ATTENTION

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AGRICULTURE: VOLUNTARY VS. MANDATORY

RYLEE MAIN, LAKE PEPIN LEGACY ALLIANCE

OCTOBER 15TH, 2015
Goals and Objectives

I. To promote a multifaceted approach to reducing the sediment and nutrients from upstream tributaries, with emphasis on the Minnesota River. Currently, the average annual load of sediment is about 1 million metric tons per year (the equivalent of a cubic city block of sediment).

   I. A first objective is to reduce this loading by 50% to achieve transparency goals supportive of submersed aquatic vegetation targets. This will also reduce the rate of lake in-filling by one half.

II. To restore and preserve conditions in Upper Pool 4 and the head of Lake Pepin.

III. To ensure the institutional arrangements for protecting the lake into the future.
Total Suspended Solid (TSS) Loads from the Minnesota River Basin will need to decrease by 50 to 60% to meet the site-specific standard for turbidity in the South Metro Mississippi River (32 mg/L).
TOTAL SUSPENDED SOLIDS (TSS)

- High Island Creek (Minnesota River Basin) – Max TSS 1,223 mg/L
- Le Sueur River (Minnesota River Basin) – Max TSS 918 mg/L
- Cannon River – Max TSS 160 mg/L
- River Mile 786.2 – 46 mg/L
- River Mile 781.2 – 23.8 mg/L
- Below Lock and Dam 4 – 8.2 mg/L
THE FUTURE OF LAKE PEPIN

Studies predict approximately one third of the lake volume will be filled by sediment within the next 100 years if present rates of sedimentation continue.
WHAT ARE THE SOURCES OF SEDIMENT?
65% FROM BLUFFS, RAVINES, AND STREAMBANKS
35% FROM FIELDS AND SURFACE RUNOFF
A CLOSER LOOK

Upland water storage is crucial to reducing erosion on bluffs, ravines, and streambanks!
States are required to classify bodies of water by their intended use, adopt plans to ensure waters meet water quality standards, and set pollution limits (TMDLS).

Example: South Metro Mississippi River Total Maximum Daily Load Study
- Sets a 32 mg/L water standard for turbidity in the South Metro Mississippi River.
- Calls for a 50 – 60% reduction in sediment from the Minnesota River Basin
- Calls for a 50% reduction in internal re-suspended sediments

The EPA does not approve state implementation plans, but calls for “reasonable assurance.”

Storm runoff from row crop agriculture is not regulated under the Clean Water Act.
MANDATORY V. VOLUNTARY

STORMWATER AND WASTEWATER V. NON-POINT SOURCES
Location of Minnesota’s eight urban areas, based on the 2010 U.S. Census.
Location of wastewater treatment plants that discharge to surface waters in Minnesota
Board of Water and Soil Resources

Locations of Registered Feedlots of All Sizes
REASONABLE ASSURANCE IN MINNESOTA

- National Pollution Discharge Elimination System (NPDES) permits are based on best practices.
  - Ex: MS4 permits require that 1\textsuperscript{st} inch of rainfall is infiltrated with no discharge.

- Cities and wastewater treatment plants involved in TMDL studies and are aware of their specific load allocations.

- Enforcement!
BACK TO ADDRESSING SEDIMENT IN LAKE PEPIN
Is Minnesota providing “reasonable assurance” to adequately address turbidity impairments in the South Metro Mississippi River?
1. Buffer of continuous perennial vegetation required along public waters by November 1, 2017. Buffers must be 50-foot average width with a 30-foot minimum width.

   Or be in compliance with existing state shoreland standards (103F.211), whichever buffer width is greater.

2. Buffer of continuous perennial vegetation required along public drainage systems by November 1, 2018: 16.5 feet minimum (same as existing drainage law)

   Or an alternative water quality practice as approved by the Board of Water and Soil Resource.

DNR must prepare “buffer protection maps” showing waterways that require buffers.
CLEAN WATER LAND & LEGACY AMENDMENT

THE LEGACY AMENDMENT INCREASES THE STATE SALES TAX BY THREE-EIGHTHS OF ONE PERCENT BEGINNING ON JULY 1, 2009 AND CONTINUING UNTIL 2034

- 33% percent of the sales tax revenue from the Legacy amendment is allocated to the Clean Water Fund.
- Those funds may only be spent to protect, enhance, and restore water quality in lakes, rivers, and streams and to protect groundwater from degradation.
REGULATORY CERTAINTY: CERTIFIED PRODUCERS ARE DEEMED TO BE IN COMPLIANCE WITH ANY NEW WATER QUALITY RULES OR LAWS DURING THE PERIOD OF CERTIFICATION (10 YEARS)
RECOGNITION: CERTIFIED PRODUCERS MAY USE THEIR STATUS TO PROMOTE THEIR BUSINESS AS PROTECTIVE OF WATER QUALITY
PRIORITY FOR TECHNICAL ASSISTANCE: PRODUCERS SEEKING CERTIFICATION CAN OBTAIN SPECIALLY DESIGNATED TECHNICAL AND FINANCIAL ASSISTANCE TO IMPLEMENT PRACTICES THAT PROMOTE WATER QUALITY

Formal certification began in mid-June 2014
As of January 30, 2015, a total of 31 farms, representing 12,861 acres have been certified with 84 new conservation practices added as a result of this program.

There are over 200 producers at some stage in the certification process.
Watershed Pollutant Load Monitoring Network

Total Suspended Solids Average: 2007 - 2009
### Water Plan

**Proposed Actions**

**Addressing Wetlands and Water Storage**

<table>
<thead>
<tr>
<th>County</th>
<th>Storage and retention structures</th>
<th>Wetland restoration and preservation</th>
<th>Stormwater management</th>
<th>Floodwater management</th>
<th>Wetlands, other: setbacks, wetland banking, WCA, WRP, RIM</th>
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**JACKSON COUNTY WATER PLAN**

PROPOSED ACTIONS INVOLVING WETLANDS AND WATER STORAGE

- **Action:** Promote, assist and seek funding for the installation of storm water retention projects. Outreach – Direct mailings, news releases, personal contacts. Target Audience – 2 landowners/year. Enrollment-2 structures/year; $60,000/year  
  **Who:** Soil and Water, County P&Z Office, Jackson County Highway, BWSR  
  **When:** 2013-2018  
  **Total Units/Cost:** 10 structures, $300,000

- **Action:** Promote, assist and seek funding for the installation of Urban BMPs, to individuals and the communities of Jackson, Lakefield, Heron Lake, Okabena, and Alpha, as found in the MN Stormwater Manual. Outreach – Direct mailings, news releases, personal contacts. Enrollment – 5 BMPs/year; $2,500  
  **Who:** Soil and Water, County P&Z Office, Cities, BWSR  
  **When:** 2013-2018  
  **Total Units/Cost:** 25 BMPs, $12,500

- **Action:** Promote, assist and seek funding to enroll marginal land into available wetland restoration programs including RIM/WRP and CRP or other long term conservation program. Outreach – Direct mailings, news releases, personal contacts. Audience – 2000 landowners and operators/year. Enrollment – 2 contract/year; 100 acres/year; $600,000/year  
  **Who:** Soil and Water, County P&Z Office, NRCS, BWSR, USFWS  
  **When:** 2013-2018  
  **Total Units/Cost:** 10 contracts, $3,000,000
Examples of voluntary initiatives in Minnesota:
- Minnesota Agricultural Water Quality Certification Program (MDA)
- Minnesota Nitrogen Fertilizer Management Plan (MDA)
- Green Star Farms Initiative (MN Ag Water Resources Center)
- Farmer-led Council Pilot Project (Whitewater River Watershed Project)

State and federal conservation incentive programs:
- Conservation Reserve Enhancement Program (CREP)
- Environmental Quality Incentives Program (EQUIP)
- Agricultural Risk Coverage (ARC)
- Price Loss Coverage (PRC)
- And Reinvest in Minnesota (RIM)

Programs designed to increase voluntary participation in conservation farming strategies rely heavily on incentives and personal relationships between agricultural interests and federal, state, and local government staff.

“There is currently a mismatch between the scale of efforts and the scale of the water quality problem.”
INVEST IN RELATIONSHIPS: Develop and implement ways to harness those existing trust-based relationships (e.g. farmers and their agricultural advisors – certified crop advisors, financial advisors, etc.) into the service of conservation conversations and adoption.

ADJUST FUNDING STRUCTURES: Greater flexibility in conservation funding programs to encourage innovation could help involve producers in the development of new technologies to reduce row crop agriculture's impact on water.

True block grants that are predictable, systematic, and broadly available should be available for the long-term work of educating and influencing farmers to protect waterways.

INVEST IN LOCAL CAPACITY: Increasing voluntary adoption of conservation practices will require stable funding over the long-term to build local capacity, so that the departure of one staff person does not disable a program.

INVEST IN RESEARCH: Setting aside research funds to develop and test innovative conservation practices would send a powerful signal to the agricultural community that the state of Minnesota is willing and able to be a partner in achieving water quality outcomes.
**Reasons for success:** Leadership, commitment from landowners, promotion and education, and local drivers.

**Technical obstacles:** Volume of water and persistent erosion areas.

**Financial/staff constraints:** Need for sustainable funding sources, especially for staff time.

**“Golden Nugget”:** Special taxing district through 103B.331

“The loop of trust is built over time; thus, there is a need for sustained local people.”
The challenge of scaling solutions up to the geographic breadth of the Mississippi River Basin – How to translate successes at the local level to the scale that can markedly improve the most impaired watersheds such as the Minnesota, Raccoon, and Missouri Rivers.

Rapid advances in information technology that can lead to healthy soil and clean water. For example, an Iowa company has developed software that creates a profit/loss field map for farmers that identifies specific portions of a farmer’s field that are unprofitable to farm, and thus provides strong evidence for farmers to skip seeding, tilling, and spraying these parts of the field that tend to be environmentally sensitive.

The growing influence of sustainability indicators on corporate supply chains. Companies like Cargill and General Mills have adequate market power to impact the conservation decisions of tens of thousands of farms, and they may very well have more influence on agricultural production decisions that the voluntary conservation programs of the U.S. Department of Agriculture.
FOR A HEALTHY MISSISSIPPI RIVER
Questions?

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