



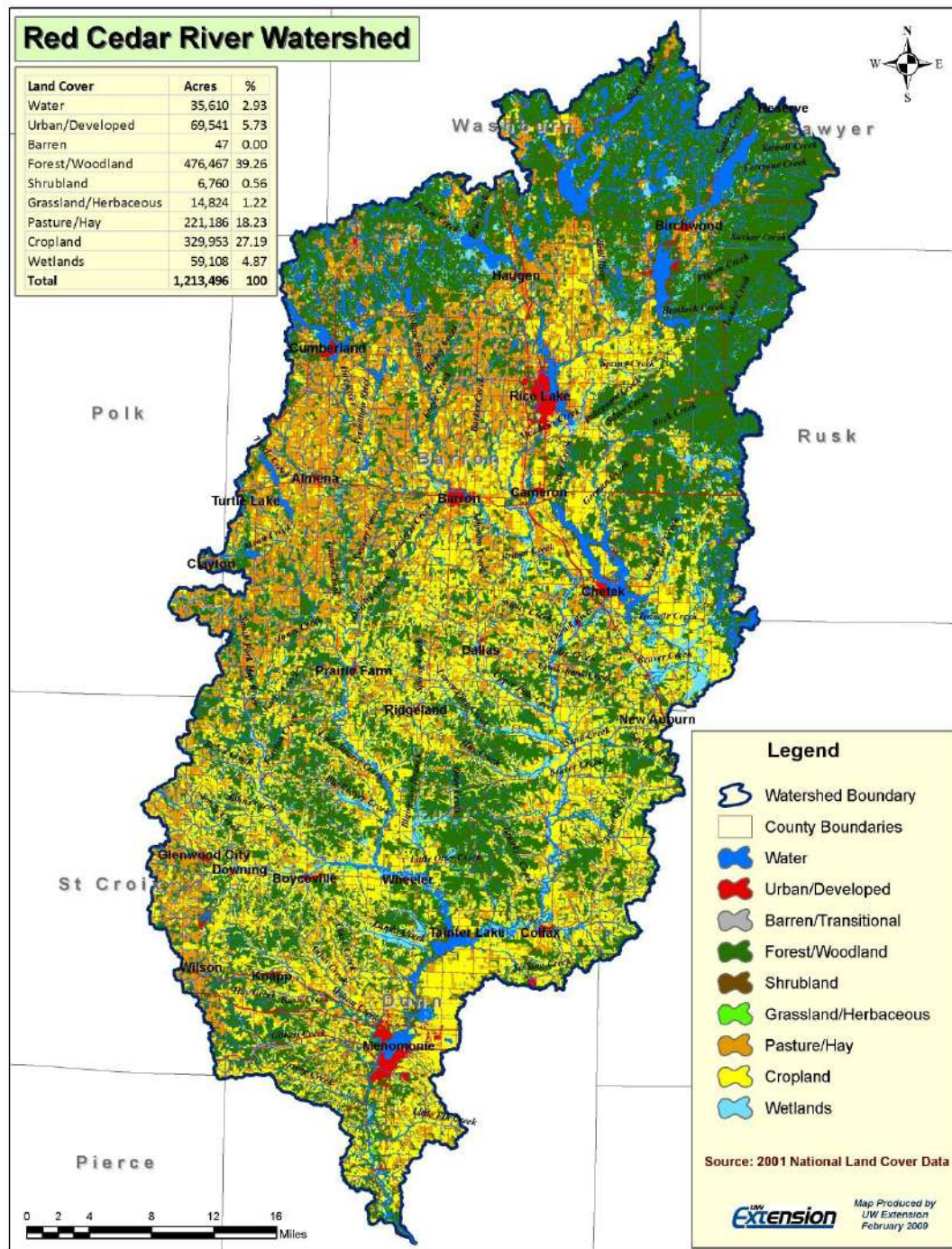
A River Runs Through Us: A Water Quality Strategy for the Land and Waters of the Red Cedar River Basin

Tales from a Partnership and a Plan

- The Red Cedar River Watershed covers most of Barron and Dunn Counties, and parts of several others.

- 1,900 square miles

- Historically forest, now mostly agricultural land uses.

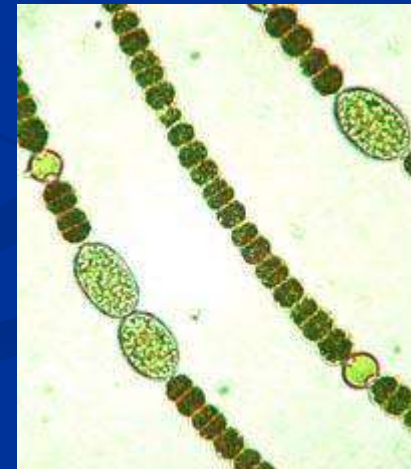
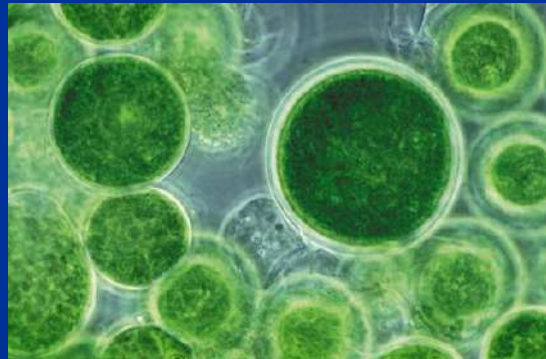


What's All That Green Stuff?

- **Algae, cyanobacteria (blue-green algae)**
- **Photosynthetic organisms that, just like plants, need nitrogen and phosphorus to function**
- **Is naturally in our waters, but too much nitrogen and phosphorous cause algae to increase dramatically – known as an algal “bloom”**

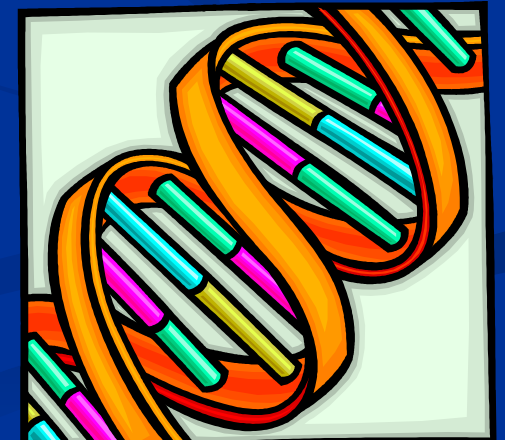


WDNR



What Is Phosphorus?

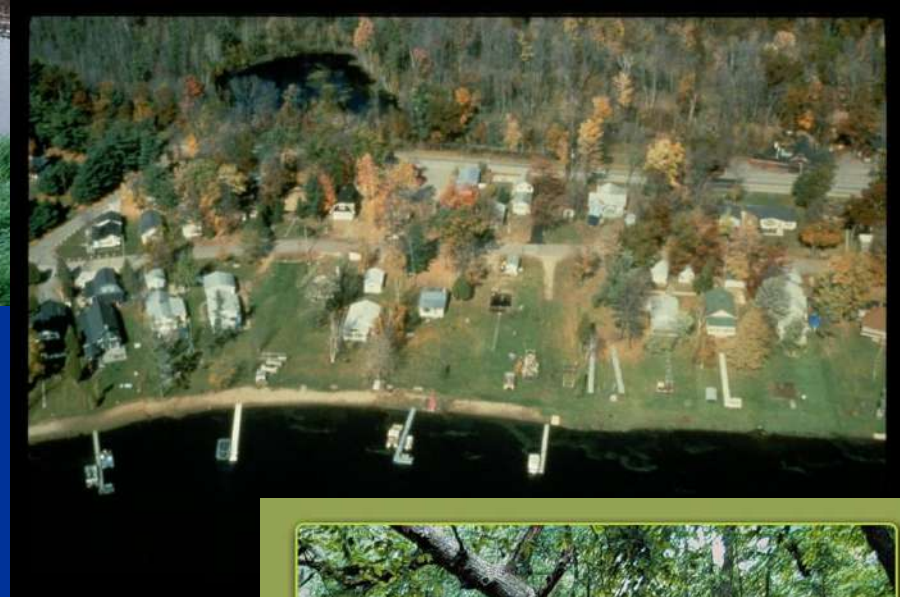
- A natural element present in rocks and soil
- Is also present in water, usually attached to soil particles suspended in the water
- Is a key component of living organisms, including plants and algae, and is found in DNA and in the membranes of cells
- Component of inorganic fertilizers, manure, and also human and pet waste



How is Phosphorus Getting In The Water?

■ Many Sources

- Farm fields
- Lawns & Yards
- City streets
- Failing septic systems
- Barnyards/Manure
- Eroding shorelines and banks
- Point sources



Total Maximum Daily Load (TMDL)

- Amount of pollutant (phosphorus) that a water body can receive and still meet water quality standards
- Also is a research document that describes how this amount was derived, sources of pollutant, and possible solutions
- Lakes Tainter and Menomin and the Red Cedar River listed as “impaired” in 1996
- The TMDL was finally approved in 2012
- Recommends a 65% reduction in P inputs to the lakes

TMDL Recommendations

TMDL Phosphorus Load Allocation for Tainter Lake

Category	1990/93 Baseline Annual Phosphorus Load (pounds)	Annual Phosphorus Load Allocation (pounds)
Non-Point Sources	463,400	157,400
WPDES Permits	42,900	20,100
Totals	506,300	177,000

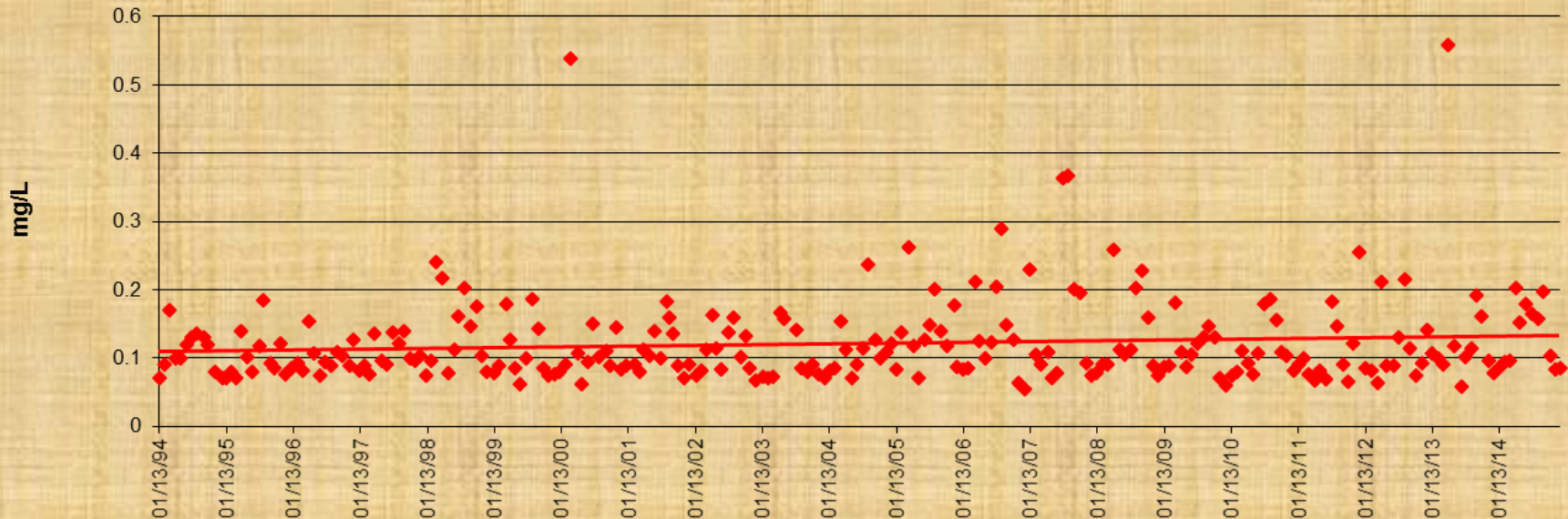
TMDL Recommendations

TMDL Phosphorus Load Allocation for Lake Menomin

Category	1990/93 Baseline Annual Phosphorus Load (pounds)	Annual Phosphorus Load Allocation (pounds)
Discharge from Tainter Lake at TMDL Goal	319,000	145,300
Non-point Sources (unsewered watershed)	3,500	2,200
Point Sources (Menomonie MS4)	3,500	2,200
General WPDES Permits		10
Totals	326,000	149,710

Phosphorus Monitoring

Total Phosphorus in the Red Cedar River at Menomonie



The amount of phosphorus in the Red Cedar River at Menomonie is not going down. (data from DNR WATERS system)

Red Cedar River Water Quality Partnership

- Began meeting in late 2013
- Statement of Identity and Purpose – *The Red Cedar River Water Quality Partnership is a Civic Organizing entity that works for the common good of water quality within the Red Cedar River Basin through the practice of Civic Governance; whereby the partners develop the civic imagination, and organize the civic infrastructure needed to produce sustainable water quality, while coordinating the implementation of water quality strategies for the Basin.*

Red Cedar River Water Quality Partnership

- Dunn Co Land Conservation
- Barron Co Land Conservation
- Dunn Co UW-Extension
- Barron Co UW-Extension
- WDNR
- NRCS
- City of Menomonie
- 3M Corporation
- West Wisconsin Land Trust
- UW – Stout
- Tainter/Menomine Lake Improvement Association
- Desair Lake Restoration, Inc.
- Red Cedar Lakes Association
- Big Chetac and Birch Lakes Association
- Chetek Lakes Protection Association
- Farmers Union
- UW-Extension

Red Cedar River Water Quality Implementation Plan

- Ten Year Plan
- Aims for an “interim” goal of 40% reduction of NPS phosphorus inputs (186,000 lbs) to Tainter Lake
- *Just approved in January!!* Meets federal and state guidelines for watershed planning (US EPA’s “Nine Key Elements of a Watershed Plan”)
- Will make the Red Cedar River watershed more attractive for certain grant funds

Practices and Projected Load Reductions

BMP	Lbs P reduced
No-Till Farming Practices (60,000 – 86,0000 acres)	63,000
Manure Storage Structures (50)	34,000
Nutrient Management Plans/Practices (86,000 acres)	31,500
Cover Crops (107,000 acres)	18,000
Traditional Conservation Practices (10% of cropland)	11,000
Treatment of Milk House Waste (50)	6,600
Urban Storm Water Control (non-permitted)	5,700
Stream Buffers on Riparian Frontage (10%)	4,700
Barneyard Upgrades (68)	3,800
Replace Failing, Critically-Located Septic (440)	420
Storm Water Control on Rural Properties (2200 lots)	220
Wetland Restorations (200 acres)	210
Past Barneyard Reductions	27,000
Total	206,150

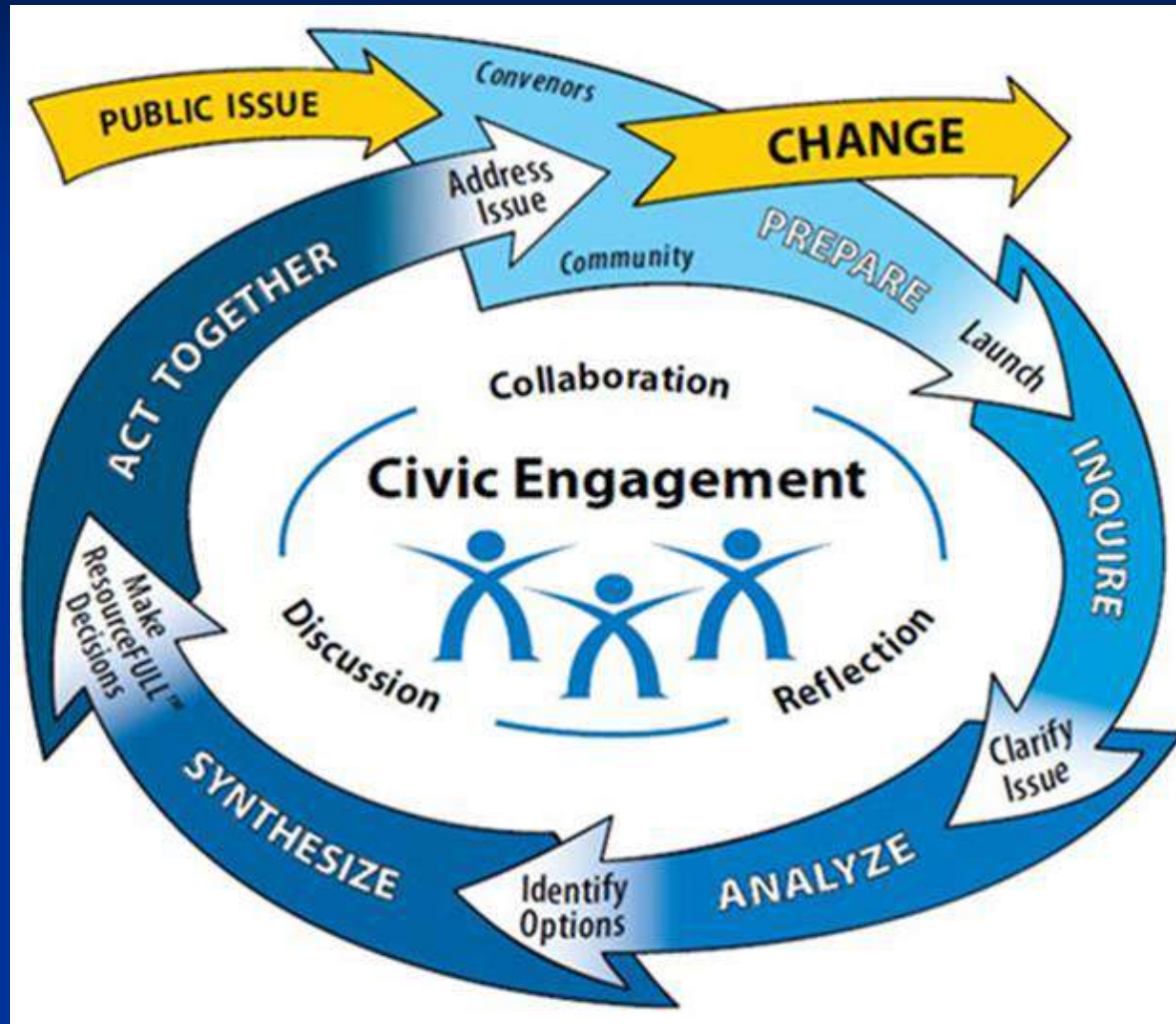
How?

Civic Engagement

and

Civic Governance

Civic Engagement



Civic Governance

- **Creating the infrastructure to govern for the common good**
- **Incorporating feedback from stakeholders in measureable ways, reported in open forums**
- **Partners take what they learn back to the realms in which they act/interact.**



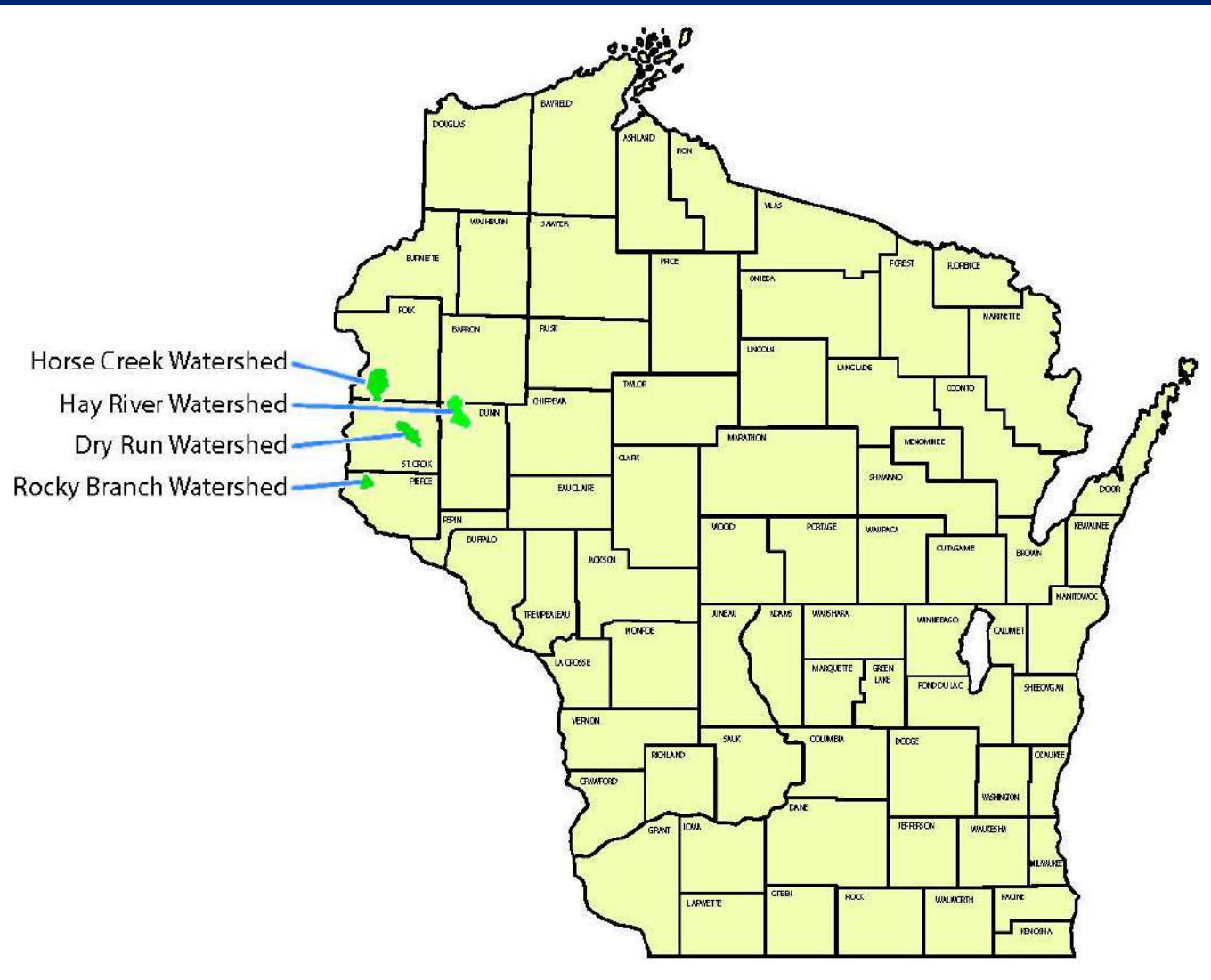
Matt Zoschke

Civic Governance

- Example: Farmer-Led Councils
- 4 Councils already established in NW Wisconsin
- FLC in Hay River watershed in northern Dunn Co
- Project collaboration between the County LCDs, UW-Extension, DNR and Farmers Union
- FLCs developing incentive payments (with money from a McKnight Foundation grant) that pay for certain practices the FLC decides are relevant

Civic Governance

Farmer-Led Councils



Outreach and Education

- **Red Cedar River Conference!**
- **Presentations at various events**
- **Recognition of participants/partners**
- **Plan is available electronically**



<http://naturalresources.uwex.edu/redcedar/>

Measuring Progress

- **Social science measures – Assessments of current opinions and knowledge**
- **Participation measures – How many people are participating; how many acres; how many BMPs**
- **Water quality measures – Are levels of phosphorus in the river system and lakes changing?**



The Plan in Perpetuity

- Plan is in effect for ten years
- Plan will be reevaluated periodically during that time
- Changes made as necessary
- When ten years expires, it will be time to tackle the remainder of the problem with more sustainable watershed planning and management
- Cleaner rivers and lakes!

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