Wetlands in MN: Resource, Regulation, Restoration

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What is a wetland?

Definition (Federal Register): Those areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.
Wetlands

Definition (cont.)
Wetlands generally include swamps, marshes, bogs and similar areas.
Wet meadows, sedge meadows, floodplains, fens, ephemeral (seasonal), etc.
What is a wetland?


- Hydrology
- Vegetation
- Soils

Need all three!
Wetlands

Diagnostic characteristics.

- Hydrology – permanent or periodic inundation at \( \leq 6.6 \text{ ft.} \) or saturated to the surface at some time during the growing season.
Wetlands

Diagnostic characteristics.

• Soils – Classified as hydric or possess characteristics that are associated with reducing conditions (lack of oxygen).

Hydric soil (USDA) “a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part”
Wetlands

Diagnostic characteristics.

• Vegetation – plants adapted to have the ability to grow, compete, reproduce and persist in anaerobic soil conditions.
Why important.

• Functions
  – Water quality improvement, flood attenuation, habitat, aesthetics, biological productivity, etc.

• Values
  – Importance of one or more functions to society
Historical context.
Historical context.

<50% Wetlands Remaining!

Source: Anderson & Craig, 1984
Wetlands

150 Years of Wetland Drainage in Minnesota

Circa 1844

50 mi² of Jackson County

Circa 1994
Wetlands

Regulations

• Corps of Engineers, CWA Section 404
• DNR Public Waters
• BWSR Wetland Conservation Act
• Local Ordinances
• Watershed District Rules
• NRCS, USFWS, EPA
Board of Water and Soil Resources

Mission:

Improve and protect Minnesota’s water and soil resources by working in partnership with local organizations and private landowners.

www.bwsr.state.mn.us
BWSR Focus is on:

- 78% of state which is in **private land** ownership.
- **Local governments** as the principal land-use authorities and the most connected to the citizens.
- **Long-term conservation** that cannot happen without private landowners and local governments being engaged and responsible.
Agency Organization

- 17-member board:
  - local governments (9)
  - citizens (3)
  - state agencies (5)
- 100 Staff in 8 offices
- Statutorily linked to:
  - 91 SWCDs
  - 46 Watershed Districts
  - 87 Counties
  - 23 metro WMOs
Select BWSR Programs:

- Local Water Management & Oversight: County, SWCD, Watershed District, WMO
- Re-invest in Minnesota (RIM)
- Drainage Assistance
- Grants: Wetlands, Shorelands, Septic
- Clean Water Legacy: Impaired Waters cleanup
- Wetland Conservation Act
- Wetland Banking; including Public Roads
MN Wetland Conservation Act (WCA)

- State law first passed in 1991 that regulates activities in wetlands (draining, filling, excavation). Contributes to goal of no-net-loss of wetlands by avoiding impacts and replacing them if unavoidable.
MN Wetland Conservation Act (WCA)

- Board of Water and Soil Resources (BWSR)
  - Overall administration, training, rules
  - Oversight and Appeals
- Local Government Units (LGU)
  - Implementation
- Technical Evaluation Panel (TEP): BWSR + LGU + SWCD
  - Technical advice to decision
- DNR
  - Enforcement, violations
MN Wetland Conservation Act (WCA)

- Goal of no-net-loss of wetlands by avoiding impacts and replacing them if unavoidable.
- System of statewide private and public banks
- Replacement ratios
- Banking “actions eligible for credit”
Wetlands

Wetland Replacement

• Mitigation/Banking “actions eligible for credit”
• Restoration priority
• Larger sizes
• Functional lift (quality gain)
Wetland Replacement

- Mitigation/Banking “actions eligible for credit”
  - Upland Buffer
  - Restoration of completely filled or drained
  - Restoration of partially filled or drained
  - Veg. restoration of farmed
  - Creation (less preferred)
BSAs
Wetland Bank Map
Wetland Replacement

• Examples
  – Private
  – Road
Wetlands

Wetland Restoration/Banking
Example 1
Dayton, MN
Private
Wetlands

Wetland Restoration/Banking
Example 1
Dayton, MN
Wetlands

Wetland Restoration/Banking
Example 1
Dayton, MN
Wetlands

Wetland Restoration/Banking
Example 2
Cokato, MN
BWSR Road Bank
Wetlands

(approximately 1.6 ac existing wetland)
Wetlands

Golden Valley Minnaqua Example

2004 aerial - Minnaqua
Wetlands

Golden Valley
Minnaqua Example
Wetlands

Wetland Restoration
Integrated Design
Wetlands

Designed for natural function in perpetuity

Monitoring
- Initial monitoring required for up to 5 years
- Periodic checks/maintenance

Easements
- Recorded restrictions
- Conservation easements

Management and maintenance
Wetlands

Summary: Resource, Regulation, Restoration

- Important resource
- Highly manipulated landscape
- Historic drainage, identify sites, restoration fits in landscape/land use
- All wetlands are regulated
- Development/Restoration/Banking opportunities exist, incentives, etc.
Wetlands

Thank you.

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