

Water Quality Issues in Minnesota



Scott Strand, Executive Director
Michael Schmidt, Water Quality Associate

January 12, 2015



26 East Exchange Street, Suite 206
St Paul, Minnesota, 55101
www.mncenter.org

MCEA Overview

Mission

Use law, science, and research to protect Minnesota's natural resources, wildlife and the health of its people

How we do it

Work at the legislature, in the courts, and with public agencies to enact, strengthen, and enforce smart environmental laws






Water Issues in Minnesota

- Water appropriation, conservation, reuse
- Water pricing and allocation
- Nutrients (nitrogen, phosphorus)
- Sediment
- Sulfates and mercury
- Contaminants of emerging concern
- Groundwater quality, quantity
- Water quality infrastructure
- Wetland protection
- Aquatic invasive species
- Water governance




Minnesota Center for
Environmental Advocacy

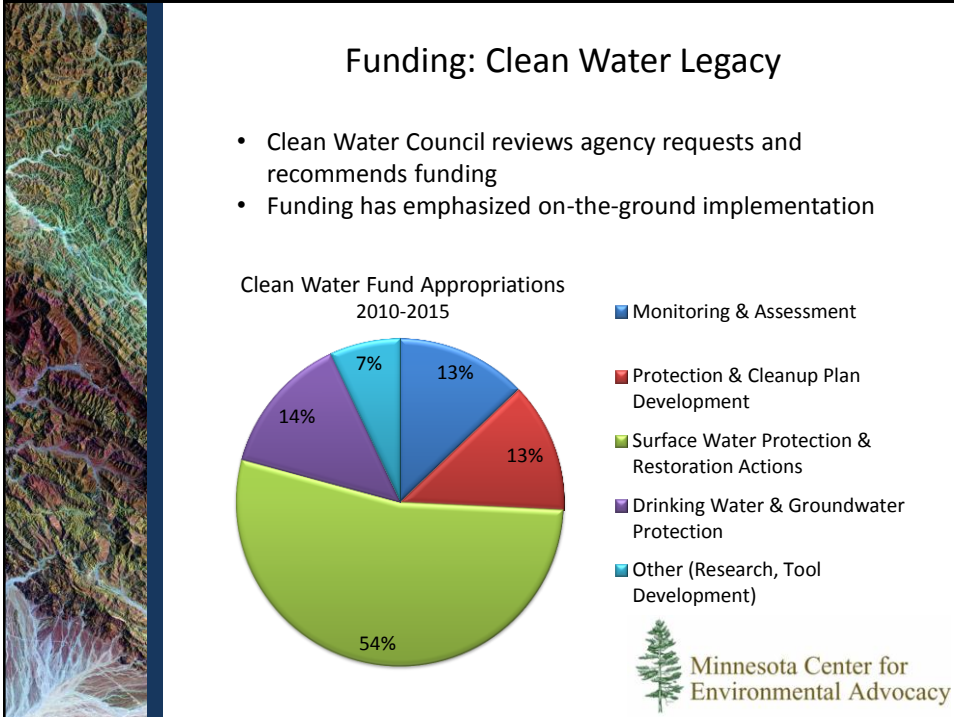


Managing Water Quality




- Clean Water Act governs point sources; nonpoint sources are left to states
- States have two primary tools to deal with nonpoint sources
 - Funding
 - Policy



Minnesota Center for
Environmental Advocacy




Nonpoint Water Quality Problems

- Sediment 
- Phosphorus 
Phosphorus photo: Amy Goerwitz
- Nitrate 

Minnesota Center for
Environmental Advocacy

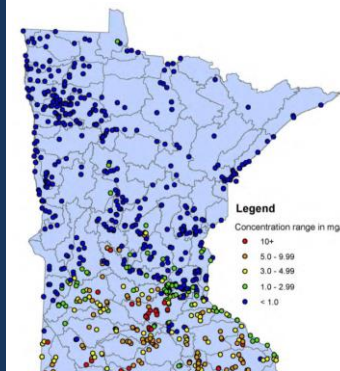
Status of Water Quality Efforts

- Existing problems are large
- Funding conservation practices alone will not lead to meeting Minnesota's water quality goals
- New approaches are needed to make significant progress



Scale of the Problem

- 27% of rivers and streams exceeded drinking water standard for nitrate
- 60% sediment reduction needed from Minnesota River
- 459 lakes impaired for phosphorus



Legend
Concentration range in mg/L

- 10+
- 5.0 - 9.99
- 3.0 - 4.99
- 1.0 - 2.99
- < 1.0


Nitrogen
0% 0% 20% 45%
Reduction from baseline load
Milestone

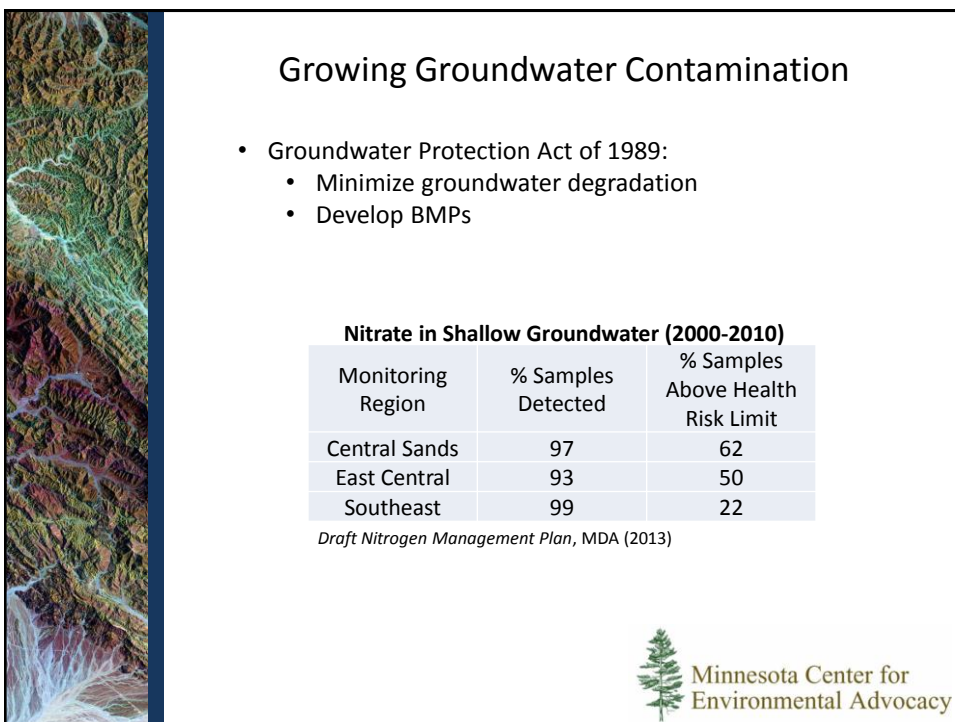
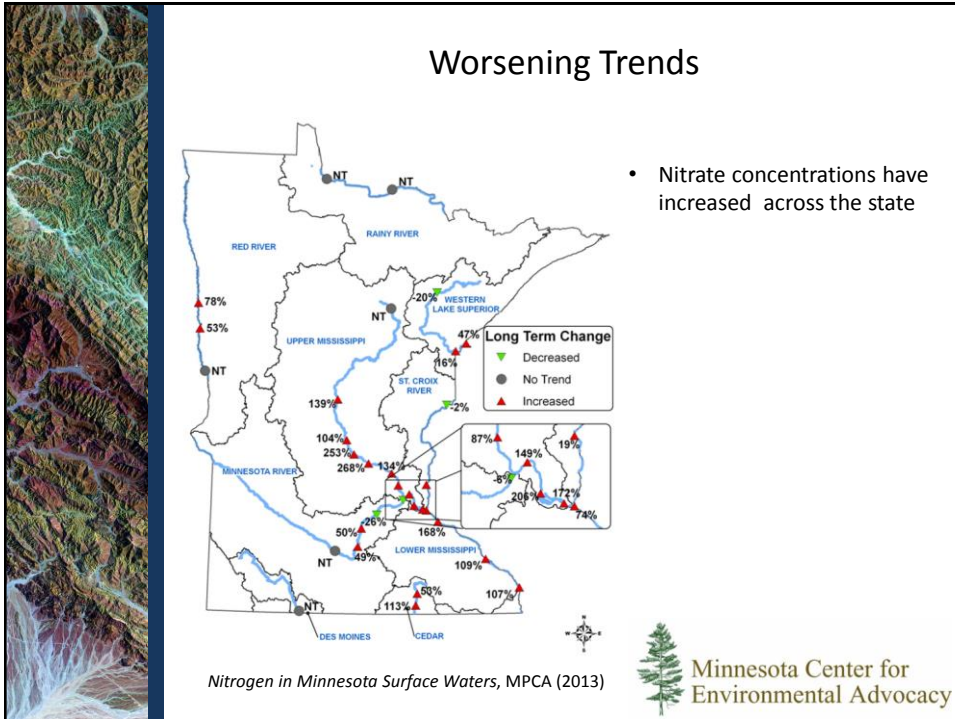
Phosphorus
0% 33% 45%
Reduction from baseline load

Baseline Period (1980-1996) 2014 2025 2040
Progress strategy focus Goal enabled by future research

Nutrient Reduction Strategy, MPCA (2014)


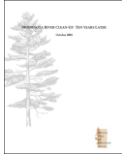

Nitrogen in Minnesota Surface Waters, MPCA (2013)





Minnesota River: Little Progress on Sediment

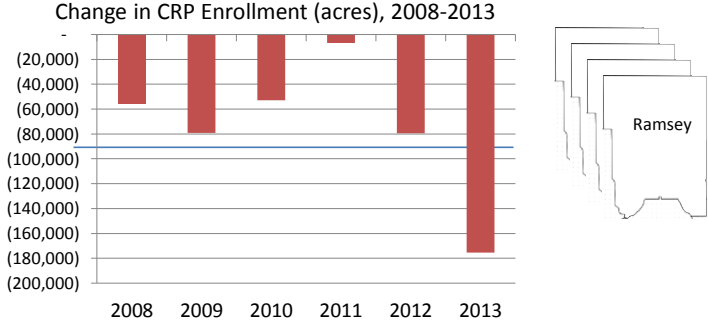
- 1992: Gov. Arne Carlson declared the Minnesota River would be swimmable and fishable by 2002
- 2002: MCEA found \$1.2 billion for conservation yielded little water quality benefit
- 2009: Minnesota State University-Mankato finds limited improvement
- Downstream need: 60% reduction

Farm Bill Overwhelms State Actions


- Federal actions can offset improvements from state funding – the baseline is shifting
- Conservation Reserve Program loss: four times larger than Ramsey County

Change in CRP Enrollment (acres), 2008-2013



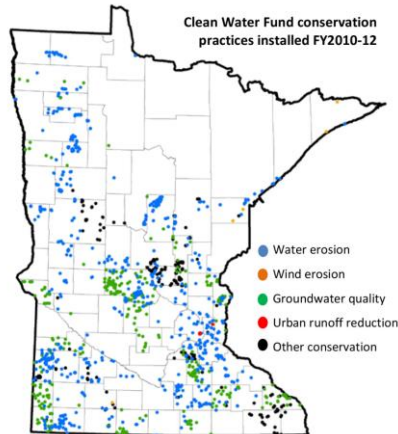
Year	Change in CRP Enrollment (acres)
2008	(50,000)
2009	(80,000)
2010	(60,000)
2011	10,000
2012	(80,000)
2013	(180,000)

[Conservation Reserve Program Statistics](#), USDA (2014)



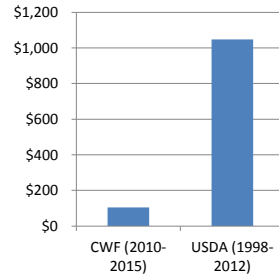
Federal vs. State Spending

- State conservation practices are outweighed by federal subsidies by >10:1

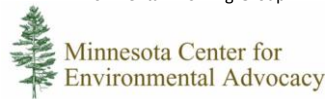


"New eLINK System Debuts," BWSR (2013)

Farm Bill vs. CWF Annual Funding (in millions)

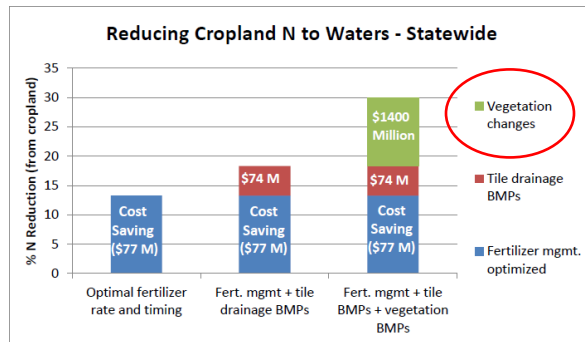



"Farm Subsidy Database," Environmental Working Group



Improvement Requires Landscape Changes


- Reaching water goals will require a new approach





Summary

- Existing water quality problems are large
- Funding conservation practices alone will not lead to meeting Minnesota's water quality goals
- New approaches are needed to make significant progress



Minnesota Center for
Environmental Advocacy



New Approaches

- Additional research needed for landscape diversification
- New ideas should be considered
 - Minimum standards of care? E.g., buffers
 - Rural stormwater utilities?
 - Sector performance standards?
 - Farmer-led management approaches?



Minnesota Center for
Environmental Advocacy