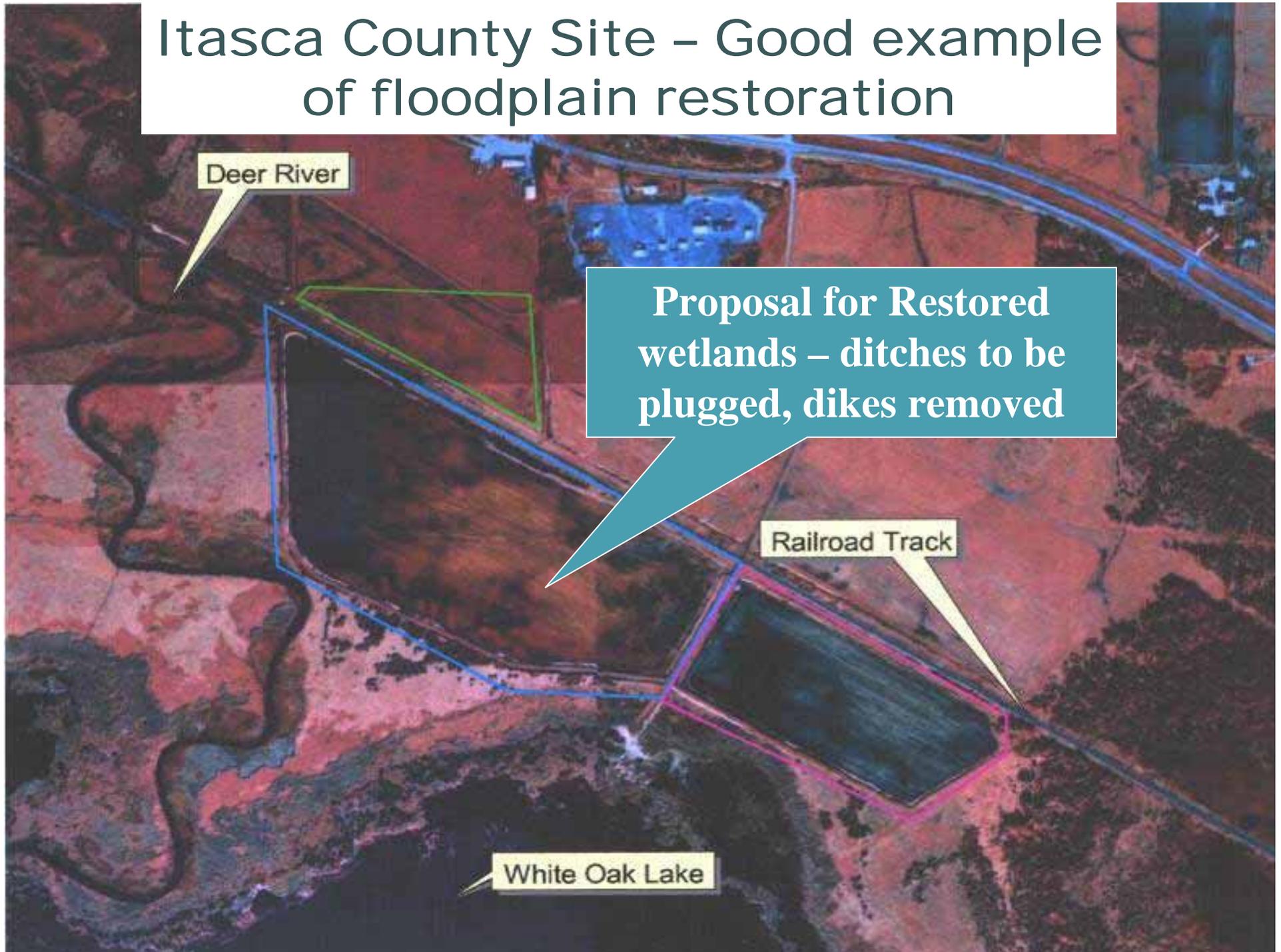
- Not common in northeast Minnesota
- Best option for credit, usually 100% credit

## Restoration of completely drained or filled wetland areas (cont'd)

- Restoration of both the natural hydrology regime and native, noninvasive vegetation on wetlands that have been completely drained or filled is eligible for replacement credit in an amount up to 100% of the wetland area hydrologically and vegetatively restored.
- To be eligible for replacement credit, the vegetation establishment and management plan must set a goal of restoring the historic native plant community typical of the wetland being restored, or another plant community when the TEP determines that establishment of the historic native plant community is not ecologically feasible.



# Itasca County Site - Good example of floodplain restoration



# Dakota County Site – Good example of floodplain restoration



Old drainage channel plugged

Significant flood storage increase during spring flooding.



# Partially drained, farmed wetlands?

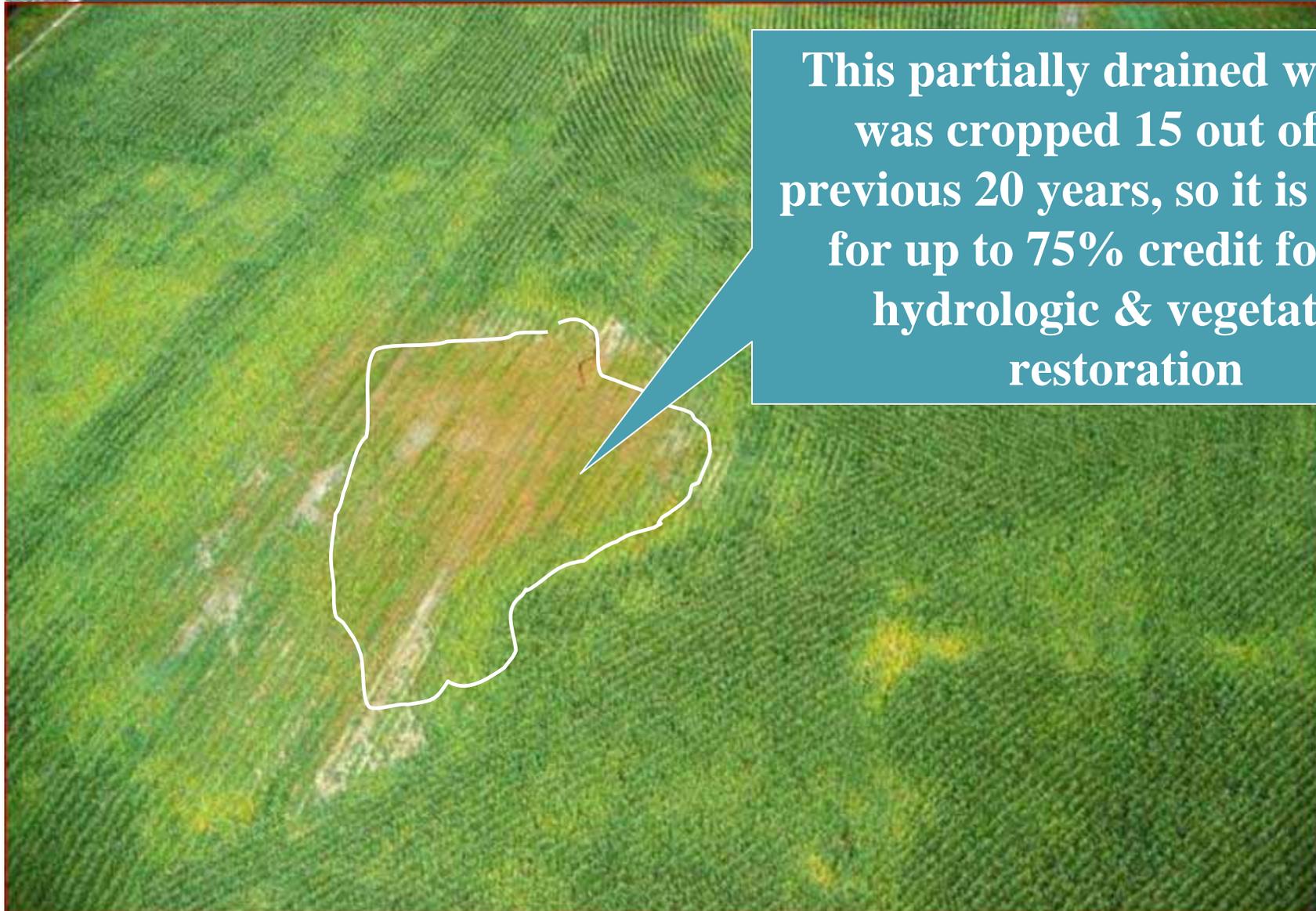
- **The new rule separates partially drained wetlands (including those that are farmed) from farmed wetlands** that are not hydrologically manipulated. This separation will ensure full restoration and better recognizes the level of functional degradation.
- **The intent that both the vegetation and hydrology be restored** was unclear under the previous rule (Restoration of farmed wetlands), which resulted in many proposals to receive credit under the farmed wetlands subpart for restoring vegetation only, despite partial drainage.

# Restoration of partially drained or filled wetland areas



- Restoration... is eligible for replacement credit as follows:
- A. any wetland area substantially degraded by partial drainage or fill that was planted with annually seeded crops... in at least 10 of the last 20 years before the date of application is eligible for replacement credit in a percentage equivalent to the percent of time the wetland area was annually seeded...; and
- B. all other wetland areas substantially degraded by partial drainage or fill are eligible for replacement credit of up to 50% of the wetland area restored.

# Restoration of partially drained or filled wetland areas (cont'd)



**This partially drained wetland was cropped 15 out of the previous 20 years, so it is eligible for up to 75% credit for full hydrologic & vegetative restoration**



YEAR	CROP	MEETS "ANNUALLY SEEDED"	MEETS "ROTATION" DEFINITION
2008 (1)	Soybeans	Yes	
2007 (2)	Spring Wheat	Yes	
2006 (3)	Sugar Beets	Yes	
2005 (4)	Soybeans	Yes	
2004 (5)	Winter Wheat	Yes	
2003 (6)	Sugar Beets	Yes	
2002 (7)	Soybeans	Yes	
2001 (8)	Spring Wheat	Yes	
2000 (9)	Sugar Beets	Yes	
1999 (10)	Fallow	—	Yes
1998 (11)	Sugar Beets	Yes	
1997 (12)	Soybeans	Yes	
1996 (13)	Spring Wheat	Yes	
1995 (14)	"Prevented Planting"	No	No
1994 (15)	"Prevented Planting"	No	No
1993 (16)	"Prevented Planting"	No	No
1992 (17)	Spring Wheat	Yes	
1991 (18)	Sugar Beets	Yes	
1990 (19)	"Prevented Planting"	No	No
1989 (20)	"Prevented Planting"	No	No

## New BWSR Guidance

- Crop history shows that 5 years were "prevented planting" due to wet conditions.
- LGU would be justified in granting less credit, in this case 75%

**TOTAL YEARS  
MEETS "ANNUALLY SEEDED" OR "ROTATION" DEFINITIONS  
= 15 of 20**

**Credit Calculation based on 8420.0541 Subpart 5.  
(Assuming an 80 Acre Field)**

Eligible Years	Divided by 20 years	Percentage of Eligible Years	Multiplied by Field Area	Acres of Credit
15	20	75%	80 acres	60 acres

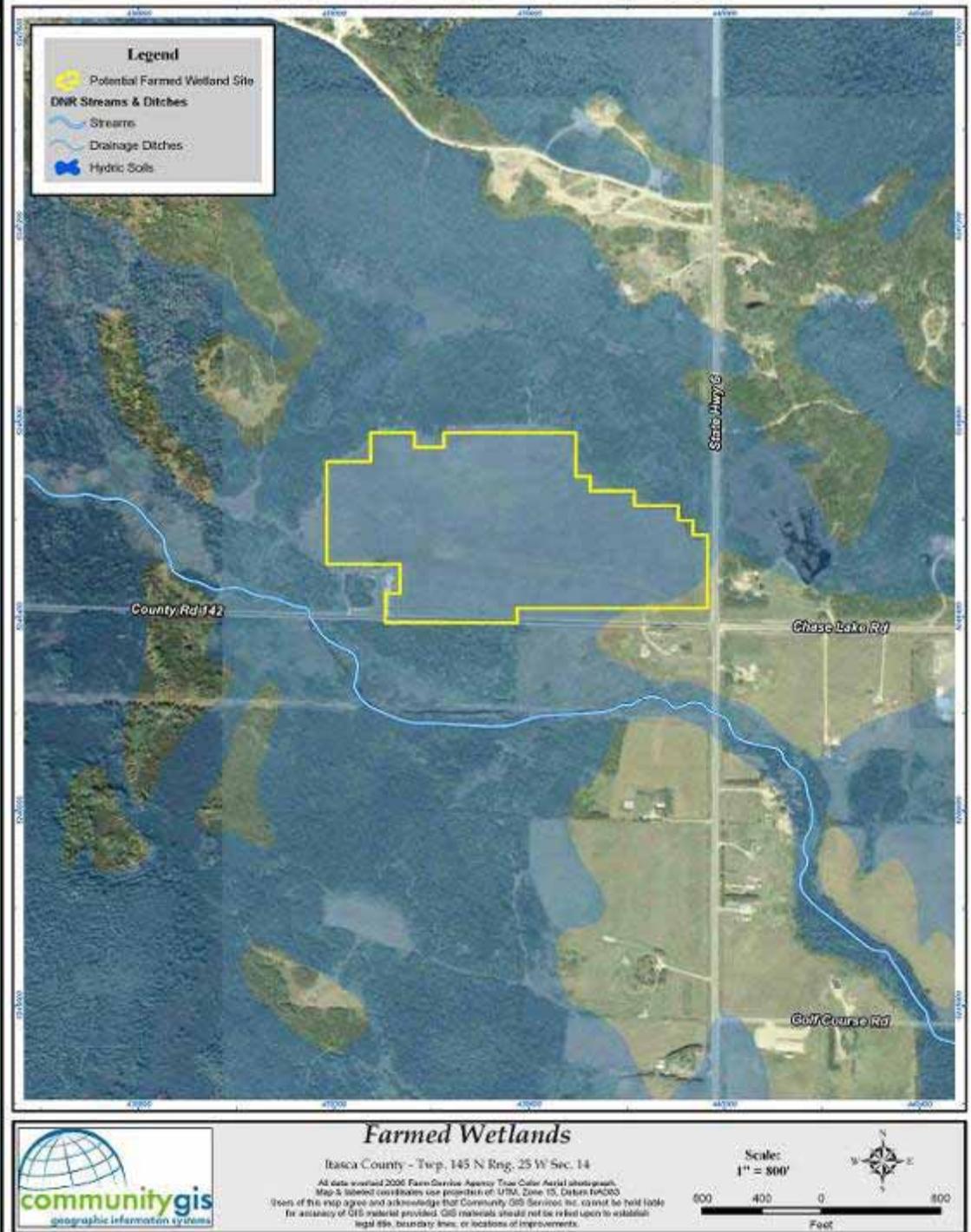
# Vegetative restoration of farmed wetlands



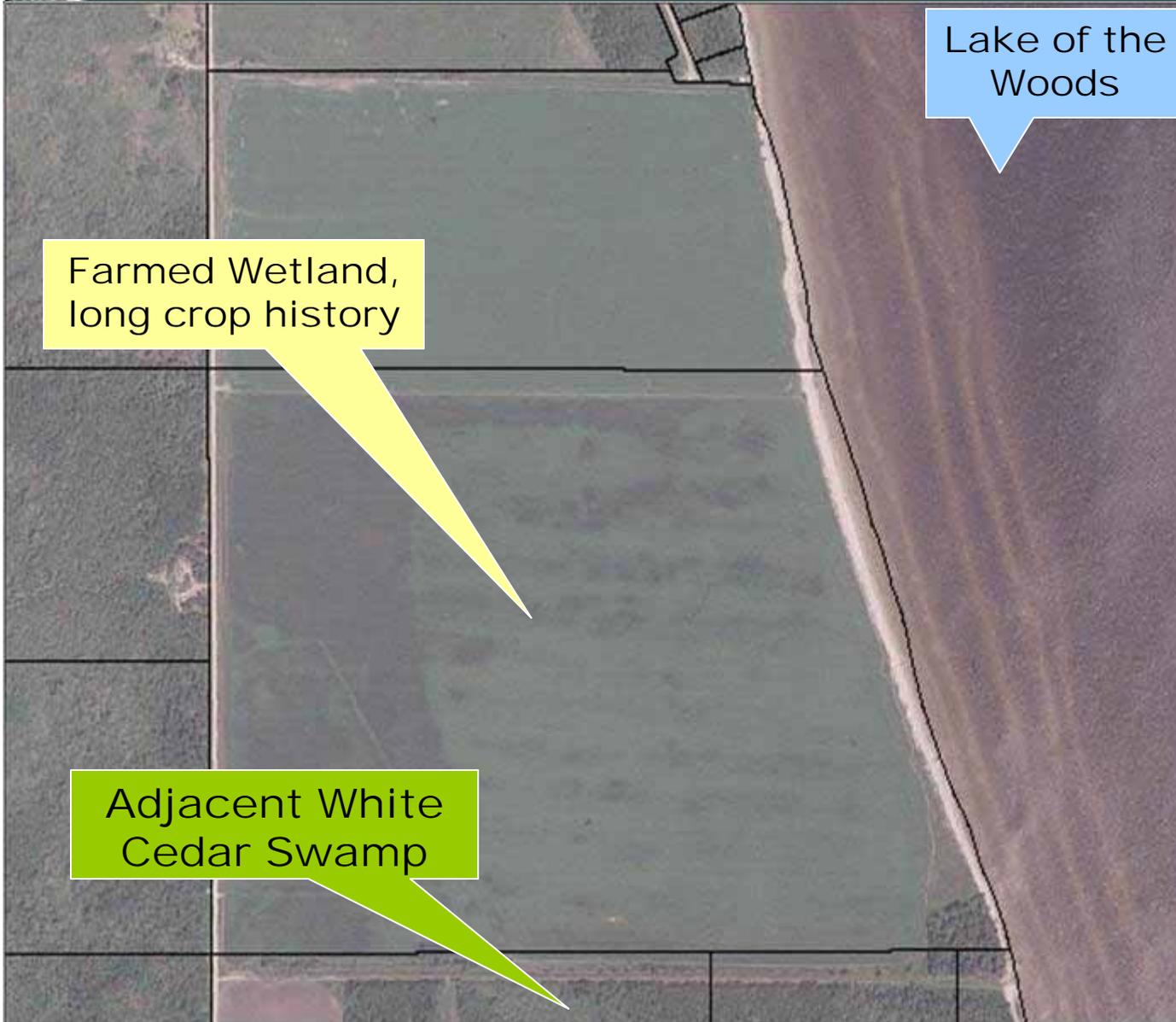
- Reestablishment of permanent native, noninvasive vegetative cover on farmed wetland areas **that have not been affected by prior drainage or filling** is eligible for replacement credit for:
  - A. **up to 50% of the area restored for wetland areas that were planted with annually seeded crops**, were in a crop rotation seeded to pasture grasses or legumes, or were required to be set aside to receive price supports or equivalent payments in at least 10 of the last 20 years...; or
  - B. **up to 90% of the area restored for wetland areas in BSAs 2, 3, and 4** in a percentage equivalent to the percent of time the wetland areas were planted with annually seeded crops... during the 20-year period prior...

# Farmed Wetlands

- Crop history is the key factor.
- Hay and pasture can count as crop history if in rotation.



# Vegetative restoration of farmed wetlands



Lake of the Woods

Farmed Wetland, long crop history

Adjacent White Cedar Swamp

- This is an example of a good site
- Up to 90% credit, based on crop history (20 out of 20 years)
- Key category in Northern Minnesota

# Credit Calculation using draft guidance:



YEAR	CROP	MEETS "ANNUALLY SEEDED"	MEETS "ROTATION" DEFINITION	
2008 (1)	Corn	Yes		
2007 (2)	Corn	Yes		
2006 (3)	Corn	Yes		
2005 (4)	Alfalfa	--	Yes	
2004 (5)	Alfalfa	--	Yes	
2003 (6)	Alfalfa	--	Yes	
2002 (7)	Alfalfa	--	Yes	
2001 (8)	Oats	Yes		
2000 (9)	Corn	Yes		
1999 (10)	Corn	Yes		
1998 (11)	Corn	Yes		
1997 (12)	Soybeans	Yes		
1996 (13)	Soybeans	Yes		
1995 (14)	Oats	Yes		
1994 (15)	Soybeans	Yes		
1993 (16)	Oats	Yes		
1992 (17)	Soybeans	Yes		
1991 (18)	Corn	Yes		
1990 (19)	Corn	Yes		
1989 (20)	Corn	Yes		
<b>TOTAL YEARS</b>				
<i>MEETS "ANNUALLY SEEDED" OR "ROTATION" DEFINITIONS</i>				
<b>= 20 of 20</b>				
<b><u>Credit Calculation based on 8420.0541 Subpart 5.</u></b>				
<i>(Assuming an 80 Acre Field)</i>				
Eligible Years	Divided by 20 years	Percentage of Eligible Years	Multiplied by Field Area	Acres of Credit
20	20	100%	80 acres	80 acres

# Protection of wetlands previously restored via conservation easements



- Permanently protecting wetlands previously restored or created for conservation purposes under a contract or easement... **where the area receiving credit meets the replacement wetland construction standards...**
- The maximum replacement credit is 75% of the area created or restored under the conservation contract or easement.
- "Alternatively, credit may be allocated according to the other subparts in this part as applied prior to initiation of the contract or easement, when the applicant can document eligible credit yield to the satisfaction of the LGU."

# Wetland creations

- This subpart consolidates what was 3 separate subparts in the previous rule:
  - **Wetland creations;**
  - **Wetlands established via mineral extraction site reclamation; and**
  - **Water quality treatment areas.**
  
- “A wetland created in an upland area is **eligible for replacement credit in an amount up to 75%** of the total wetland area created.”

## Wetland creations (Cont'd)



- A wetland created as part of a water quality treatment system is eligible for replacement credit under this subpart **only if the wetland area receiving credit is a functioning wetland** designed for a maximum 24-inch rise in water level for the ten-year critical storm event **and treatment of runoff is provided before discharge into the replacement wetland** area according to part 8420.0528, subpart 2, item G.
- Such replacement wetlands are subject to monitoring requirements and are not eligible for exemptions if impacted.

# Restoration and protection of exceptional natural resource value



- "Restoration and protection of calcareous fens, white cedar swamps, floodplain or riparian wetlands and upland buffers, habitat corridors with other important resources, wetlands adjacent to designated trout waters, or other actions that restore and protect wetlands and adjacent areas are eligible for replacement credit **when the action improves or directly contributes to the function and sustainability of an exceptional natural resource.**"
- While wetlands are typically involved in some way, the goal is to improve the exceptional resource which may or may not be a wetland.

## ENRV (cont'd)

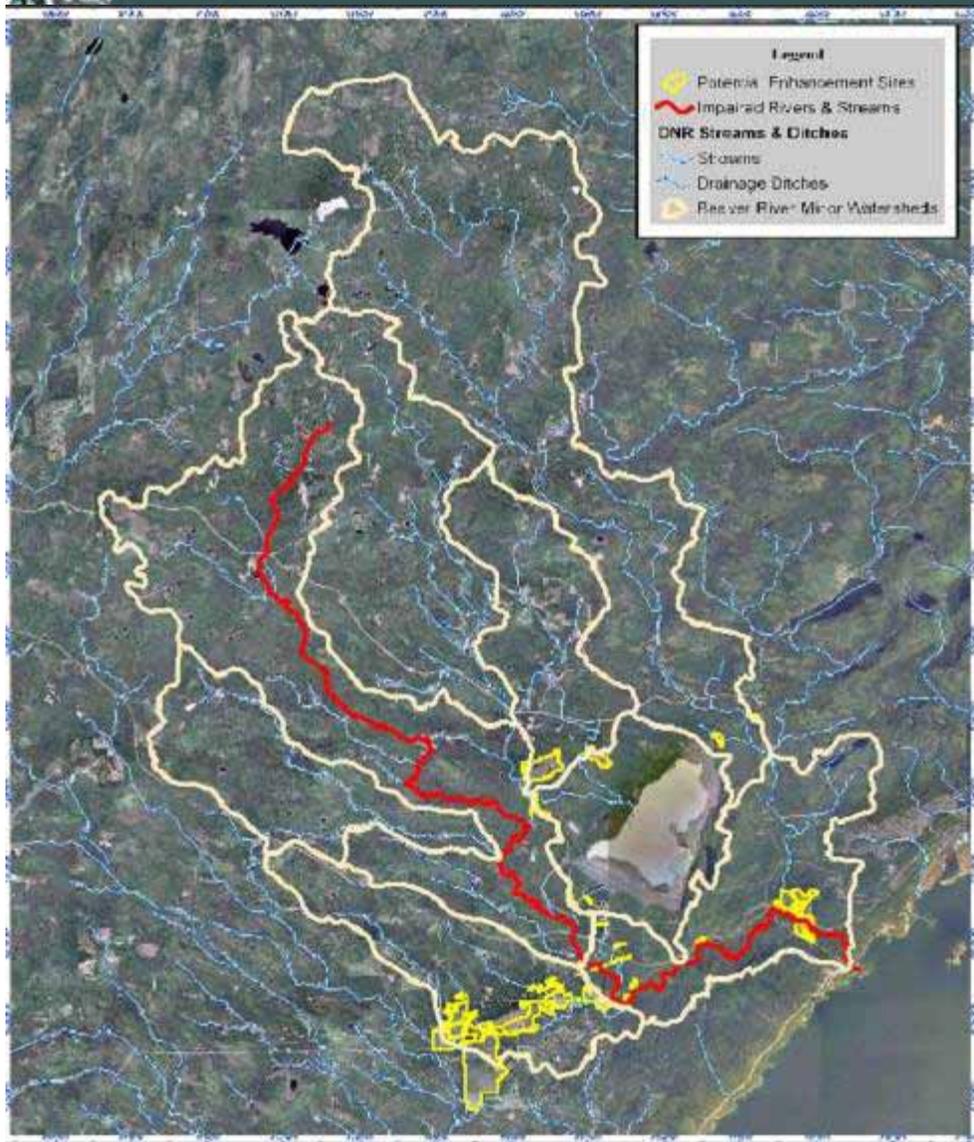


- “For purposes of this subpart, exceptional natural resources are:
- 1) **habitat for state-listed endangered or threatened species;**
  - 2) **rare native plant communities;**
  - 3) **special fish and wildlife resources**, such as fish passage and spawning areas, colonial water bird nesting colonies, migratory waterfowl concentration areas, deer wintering areas, and wildlife travel corridors;
  - 4) **sensitive surface waters;** or
  - 5) **other resources determined to be exceptional by the TEP** based on the value relative to other resources in the watershed or a board-approved plan.”

## ENRV (cont'd)

- “Project eligibility and the allocation of credit under this subpart is determined by the LGU with concurrence of the TEP based on the qualification of the resource as exceptional, the actions proposed, and the resulting contribution to the value and sustainability of the exceptional resource.”
- Areas receiving credit must be protected by a permanent conservation easement, in a format prescribed by the board, that is granted to and accepted by the state.

# ENRV (cont'd)



- **Lake Superior streams and riparian wetlands**

- **Watershed management opportunities**

- **TMDL water quality improvement opportunities**

- **See BWSR Guidance**

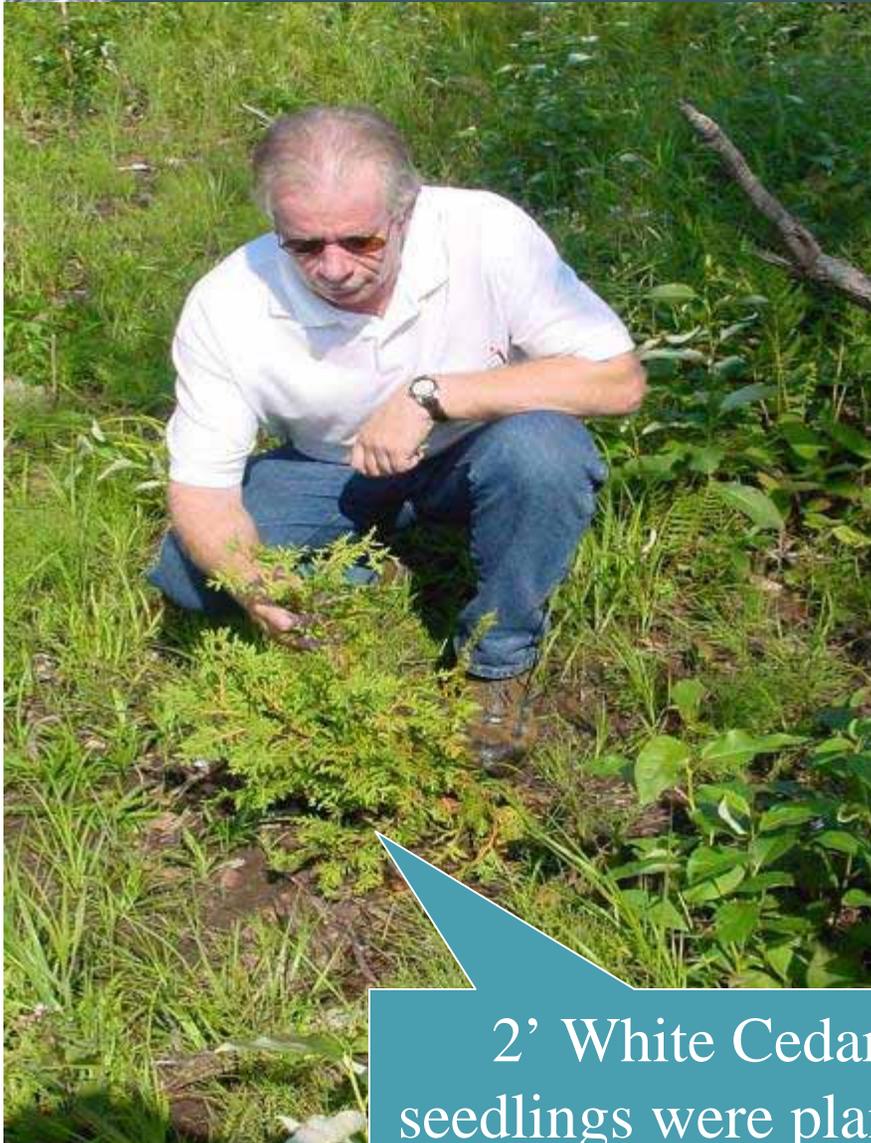


**Impaired Water Enhancement**

Map created using ArcGIS 10.1.1  
Data provided by Minnesota Department of Natural Resources  
Map scale: 1 inch = 2 miles  
Map date: 10/10/2012

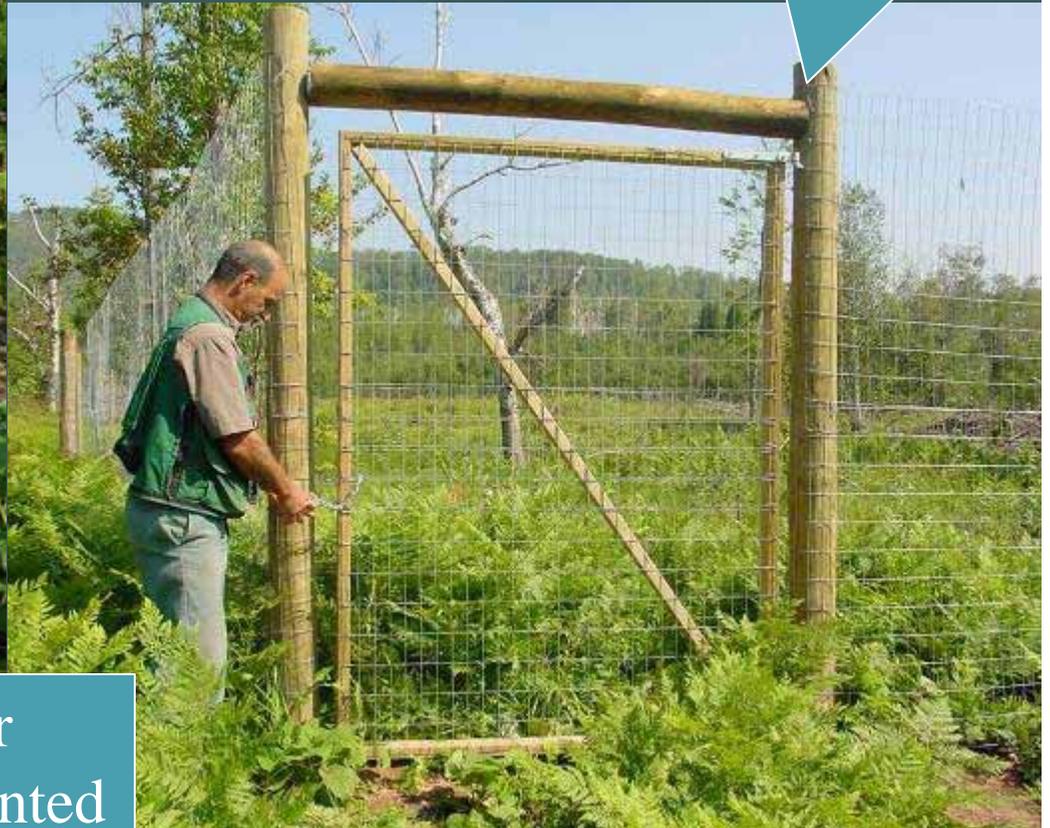


# ENRV Example: Lake County White Cedar Swamp Restoration

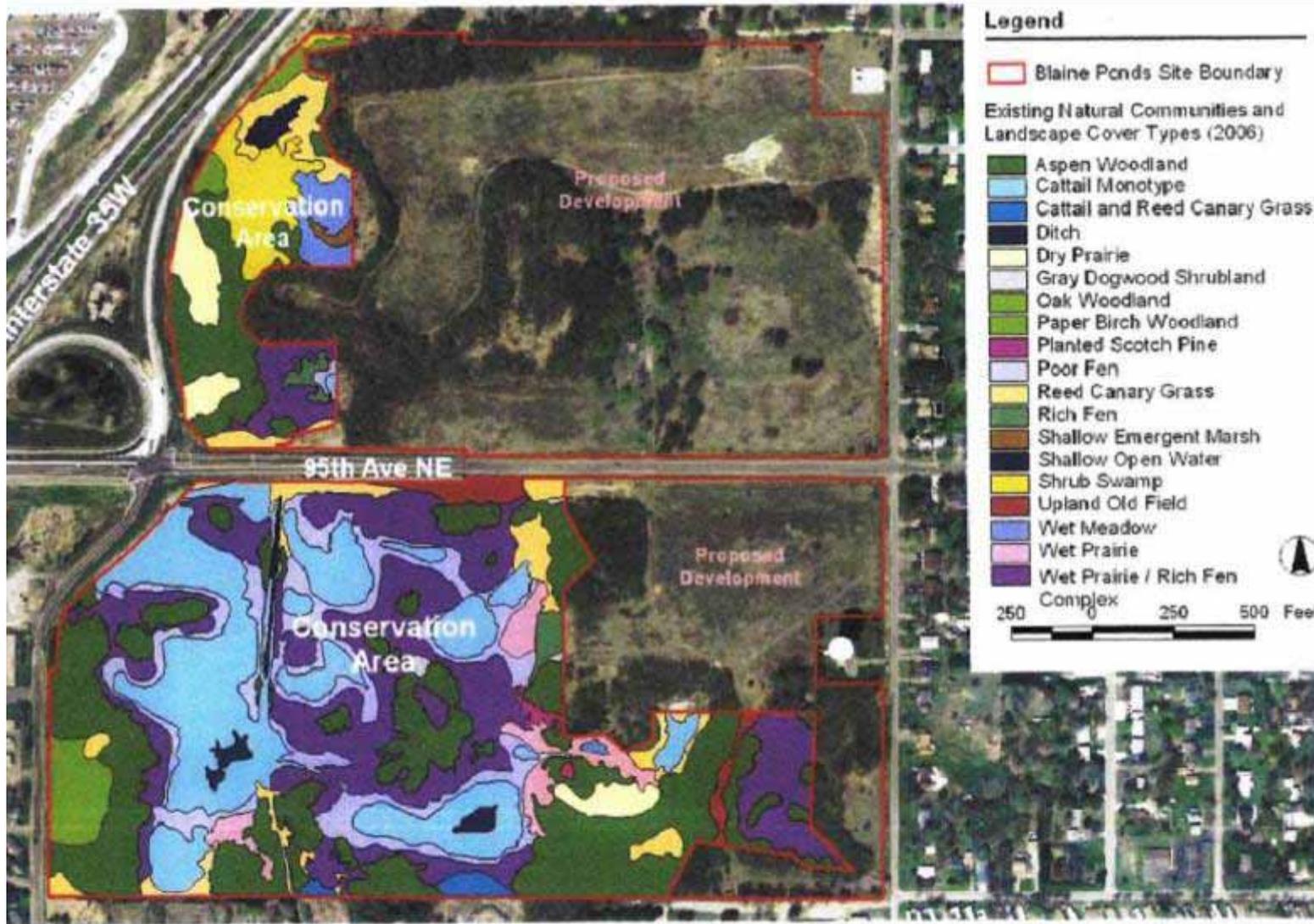


2' White Cedar  
seedlings were planted

Deer exclosure fence  
needed to prevent  
browsing



# ENRV Metro Example: Blaine Ponds



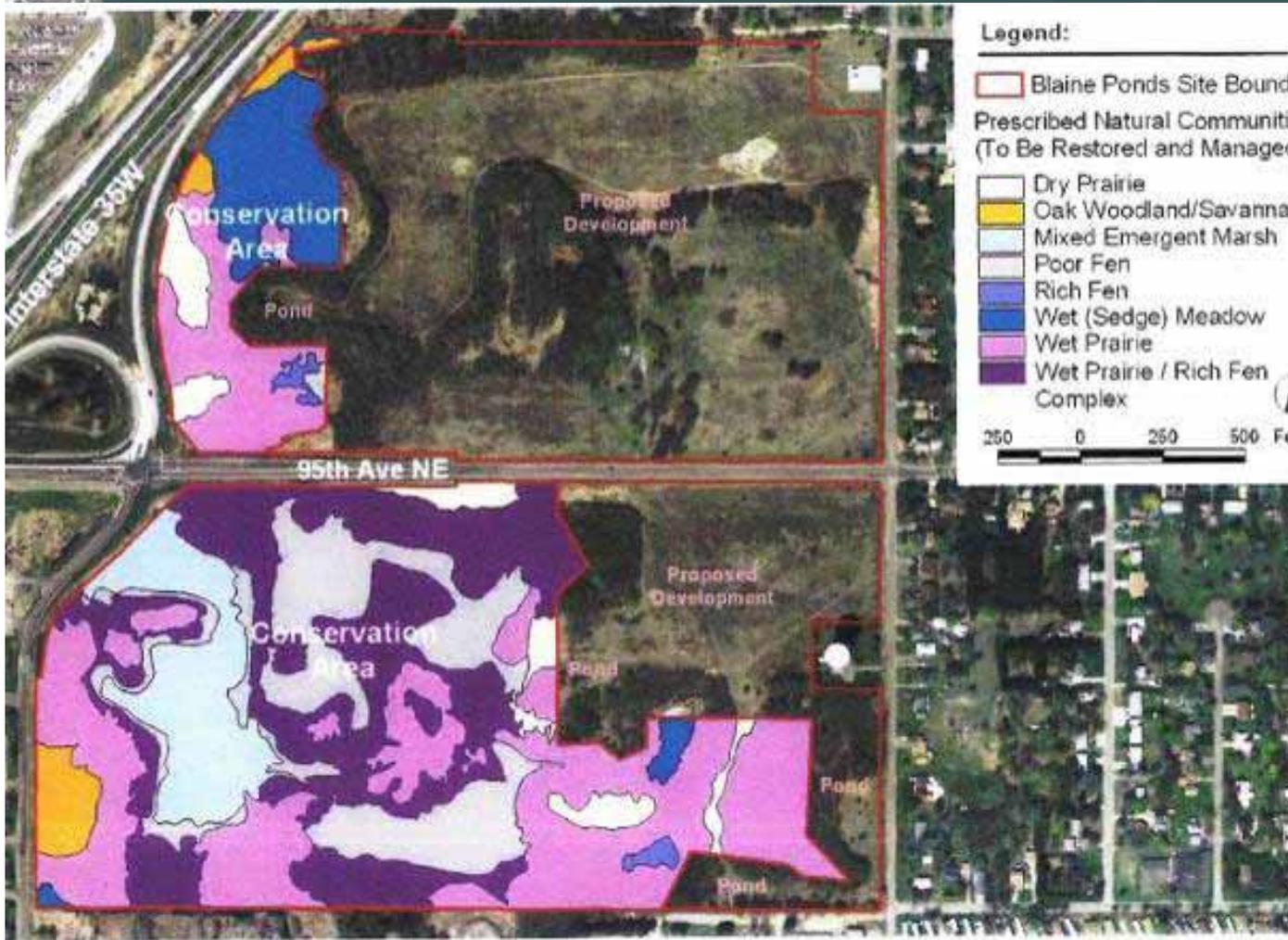
Existing rare communities and T&E plant species in need of management and protection.

**Blaine Ponds: Conservation Areas**  
Existing Natural Communities and Landscape Cover Types (2006)

April 3, 20

# ENRV Metro Example (cont.)

The plan is to restore the entire conservation area to natural communities.



Unique opportunity in Anoka sand-plain where drainage influence is minimal and landscape is such that the area can survive long-term despite surrounding development.

Blaine Ponds: Conservation Areas  
Prescribed Natural Communities

April 3,

# Preservation of wetlands owned by the state or a local unit of government



- **Available only in >80% areas.**
- Up to 12.5% credit.
- **Must be owned by the state or a local unit of gov't.**
- Credit can only be granted after considering other actions eligible for credit.
- The wetland must be protected by a permanent conservation easement in a format prescribed by BWSR and granted to and accepted by BWSR after approval of the application.

# Preservation (Cont'd)



- To be eligible for credit under this subpart, **the TEP must determine that there is a high probability the wetland will be degraded or impacted and the wetland:**
  - A. contains or benefits an exceptional resource identified in subpart 8;
  - B. is of a type or function that is rare, difficult to replace, or of high value to the watershed;
  - C. contains a rare or declining plant community; or
  - D. is a type that is not likely to regenerate, such as northern white cedar.

# Wetland Preservation

## *White Cedar Ecology*



- Cedar is difficult to regenerate, with narrow soil/moisture requirements
- Numerous harvest attempts have met with poor results
- Deer damage is serious problem

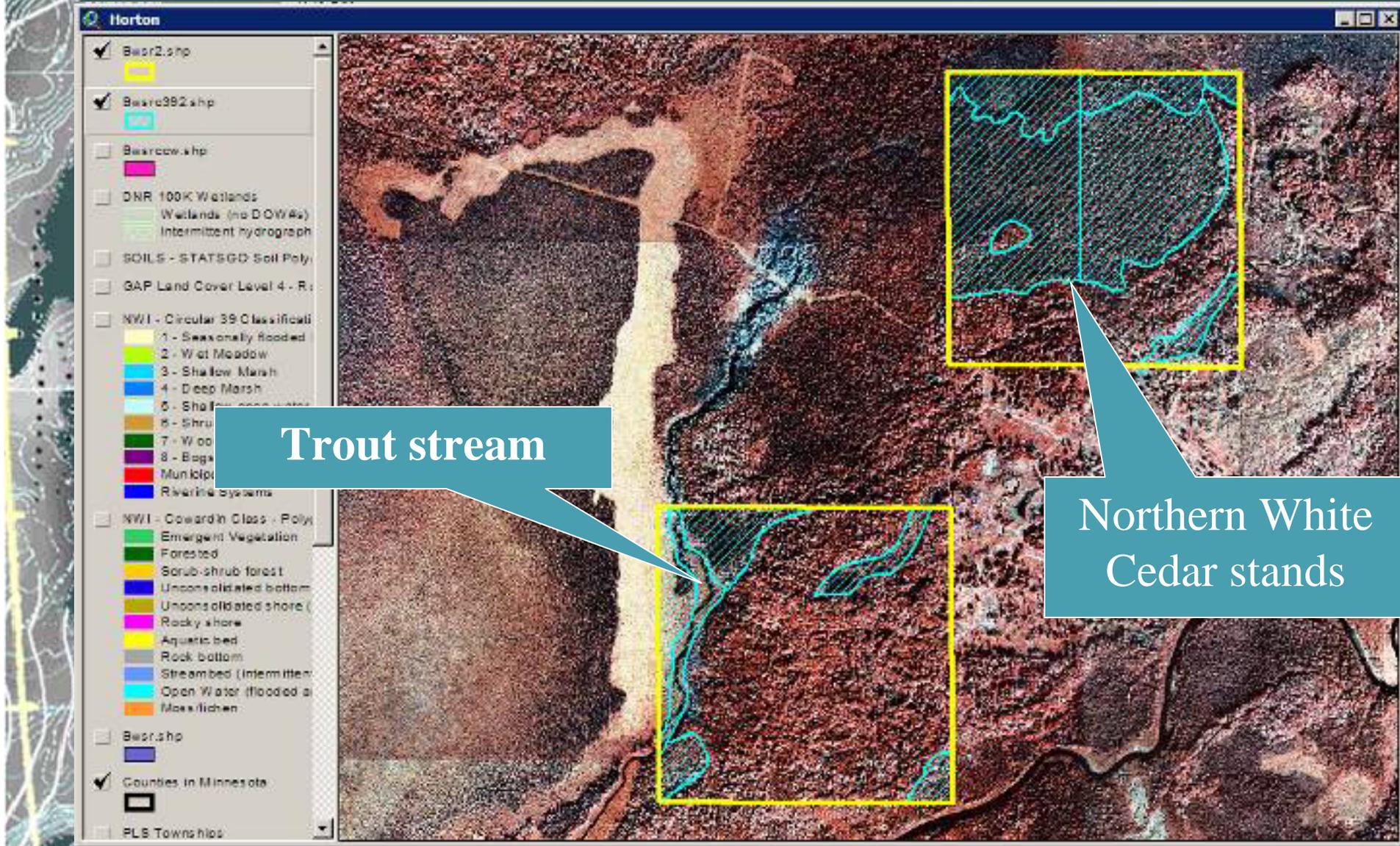


# *Preservation example – St. Louis Co.*

- Borders the Lost River in northern St. Louis Co. – designated trout stream/cold water fishery.
- Privately owned Northern White Cedar stand: logging and sale of land proposed.
- Logging not typically considered a “demonstrable threat” but can be for white cedar, due to poor regeneration.



# Purchase and preservation by a governmental unit proposed



Trout stream

Northern White Cedar stands

# Replacement credit conversion

- Replacement plans and banking plans **approved after the effective date of this part** must determine replacement credit according to subparts 2 to 9.
- **Existing PVC in the bank must be converted** as follows:
  - 1) up to 100% replacement credit for existing PVC derived from activities within wetlands; and
  - 2) up to 90% replacement credit for existing PVC derived from upland buffers.

8420.0528

# REPLACEMENT WETLAND CONSTRUCTION STANDARDS

# REPLACEMENT WETLAND CONSTRUCTION STANDARDS



- This part is split into the following three subparts:
  - Subp. 1. General requirement
  - Subp. 2. Design requirements
  - Subp. 3. Design considerations
  
- **Design requirements must be met for all replacement wetlands** (with flexibility when the LGU & TEP determine a standard is not appropriate).
  
- **Design considerations must be considered and incorporated to the extent practicable and feasible**, but they may not be appropriate in every situation.

# General Requirement

- In evaluating a proposed replacement or banking plan application, **the LGU must determine that the plan will adequately replace the public value of wetlands lost.** If the LGU determines that the proposed replacement is not likely to result in adequate replacement of function and public value, the LGU must either require modifications necessary to obtain adequate replacement or deny the application.
- **This is the overarching requirement for all WCA replacement actions!**

Good



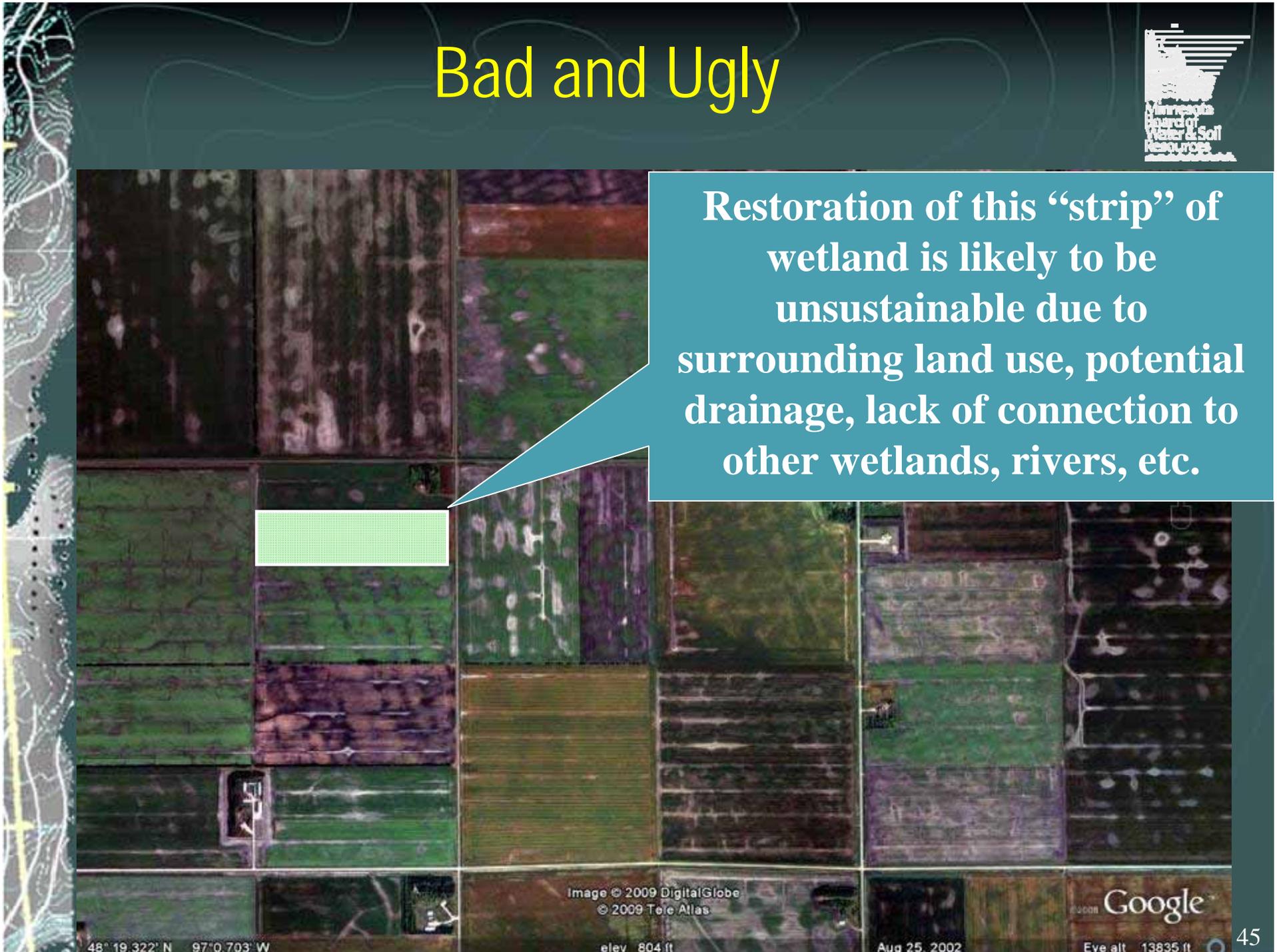
Restoration of this site would provide multiple wetland functions and public benefits

326th St NW

# Bad and Ugly



Restoration of this “strip” of wetland is likely to be unsustainable due to surrounding land use, potential drainage, lack of connection to other wetlands, rivers, etc.



# Design Requirements



- D. "Native, non-invasive vegetation must be established..."
- F. "The edge of created or graded wetlands must be comparable to other naturally occurring wetlands..."  
Sideslopes of created wetlands, graded portions of restored wetlands, and graded buffer strips, **must not be steeper than 8:1...**"
- G. **"Treatment of runoff before discharge to replacement wetland is required..."**

# "Treatment of Runoff"

- "Treatment of runoff" under this part means:
  - any part of a **stormwater treatment system needed to comply with water quality treatment requirements** of state or local stormwater permits or ordinances, provided the treatment system is physically separated from the replacement wetland; or
  - when water quality treatment is not required by state or local permits or ordinances, **the installation of appropriate best management practices**, to the extent practicable and feasible, to protect long-term wetland function.

# Design Considerations

- Restored wetlands should emulate the hydrology and vegetation of presettlement wetland condition.
- Expanded buffers should be incorporated where there is a high potential for erosion or when necessary to provide habitat corridor connections.
- Measures should be taken to limit hydraulic bounce.
- Organic substrate must be sufficient to establish a functioning wetland, but **DON'T INTRODUCE INVASIVES!!!**