RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

Quality Water for Quality Life.

Wetlands Workshop Agenda

Goal: To define and clarify the district's role and goals in the stewardship of wetlands.

1. Wetland Definitions and the Wetland Conservation Act (BWSR)
    - Types/Classifications/Functions and Values
    - The Role of Wetlands and Climate Change
    - The Wetland Conservation Act (WCA)

2. District Wetlands – Mapping, Classifications, History (RWMWD/Barr Staff)
    - MnRAM Assessment Process and What Does it Tell Us
    - District Mapped Wetlands
    - Management Classifications and How They are Used
    - Wetland Quality and the Urban Wetland

3. Roles and Responsibilities
    - District Staff and Board
    - Other Agencies

4. District Policies, Rules, and Goals (RWMWD/Barr Staff)
    - No Net Loss
        - Buffers and Water Quality
            - Protect, Preserve, and Restore Policies

RWMWD Board Workshop
October 25, 2021

BOARD OF WATER AND SOIL RESOURCES

What is a Wetland?

COMMONLY RECOGNIZED WETLANDS

Shallow and Deep-Water Marsh Areas

What is a Wetland?

Wooded Swamp (Elm/Ash)

Seasonally Flooded Basin

LESS RECOGNIZED WETLANDS….

What is a Wetland?

Seasonal Floodplain Forest

Sedge Meadow

Reed Canary dominated
Wet Meadow

LESS RECOGNIZED WETLANDS…..

What is a Wetland

With so many different wetland types, disturbance levels, and variability, there needs to be a way to agree if an area is wetland and where it begins….

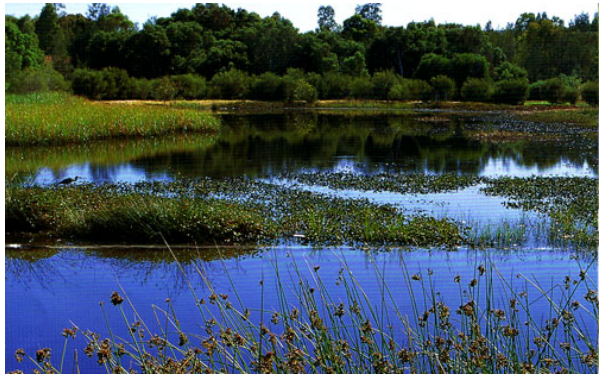
What is a Wetland?

- Defined by 87 COE Delineation Manual & Guidance Materials

Hydric Soils

3 Parameter Approach!

Vegetation (Hydrophytes)



Hydrology

Why do we want/need Wetlands?

Because Wetlands provide a number of functions and have value on the landscape..

Floodwater Retention

Less Wetland=less flood storage=higher flood events

Functions and Values

Water Quality Protection

(sediment entrapment/filtration of chemicals/nutrients

Functions and Values

Shoreline Protection

Groundwater Recharge
(slow release into aquifers)

Functions and Values

Wildlife Habitat

Wetland Functions and Values

Food/Commercial Uses

Functions and Values

Forestry/Logging
(White Cedar, Ash, Tamarack)

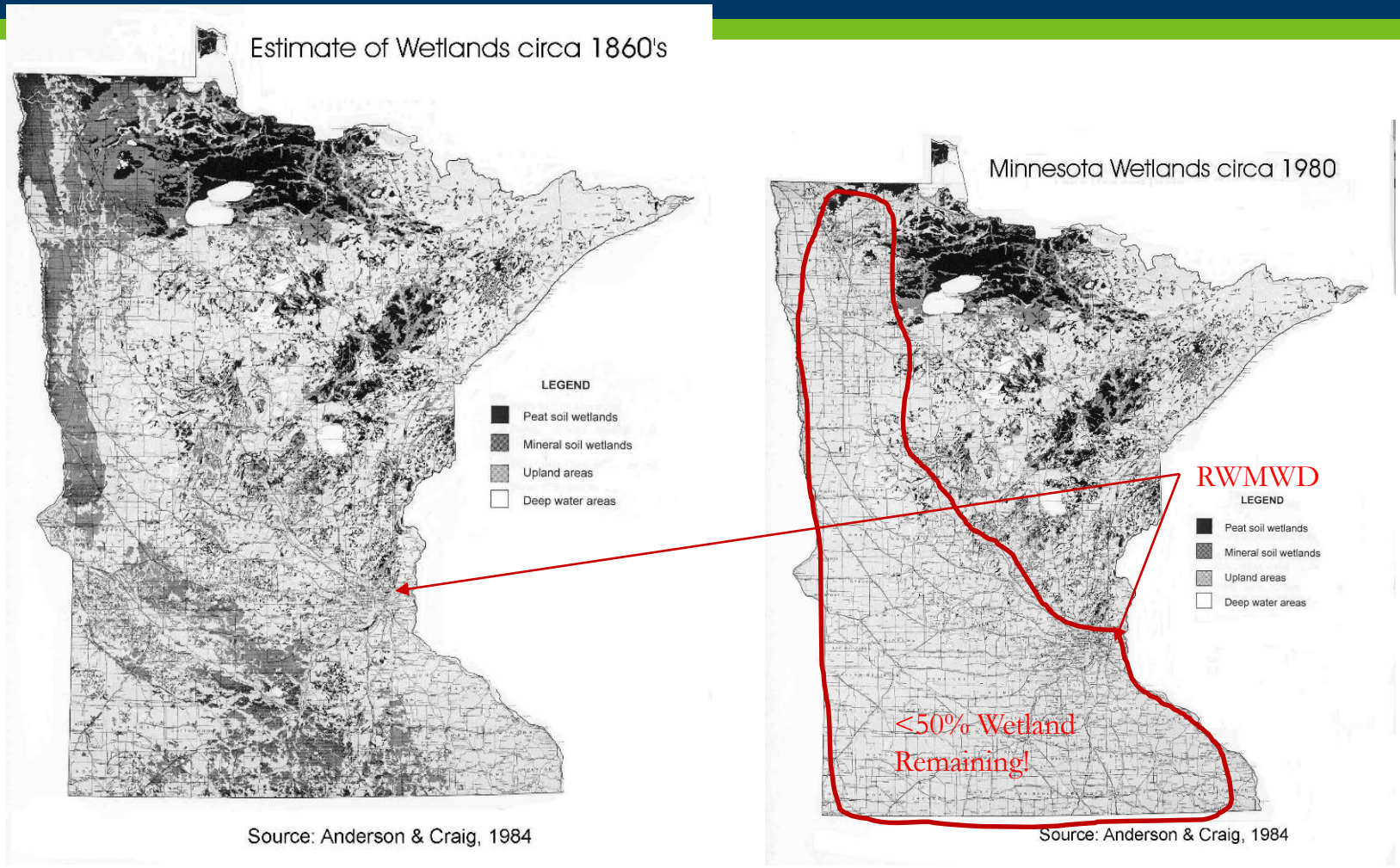
Tourism, Hunting, Fishing, etc.

Aesthetics
(Birding, Hunting, Recreation)

Functions and Values

Wetlands...

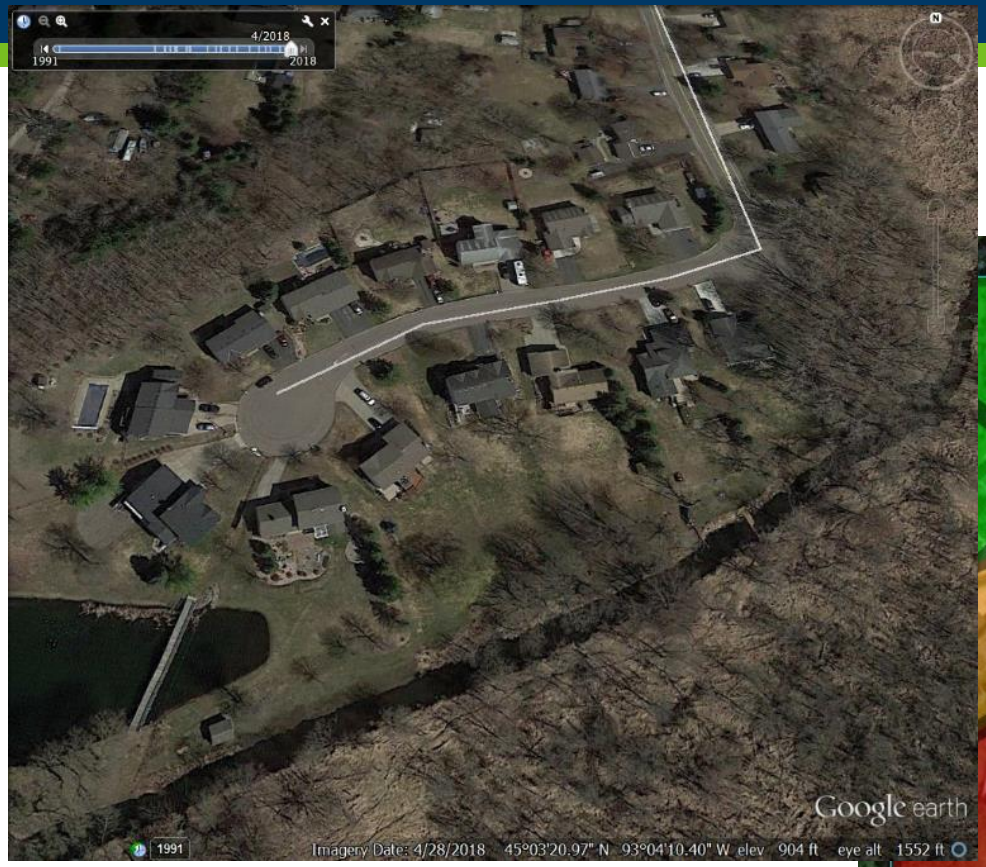
Lost Functions and Values



Lost Functions and Values

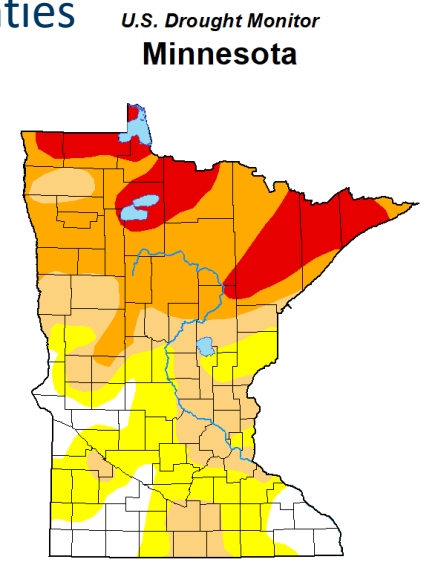
- Flooding

Lost Functions and Values



Precipitation

- Average Annual precipitation varies significantly from one side of the state to the other
- A difference of 14 inches from Houston to Kittson counties



October 12, 2021
(Released Thursday, Oct. 14, 2021)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

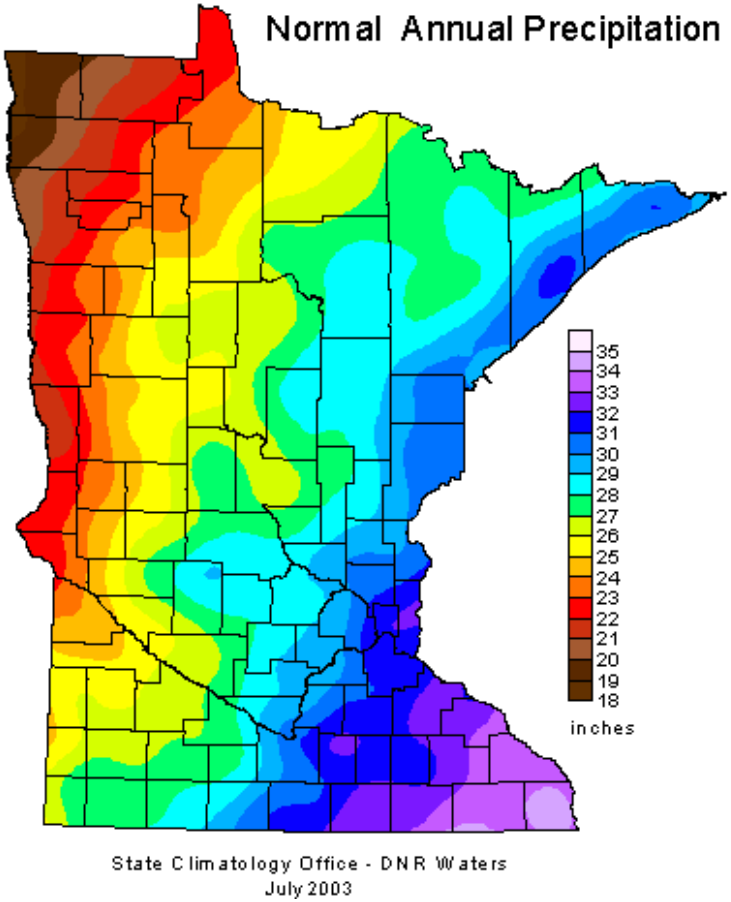
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.79	88.21	64.88	42.49	15.61	0.00
Last Week 10-05-2021	9.80	90.20	66.97	48.32	17.58	0.00
3 Months Ago 07-13-2021	0.00	100.00	98.21	52.42	3.95	0.00
Start of Calendar Year 12-29-2020	1.60	98.40	23.40	0.28	0.00	0.00
Start of Water Year 09-28-2021	6.50	93.50	76.21	50.44	23.58	0.00
One Year Ago 10-13-2020	51.92	48.08	11.46	0.24	0.00	0.00

Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought

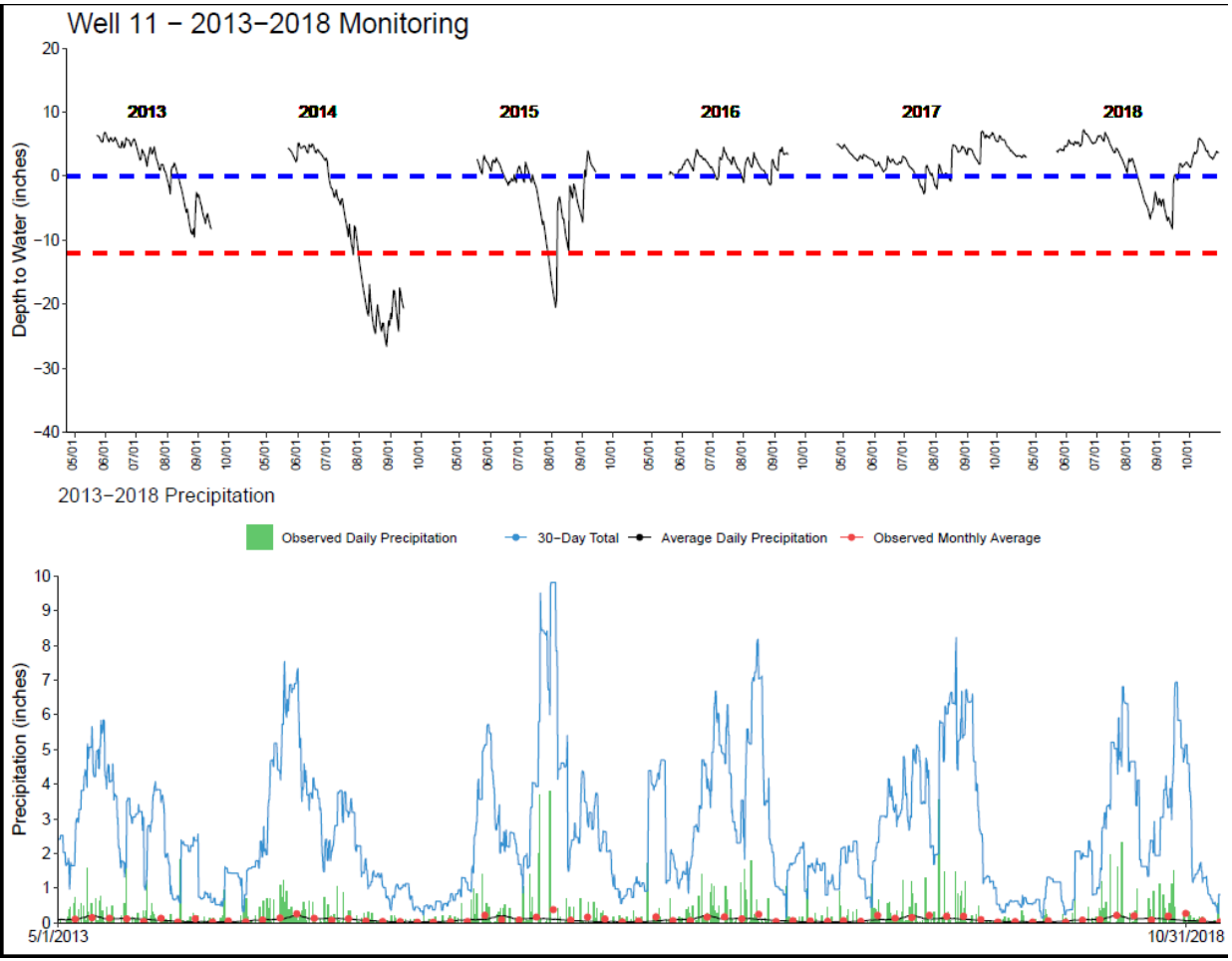
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:
Adam Hartman
NOAA/NWS/NCEP/CPC

droughtmonitor.unl.edu



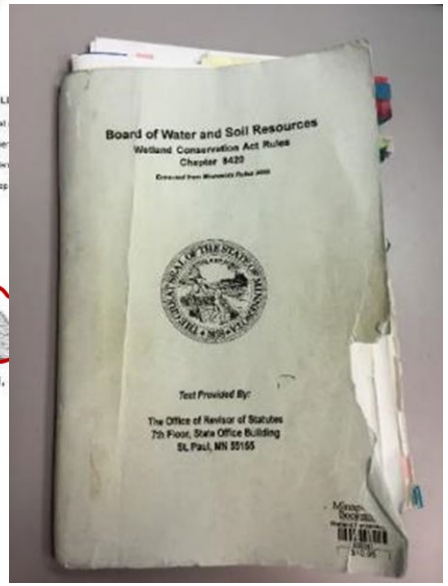
Interpreting Hydrology



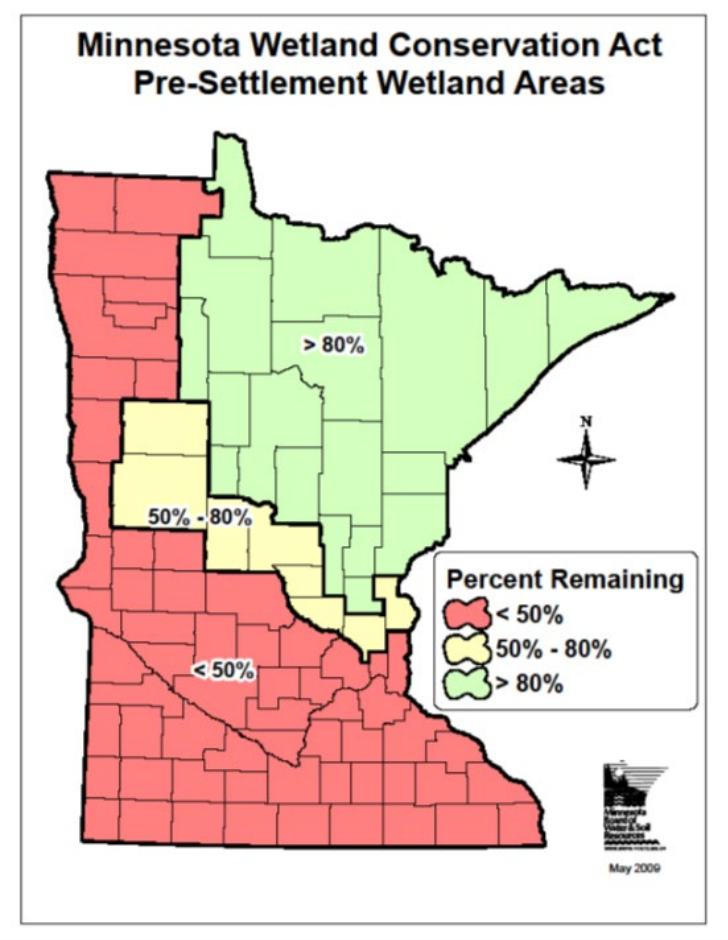
WETLAND CONSERVATION ACT (WCA) OF 1991

- Bipartisan Bill
- Passed in 1991
- Effective 1992
- MN Statute **103G** and parts of 103A,B,E,F

  BWSR has Rule-making authority
- MN Rule **8420**
  - Statute changes
  - Guidance Documents



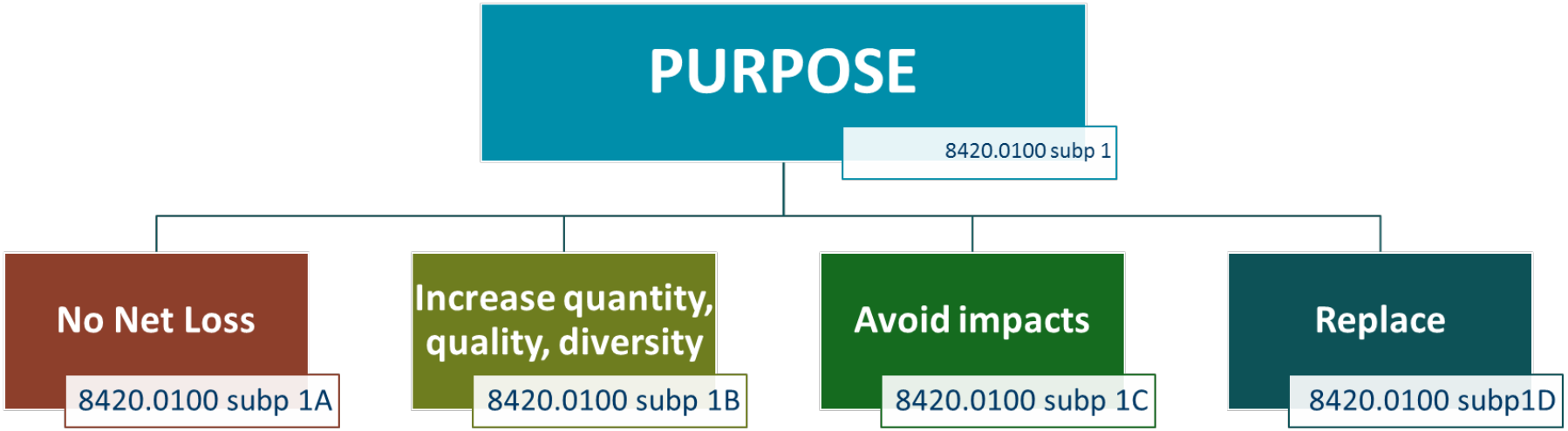
Pre-Settlement Areas



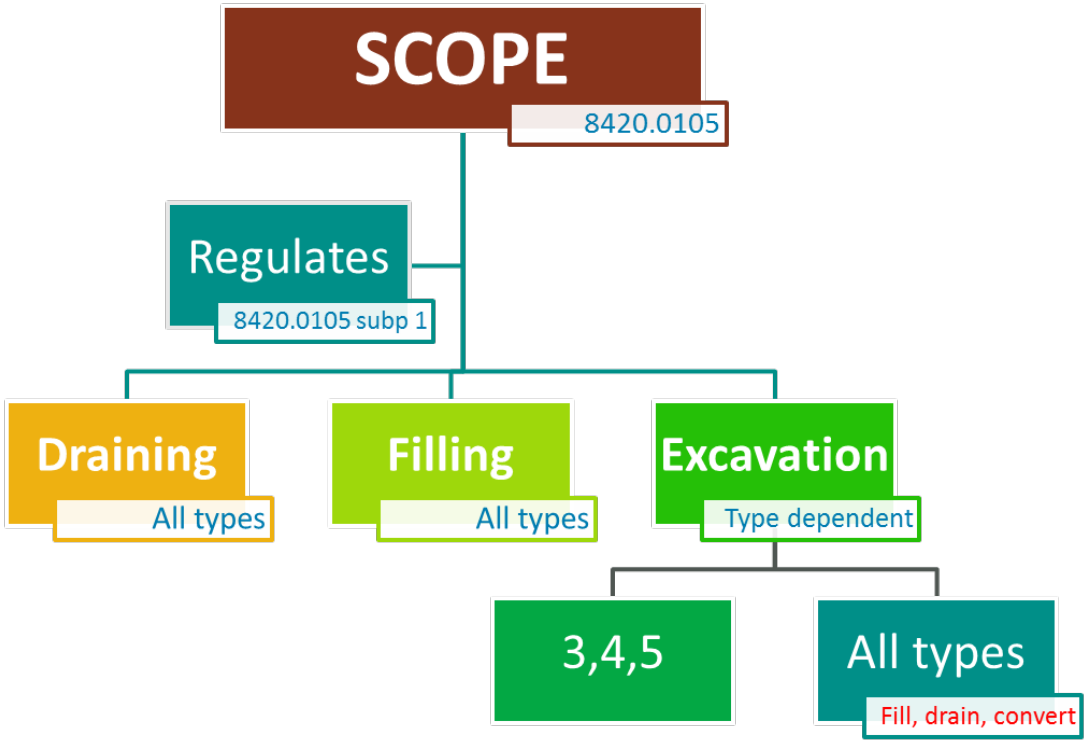
Pre-settlement wetland existed at the time of MN Statehood in 1858

Where you are in the State matters

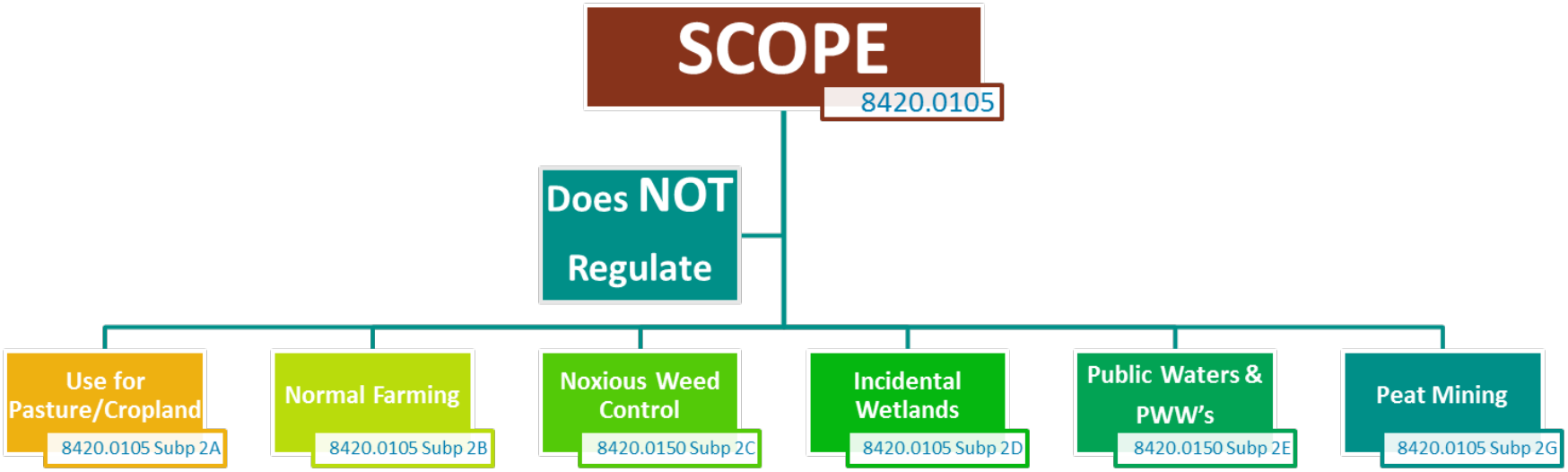
WCA


PURPOSE
8420.0100 subp 1
No Net Loss
8420.0100 subp 1A
Increase quantity, quality, diversity
8420.0100 subp 1B
Avoid impacts
8420.0100 subp 1C
Replace
8420.0100 subp1D

WCA


SCOPE
8420.0105
Regulates
8420.0105 subp 1
Draining
All types
Filling
All types
Excavation
Type dependent
3,4,5
All types
Fill, drain, convert

WCA


SCOPE
8420.0105
Does NOT Regulate
Use for Pasture/Cropland
8420.0105 Subp 2A
Normal Farming
8420.0105 Subp 2B
Noxious Weed Control
8420.0150 Subp 2C
Incidental Wetlands
8420.0105 Subp 2D
Public Waters & PWW's
8420.0150 Subp 2E
Peat Mining
8420.0105 Subp 2G

WCA Review – The Players

- *Local Government Units* (LGUs) administer the program.

County, City, WD or WMO, SWCD – Staff and Elected Officials.

- Board of Water and Soil Resources
- MN DNR
- Landowner/Applicant
- Private Consultants & Contractors

WCA Review – The Process

Discussion and/or Application Submittal

- Typically, with LGU staff and/or TEP (TEP explained next slide)
- Discuss project details/review available
- Photos/maps/onsite review
- Straight-forward and/or exempt/no loss = approval or no furth required

Notice of Application/Decision

- Official request for comment
- Dependent on application type or difficulty/concern
- 15-day minimum comment period
- 60 calendar days to approve, extend or deny

WCA Review – The Process

Technical Evaluation Panel (TEP)

- BWSR, SWCD, LGU appointee, and DNR staff.
- Site visit common.
- Provide guidance/assistance to the LGU through evaluation of technical information/rule application
- Result - technical findings and recommendations to the decision making body or staff

Minnesota Wetland Conservation Act
Technical Evaluation Panel Findings Report

Date(s) of Site Visit/Meeting:	6-15-18	LGU:	Wright SWCD on Behalf of the City of Hanover
County:	Wright	LGU Contact:	Andrew Grean, Wright SWCD
Project Name:	Crow River Heights West 4th Addition	Phone #:	763.682.1933
Location of Project: (attach map if possible)	Site Location Map Attached	Email Address:	andrew.grean@mn.nacdnet.net

TEP ATTENDEES:	OTHER ATTENDEES:	OTHER ATTENDEES:
LGU: Andrew Grean, Wright SWCD (SWCD is LGU as well)	Luke Johnson, SWCD Manager	Adam Cameron, Kjolhaug
SWCD: Jeremy Carlson, Wright County Hwy	Brian Hagen, City of Hanover Administrator	Mark Kjolhaug, Kjolhaug
BWSR: Cade Steffenson, BWSR	Cindy Nash, City of Hanover Planner	Todd McLouth, Loucks Engineer
DNR:	Justin Messner, City of Hanover Engineer	

PROJECT DESCRIPTION AND PURPOSE OF MEETING:
Replacement plan application review.

TYPE OF MEETING: *Check all applicable*
☒ Office ☐ On-Site ☐ Phone Conference ☐ E-Mail ☐ Other: ____

TEP FINDINGS AND RECOMMENDATIONS [1]:

Kjolhaug Environmental Services, Inc. submitted a replacement plan application on behalf of the applicant, Dennis Backes on 6-2-17. The project area is located in the City of Hanover, Section 34, PID 108500341102. The application is proposing 0.5716 acres of permanent wetland impacts due to the development of 159 single-family lots and associated infrastructure within the project area. Mitigation is being proposed through the creation of project-specific wetland replacement. A wetland boundary/type and no-loss application was approved for this project area on 12-8-17. Project implementation and the proposed wetland impacts will not occur until sometime in the future, possibly 3-5 years. The Wright SWCD administers WCA on behalf of the City of Hanover. The Wright SWCD Board of Supervisors is the decision maker for WCA replacement plan applications.

Eight separate wetland basins would be impacted under the proposed plan. Grading for the houses, streets, and the placement of stormwater ponds were the primary causes of the wetland impacts. Wetland avoidance alternatives were discussed. The first alternative presented would avoid all of the wetlands by eliminating 15 of the proposed lots. The land surrounding the avoided wetlands would be 5-9 feet higher in elevation requiring the construction of retaining walls. Furthermore, the remaining watersheds for the avoided wetlands would be reduced between 66-93%. The TEP agreed that this alternative was not feasible or prudent.

The second alternative presented would avoid all of the wetlands by not only eliminating the primary impacts from the lot grading, but also the secondary impacts that would occur from the grading within their respective watersheds. This alternative would require the elimination of two of the proposed through streets as well as a cul-de-sac. A total of 33 lots would be eliminated under this alternative. According to both engineers present during the TEP meeting (Justin Messner and Todd McLouth) through streets are preferable when compared to cul-de-sacs for various safety reasons and increased efficiency. The applicant concluded that this alternative would "alter the site design rendering it

[1] TEP Findings should be a meaningful concise summary detailing the project conditions, technical data, and what rules apply. The TEP recommendation should be clear,based on rule and best professional judgement.

Rev. 12/17/2013

Basic Staff Review Questions

1. Is it a *Wetland*?
2. Is the activity *Regulated*?
3. Does the activity *Impact wetlands*?
4. Does the *Impact* require replacement?

No Loss? **Exempt?** **Replacement?**

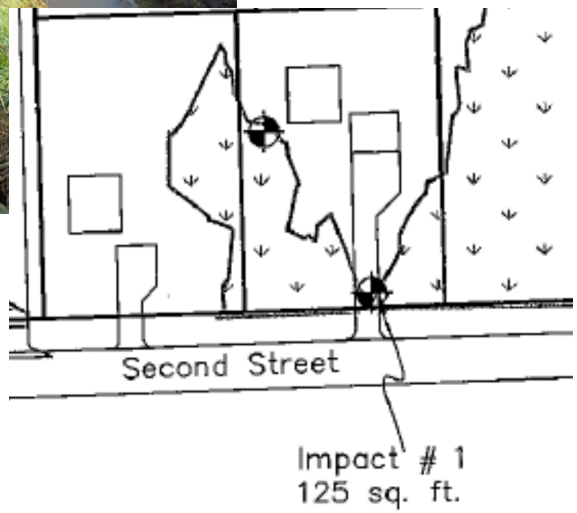
No Loss Basics

No permanent loss of, or impact to, wetlands from an activity: 8 categories

Exemption Basics

Wetlands are <u>impacted</u> but exempt from replacement.

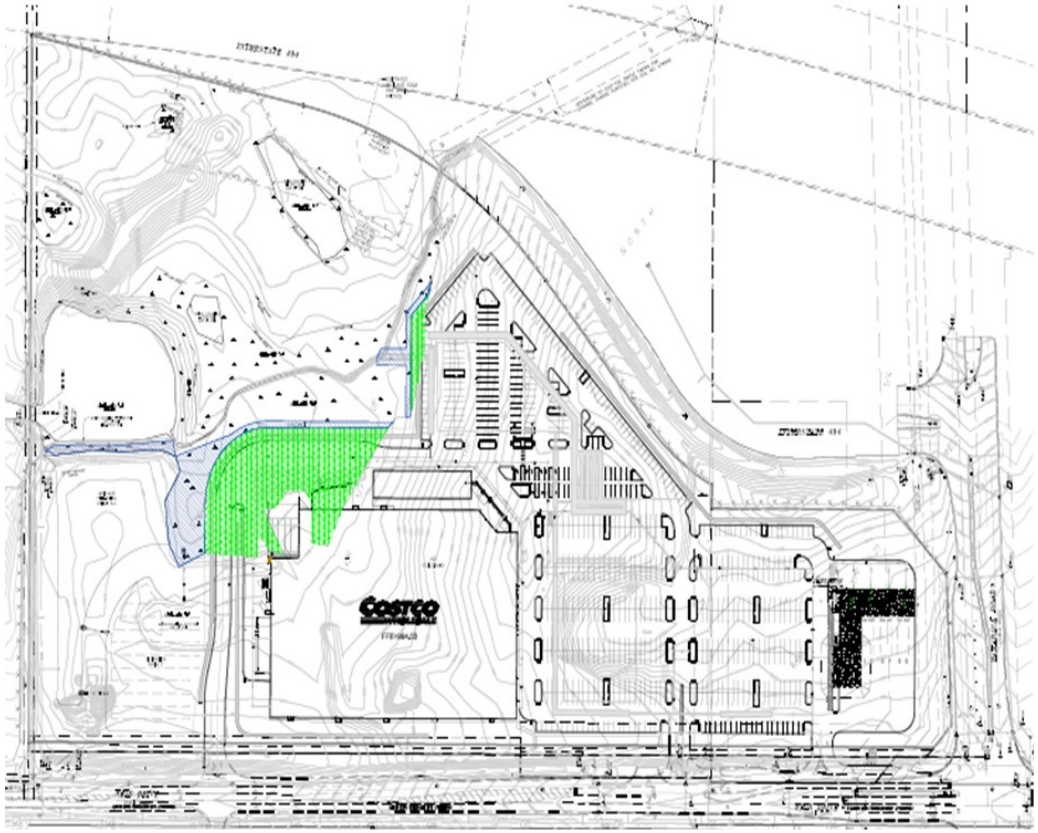
- 8 subparts, over 19 categories, very specific/detailed
- Allows some projects to occur without long review process
- Generally limited in impact amount



Wetland Replacement Basics

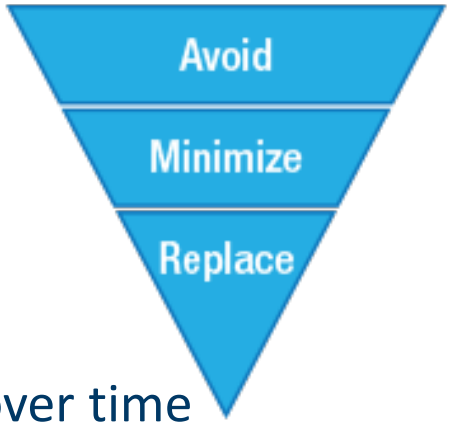
Activities that impact wetlands but do not qualify as no loss or fit an exemption

- Review more rigorous/time consuming
- Includes special considerations.
- Sequencing
- Replacement must offset the lost functions and values of the impact



Sequencing Summary

In descending order, the LGU must determine if the applicant has demonstrated the project has:



Avoided direct or indirect impacts

Minimized impacts

Rectifies impacts

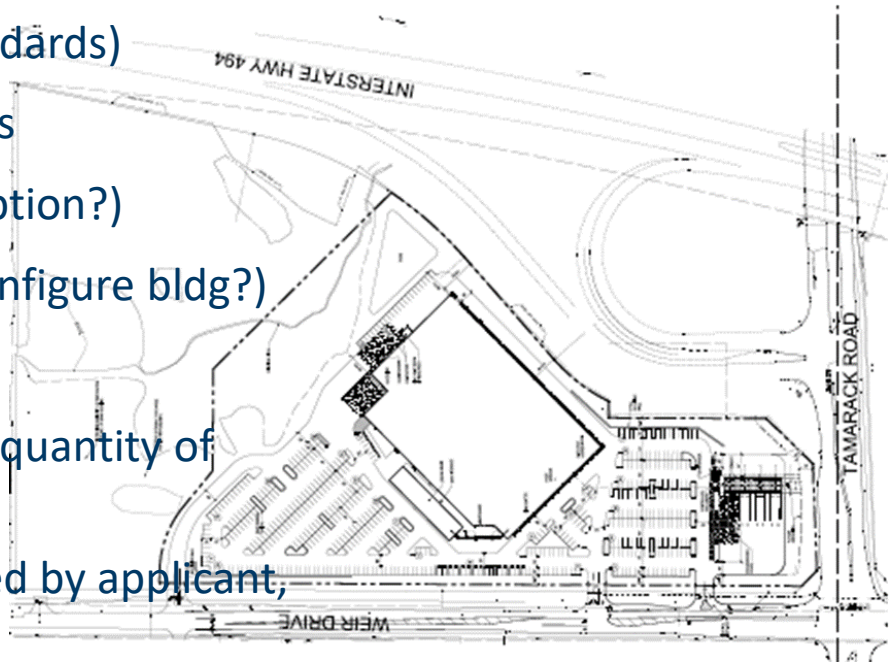
Reduces or eliminates impacts that can occur over time

Replaced unavoidable impacts (wetland banking)

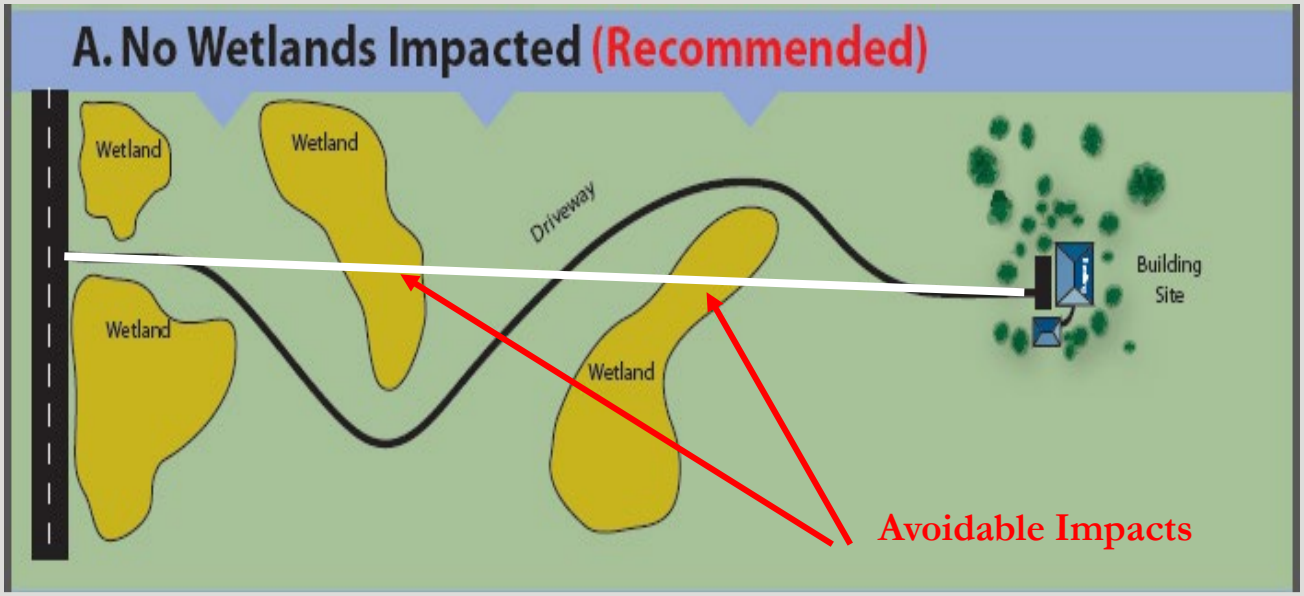
Step 1- Avoidance

MUST Consider <u>wide range of issues</u>

- Safety & public need (safety design standards)
- Engineering standards and requirements
- Other rules and regulations (variance option?)
- Modifications must be considered (reconfigure bldg?)
- Offsite (another property could work?)
- Value and function of wetland (quality/quantity of impacted site)
- Important: Project Definition – proposed by applicant, but determined by LGU

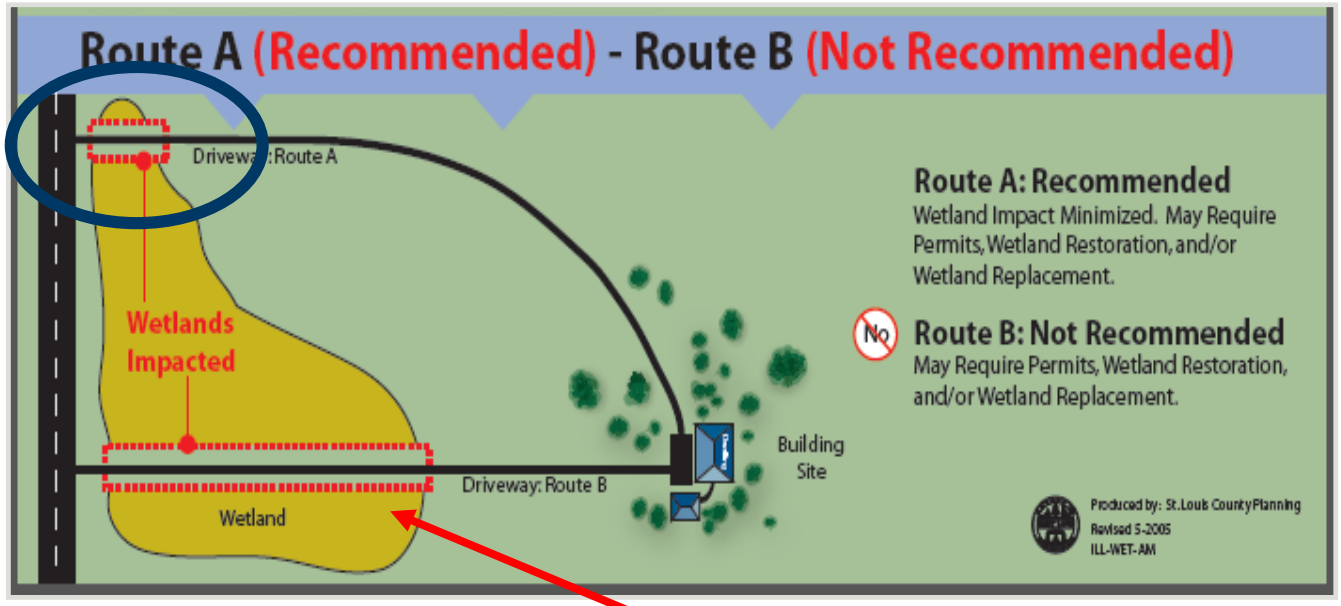


Avoidance Example



If LGU finds that a Feasible and Prudent Alternative exists that avoids impacts, the application must be denied.

Minimization Example



Not minimized

Replacement

Final Review Step

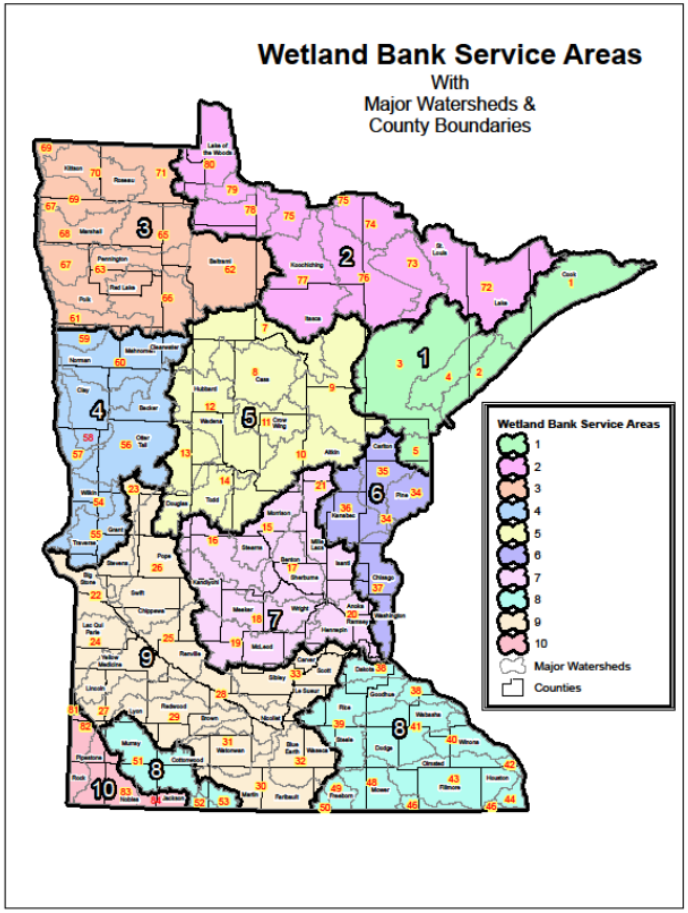
- Must replace the functions and values at an equal or greater level than that which was lost.
- Typically purchase wetland bank credits
- Ratio range (1:1 Ag up to 4:1 ATF)
- Siting

Replacement Siting

Is the replacement siting correct?

- WCA actively promotes replacing functions and values as close to the impact as possible.
- Must follow a priority order
  1. Minor watershed
  2. Major watershed
  3. BSA*
  4. Another BSA (may result in increase ratio)

*2017 Statute change allows to skip to #3 for banking.



Banking Basics

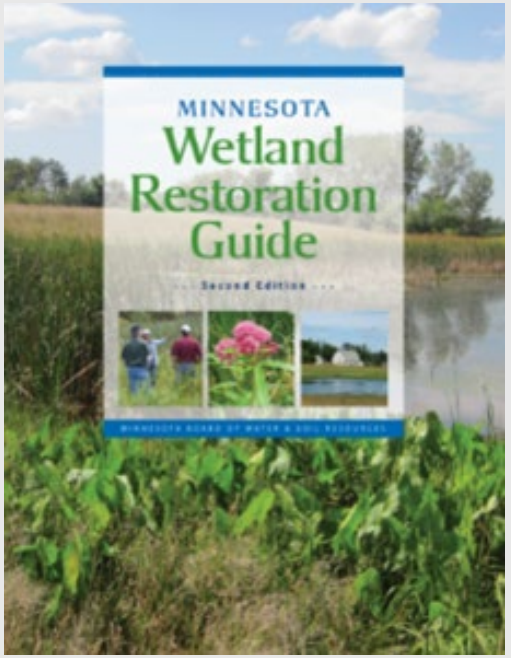
Multi-part process to develop mitigation credits

- Draft Prospectus (This is a scoping doc.)
- Prospectus (Engineering, Delineation review)
- Final Plan (Approval document)
  - Construction plan
  - Performance standards
  - Credit allocation
  - NOA and NOD from LGU

MN Wetland Restoration Guide

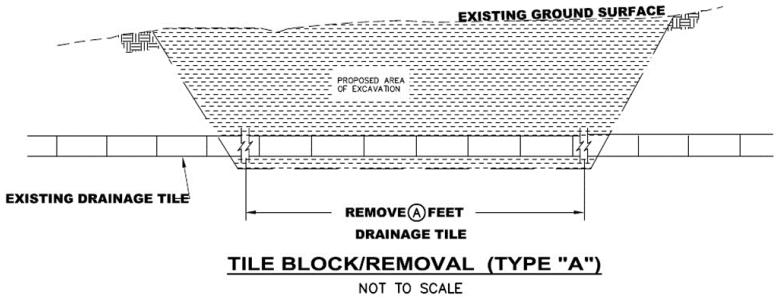
MN Wetland Restoration Guide:

- Planning
- Site Assessment
- Design and Construction
- Vegetation establishment
- Site Management & Monitoring



Technical Guidance Sheets

- Supplements to the MN Wetland Restoration Guide
- https://bwsr.state.mn.us/guidance-documents-tools-and-other-resources
  - Vegetation Establishment
  - Restoration Design and Construction
  - Managing Restoration Sites

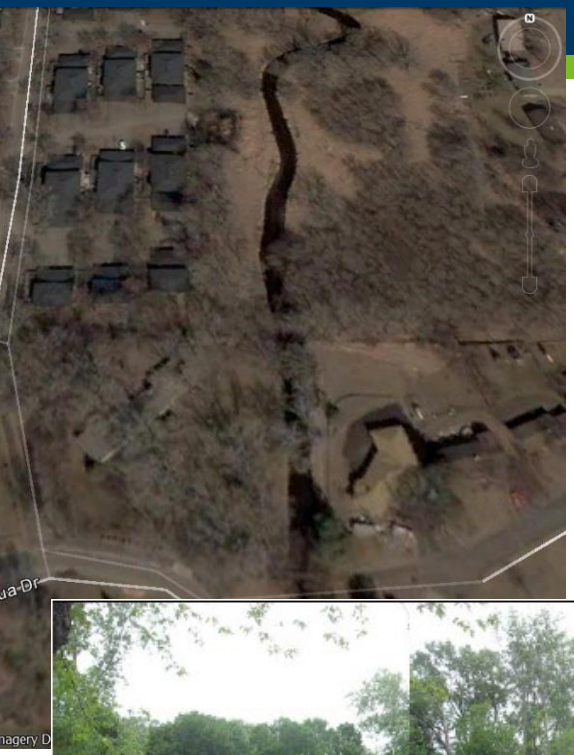


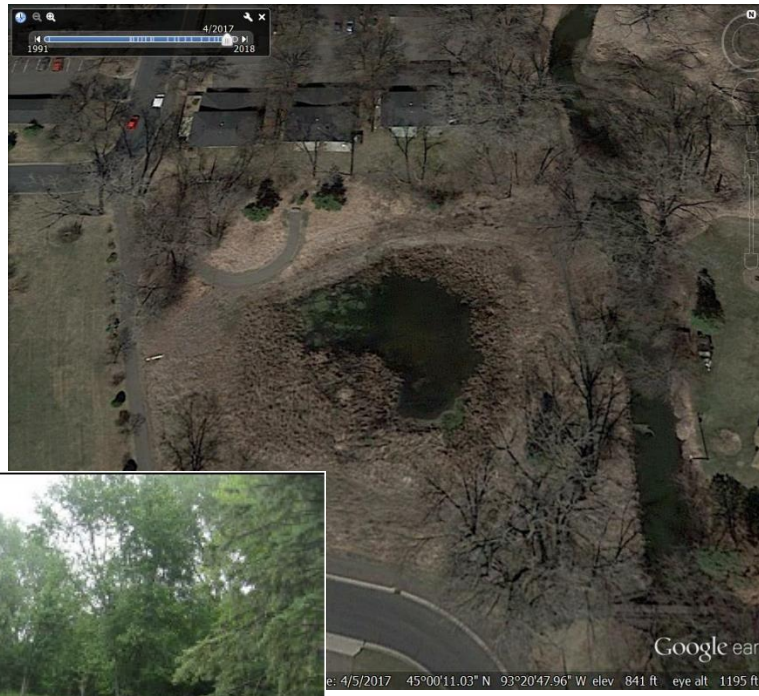
TILE BLOCK/REMOVAL (TYPE "A")
NOT TO SCALE

General considerations for wetland restoration

- Identifying and selecting projects
  - Restoration over creation
- Consider potential complications from degraded sites
- Adjacent land uses (present and future?)
  - Changes to adjacent landowners?
- Location of area ditches
  - Public or private?
  - Drainage Law?
- Understand soil conditions of site (permeability, chemistry)
- Water quality

Examples of Urban Restoration





Key Points

Technical Side

- There are many different types of wetlands: these provide environmental and economic benefits
- Wetlands are delineated using three scientific parameters: vegetation, hydrology and soils.
- A wetland professional needs to understand that wetlands are dynamic systems (precip., hydraulics, watersheds, geomorphology, etc.)

Regulatory Side

- The watershed administers the state rule (WCA)
- Many activities can be exempt or meet no loss
- Replacement may be an option but requires rigorous review.
- Not all proposals will meet sequencing requirements. Avoidance of impacts is often the toughest hurdle.

There is oversight (BWSR) and support (TEP) in all technical and regulatory decisions.

Questions

Contact your BWSR Wetland Specialist for more details:
Ben.Meyer@state.mn.us

Thank you!

Watershed Management Plan

The main body of the RWMWD Watershed Management Plan has much background information regarding wetlands and policies of the district in preparation for our discussion at the workshop. The following pages could be reviewed: Link to the RWMWD Watershed Management Plan (2017)

- ES – 7
- ES – 10
- 1 – 26
- 1 – 47 to 1 – 51
- 3 – 7
- 4 – 4
- 4 – 14
- 4 – 28

MNRAM Assessments

- Used to evaluate primarily wetland functions, some values
- Planning tool to guide wetland management – wetland management classification
- Wetland replacement plan evaluations
- Comparisons between wetlands of the same community type
- Identification of potential wetland restoration sites
- Not a highly detailed assessment of any particular function
- Subtle changes over time generally not reflected in management classification

MNRAM Classification

- Manage A
  - Most functions high to exceptional ratings
- Manage B
  - Most functions medium to high ratings
- Manage C
  - Most functions low to medium ratings
- Management classification used for buffer requirements
- Others also use management classification for stormwater treatment levels

Wetlands Mapping Resources

All of the wetlands that have been identified in the watershed district have been evaluated using the MnRAM assessment and show on our interactive map.

RWMWD Website: https://rwmwd.org/explore/project-map/

- Select "RWMWD Interactive Map"
- Also linked on permit page for project applicants
- Periodically updated when WCA applications are processed
- Boundaries are approximated

National Wetland Inventory: https://arcgis.dnr.state.mn.us/ewr/wetlandfinder/

- Includes DNR jurisdictional designations

Disclaimer: No mapping inventory is perfect or includes every wetland on the landscape. Site surveys/delineations are the most accurate for project planning purposes. If an area is not included in either inventory but suspected to be wetland, a delineation report must be submitted for review.

Wetland Changes Over Time

- Wetland hydrology can vary significantly over time
    - Landlocked wetlands experience long-term fluctuations
    - USGS documented 2 depressional wetlands over 17 years (LaBaugh et al., 1998)
    - 17 year period spanned a 5-yr dry cycle, and 4 yr wet cycle
    - Water levels fluctuated 7.5-9 feet
- Wetland plant communities naturally change over time in response to wet and dry cycles (LaBaugh et al., 1998)
- Wetlands used for primary stormwater treatment typically degraded due to:
    - Sediment accumulation
    - Nutrient inputs
    - Water level fluctuations
- Wetlands used for secondary stormwater storage typically less degraded
- Invasive species are a global problem, benefit from hydrologic modifications

District's WCA Role

- RWMWD is the LGU (Local Government Unit) responsible for administering WCA (Wetland Conservation Act) within District boundaries, except:
    - MnDOT right of way
    - City of St. Paul
- Processes WCA applications submitted by landowners, public entities
    - Boundary/type (delineations)
    - No loss, exemptions
    - Replacement plans for proposed impacts
- Works with Technical Evaluation Panel (TEP) on application review. TEP agencies include:
    - BWSR
    - DNR
    - County/conservation district
    - Army Corps (notice only)

District Rule E Policy

- Manage wetlands to achieve no net loss in quantity, quality, biological diversity
- Increase quantity, quality, and biological diversity of wetlands by restoring or enhancing diminished/drained wetlands
- Avoid impacts from activities that destroy or diminish wetlands
- Replace affected wetlands where avoidance is infeasible
- Encourage natural vegetation around wetlands to maintain water quality and ecological functions

Reference: RWMWD District Rules

Rule E Wetland Replacement

Prioritization for wetland replacement where permitted:

1. Onsite replacement
2. Within the same subwatershed
3. Within the RWMWD
4. Outside of the RWMWD

Rule E Buffer Requirements

According to MnRAM classifications:

- Manage A (highest quality)- 75’ average, 37.5’ minimum
- Manage B (medium quality)- 50’ average, 25’ minimum
- Manage C (lowest quality)- 25’ average, 12.5’ minimum

No buffer disturbance unless granted a variance by the board, in which case:

- Buffer to be restored with native seed mix
- Protected by erosion and sediment control measures
- Vegetation maintained by qualified contractor
- Signage to notify landowners where buffer begins

Wetland Restoration Crediting

- **Restoration** defined by WCA as the reestablishment of an area as wetlands that was historically wetlands and that is no longer wetlands or remains as a degraded wetland (MR 8420.0111, Subp. 62)
- **Degraded Wetland** defined by WCA as a wetland that provides minimal wetland function and value due to human activities such as drainage, diversion of watershed, filling, excavating, pollutant runoff, and vegetative or adjacent upland manipulation (MR 8420.0111, Subp. 19)
- **Actions eligible for wetland replacement/bank credit** (MR 8420.0526)
    - Restoration of completely drained or filled wetland areas
    - Vegetative restoration of farmed wetlands
    - Wetland creation
    - Protection and preservation of wetlands (rare)
    - Conversion of nondegraded wetlands from one wetland type to another doesn't constitute replacement credit (MR 8420.0526, Subp. 1.D)

Wetland Replacement Plan Approval

- Wetland replacement plan approval requires the following when feasible and prudent:
  - Avoidance and minimization of wetland impacts
  - Minimization of wetland impacts
  - Rectification of wetland impacts
  - Preservation and maintenance of remaining wetland
  - Replacement of unavoidable wetland impacts
- Conversion of nondegraded wetlands from one wetland type to another doesn't constitute replacement credit (MR 8420.0526, Subp. 1.D)
- LGUs must collaborate to identify potential restoration opportunities within their jurisdictional areas (MR 8420.0522, Subp. 7.F)

Questions for Discussion

1. What can we do to PROTECT wetland communities in our District?
    - No net loss policy
    - WCA administration

2. What can we do to PRESERVE wetland communities in our District?
    - District rule E – buffers and water quality
    - WCA administration

3. What can we do to RESTORE wetland communities in our District?
    - Natural Resources buffer/wetland plant restoration projects
    - Complete wetland restoration projects with or without credit given