



TMDL Project Update

July 29, 2015

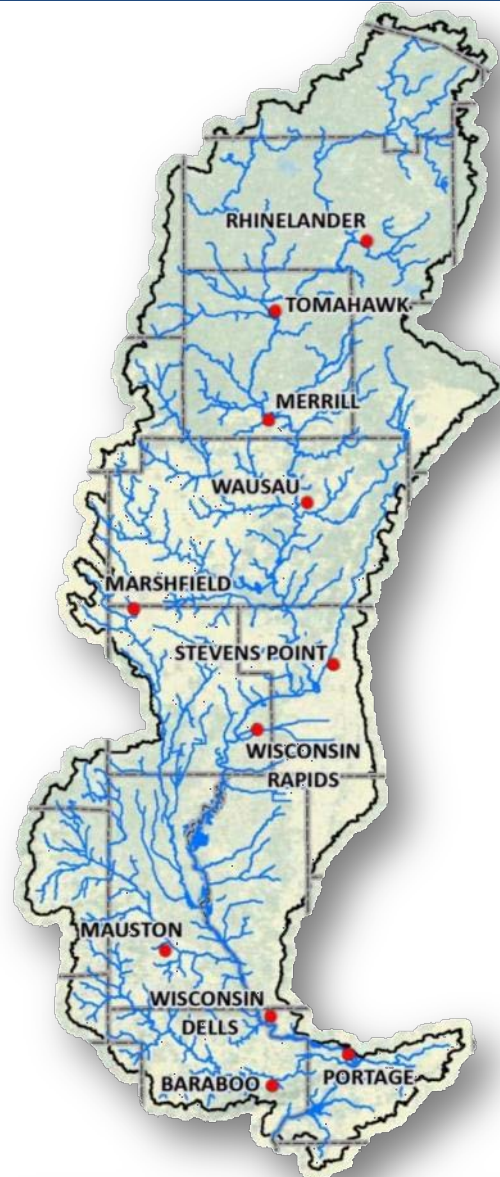
Ann Hirekatur, TMDL Project Manager

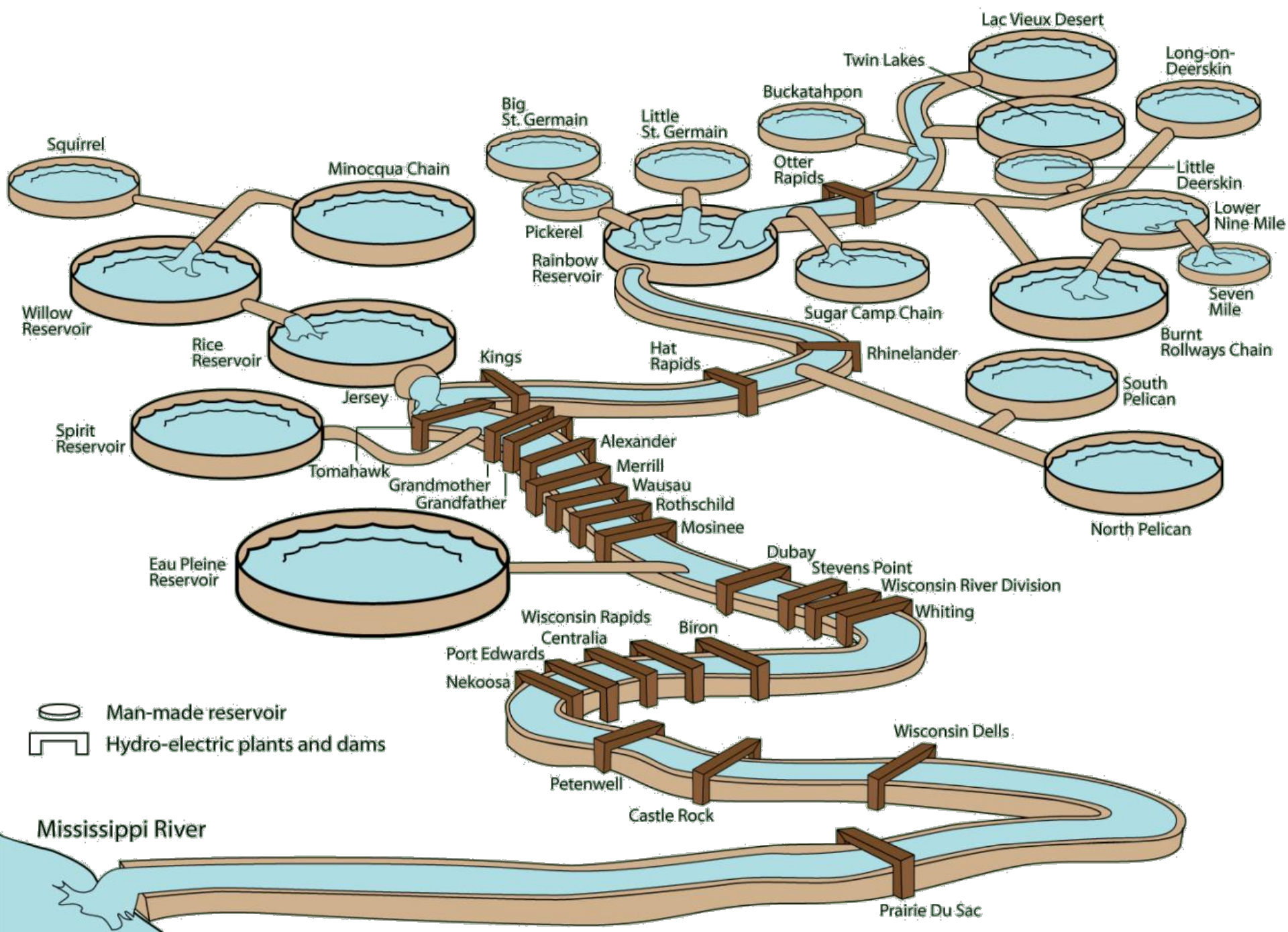
Susan Sandford, TMDL Implementation Planner/Coordinator



Wisconsin River Basin Water Quality Improvement Project

The Wisconsin River Basin (WRB) Water Quality Improvement Project





**Castle
Rock**



**Lake
Wisconsin**

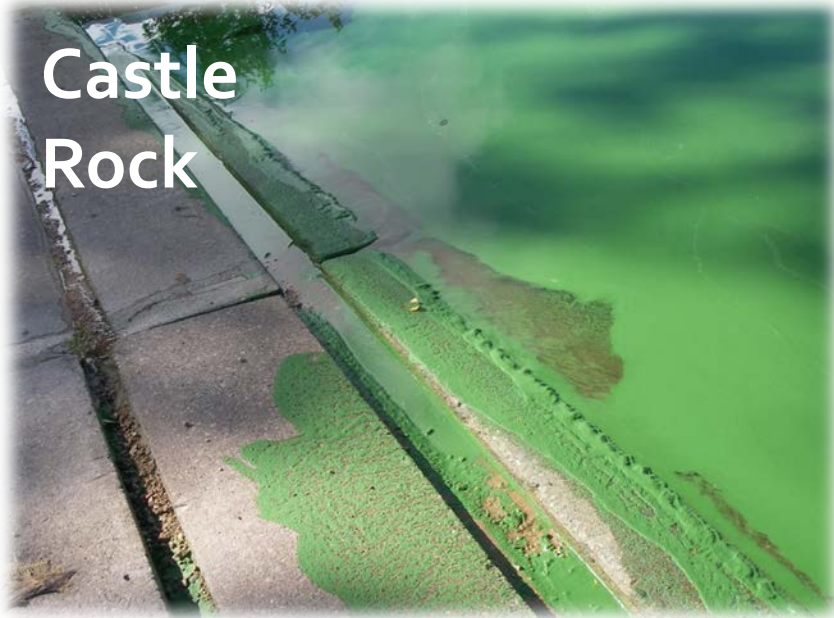


**Lake
DuBay**



Petenwell







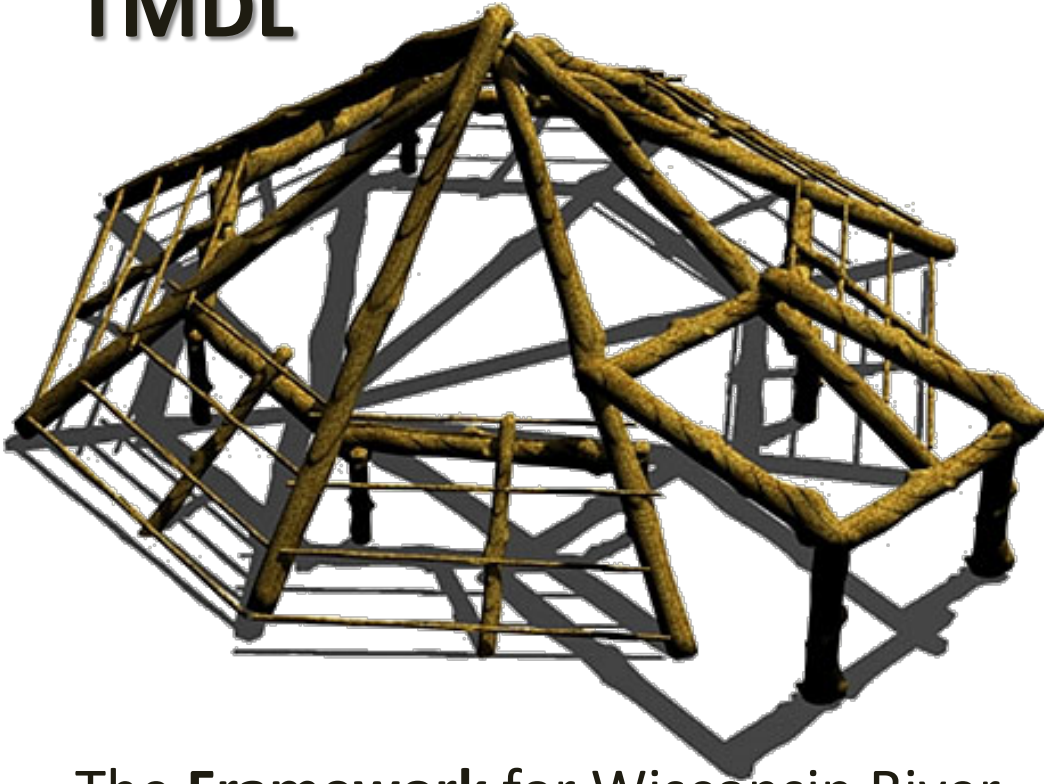
Phosphorus
Toxic algae blooms
Public health risks

Clean Water
Fish & Wildlife
Recreation



Project Framework = Total Maximum Daily Load

TMDL



The **Framework** for Wisconsin River Basin Water Quality Improvement Project

A TMDL answers the following questions:

- How much is the existing pollutant load? What is the contribution from each source?
- How much does pollution need to be reduced in order for waterways to achieve water quality standards?
- How will the pollutant load reductions be achieved?



WRB Total Maximum Daily Load (TMDL)

Each subwatershed is assessed for:



Load Allocation

- Runoff from the landscape



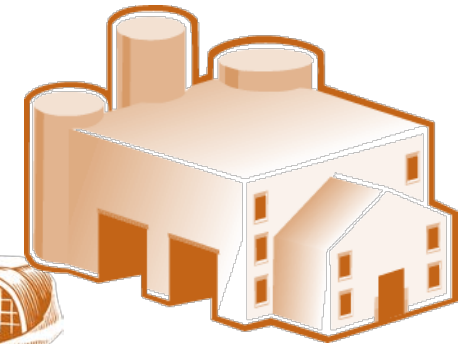
Background Load

- Naturally occurring from wetlands, forests



Waste Load Allocation

- Municipal Wastewater
- Industrial Wastewater
- Permitted Municipal Storm Sewer Systems
- CAFO Production Areas



TMDL

Load
Allocation

+

Waste Load
Allocation

+

Margin of
Safety

Why develop a TMDL?



Baseline
Pollutant
Load



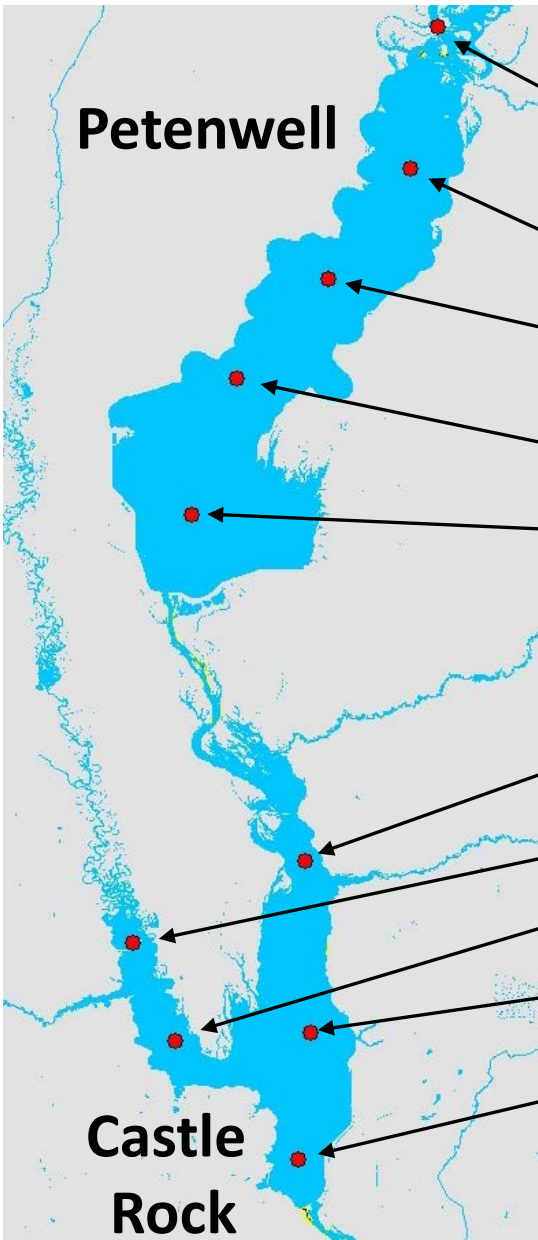
Does not
meet water
quality standards

Total
Maximum
Daily
Load

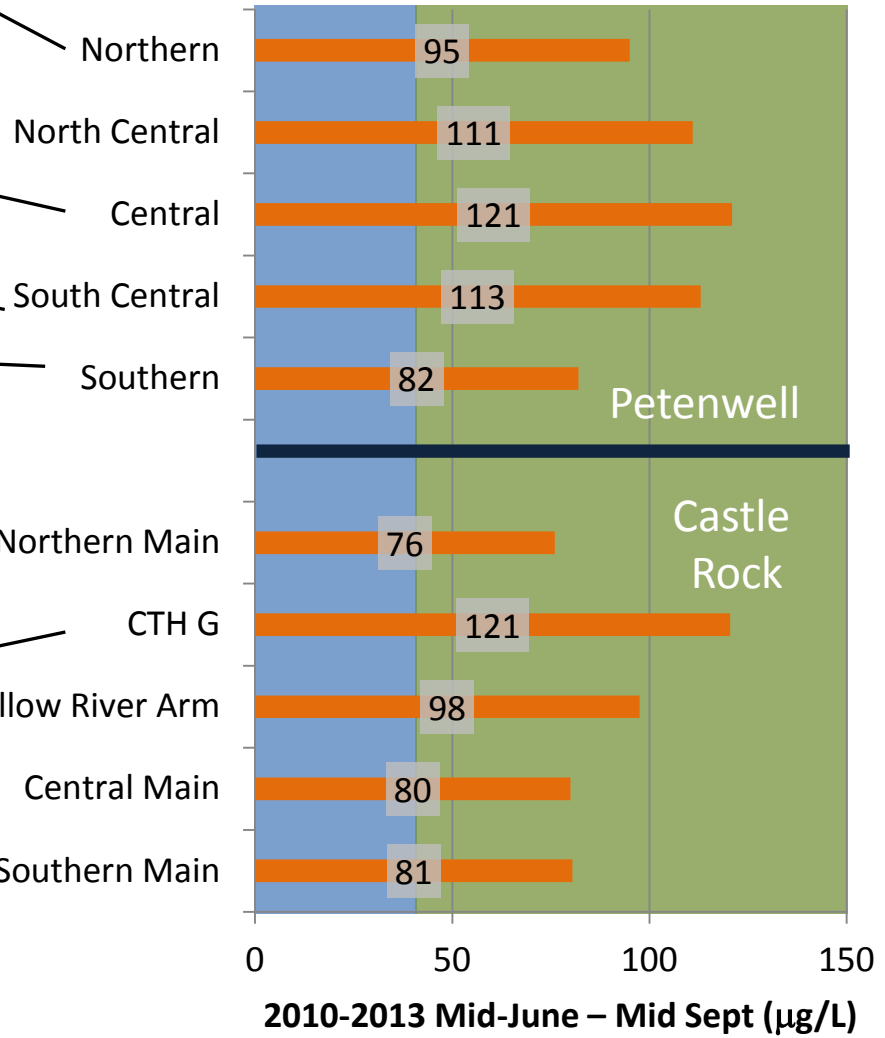


Meets water
quality standards

Major Reservoir Monitoring Results



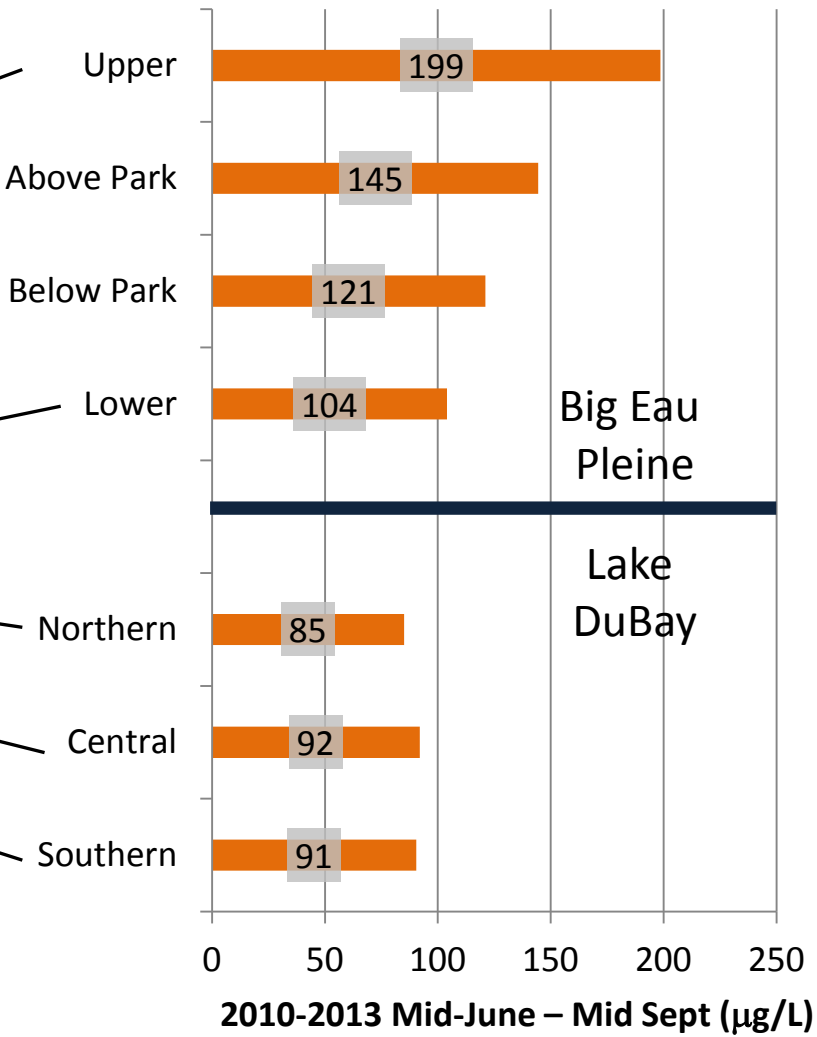
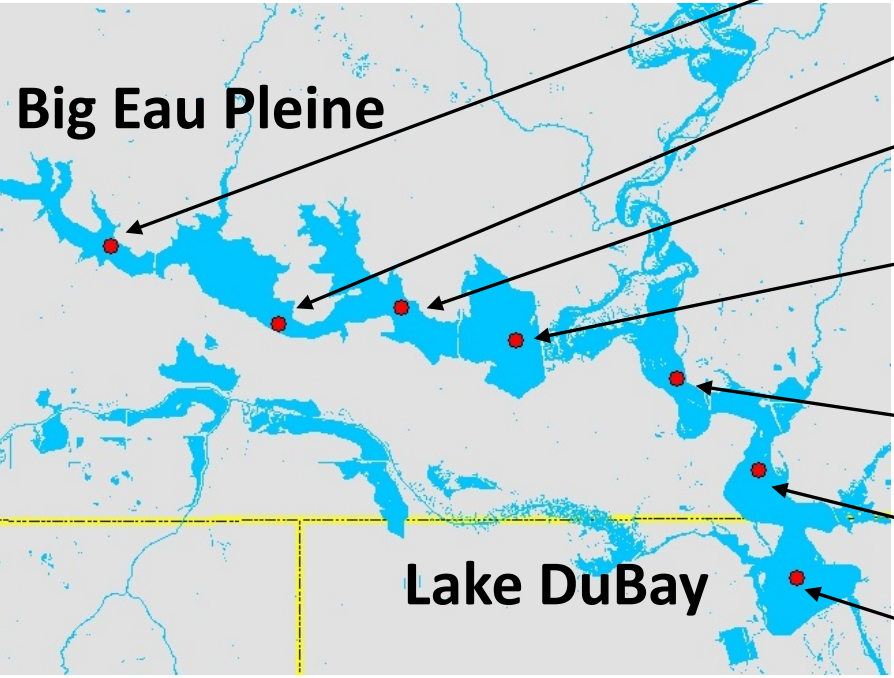
Total Phosphorus Concentration



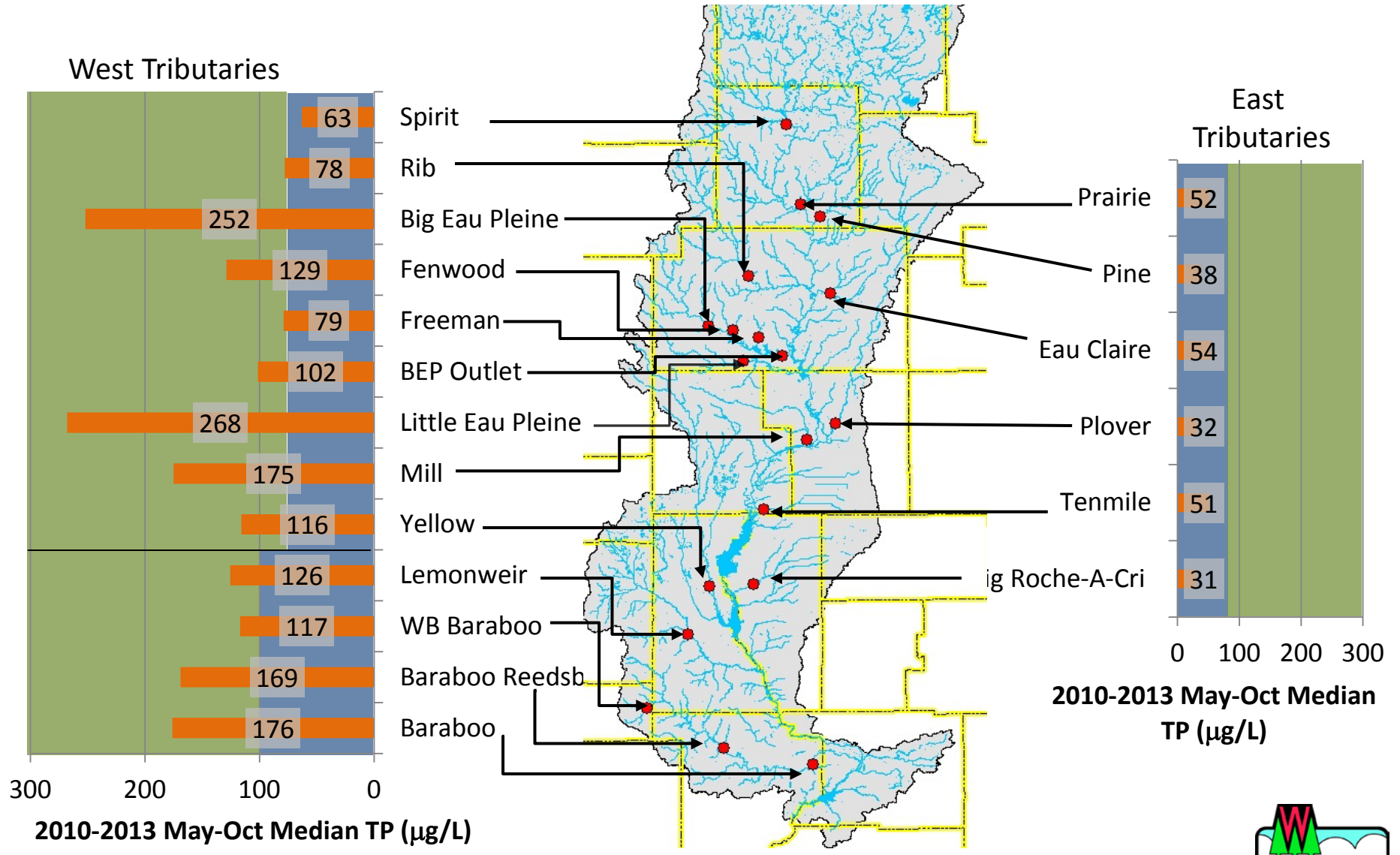
2010-2013 Mid-June – Mid Sept (µg/L)

Major Reservoir Monitoring Results

Total Phosphorus Concentration



Tributary Monitoring Results – Total P Concentration

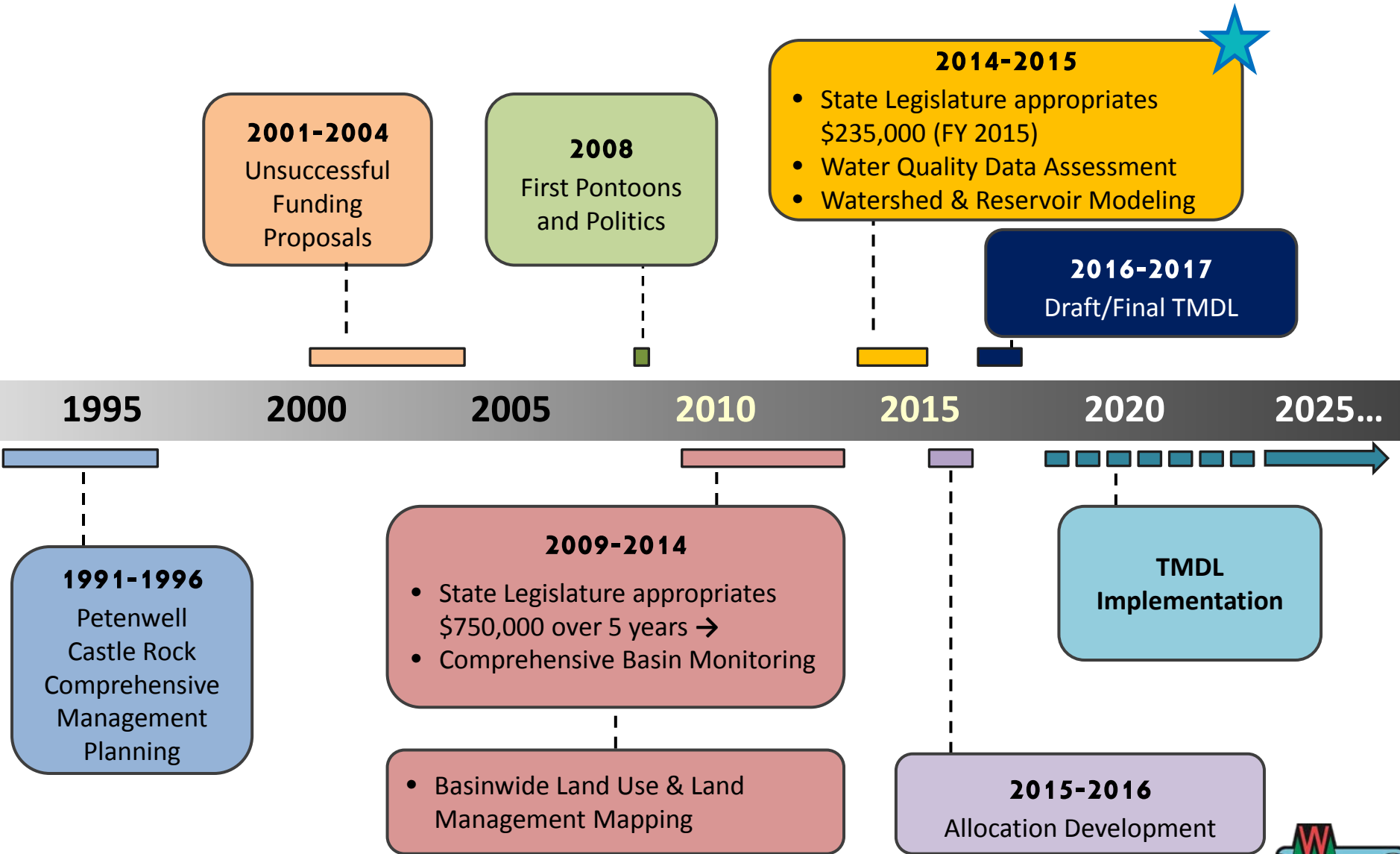


2010-2013 May-Oct Median TP (µg/L)



Where we're at and where we're going

Estimated TMDL Development Timeline (as of July 2015)



TMDL Allocations & Implementation



**Industrial Wastewater
Municipal Wastewater
Urban Stormwater**



**Rural/Agricultural
Nonpoint Source**

Nonpoint Source Implementation

Entire TMDL Watershed

- NR 151 performance Standards
- Land and Water Plan

Prioritize Subwatersheds

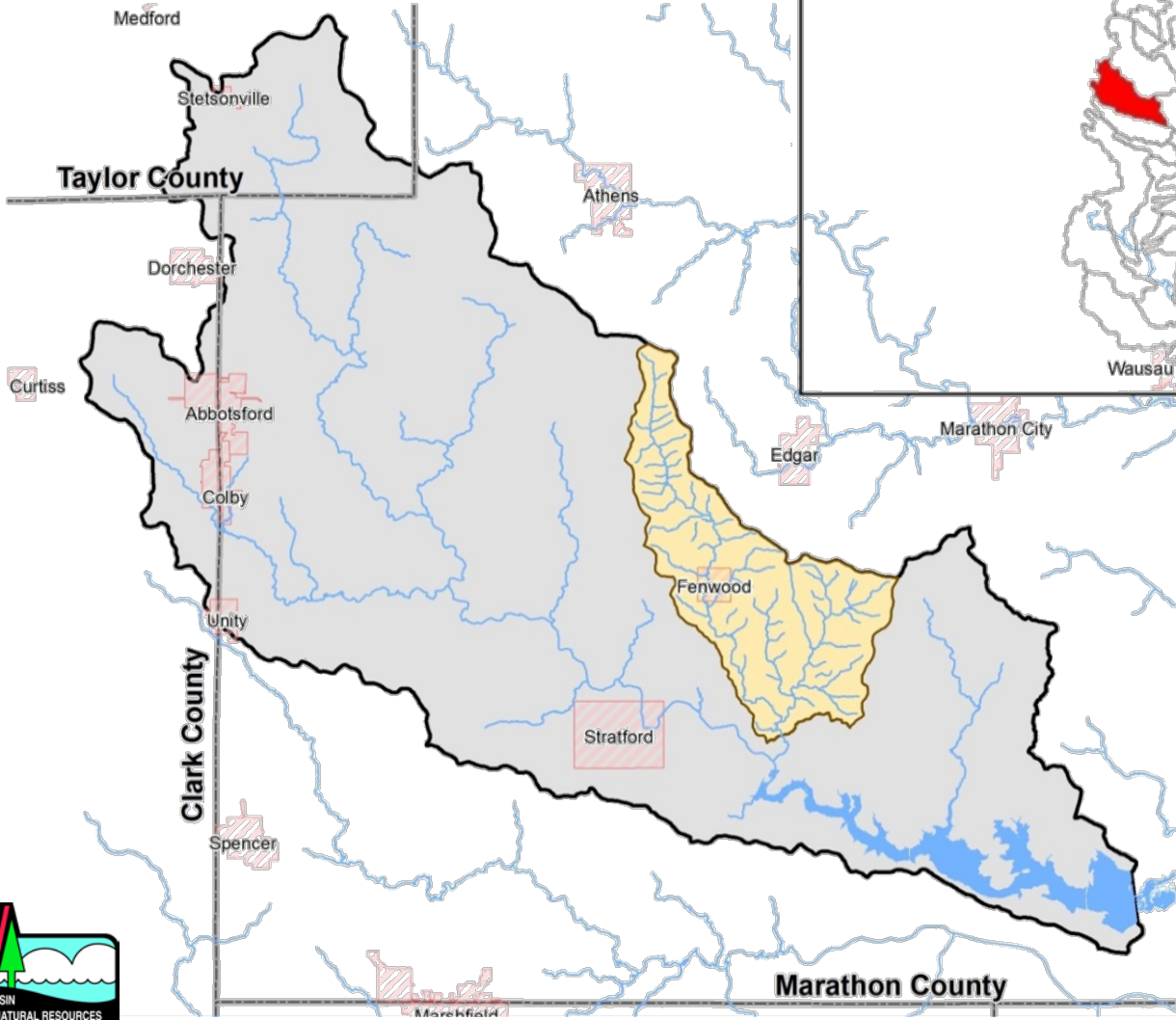
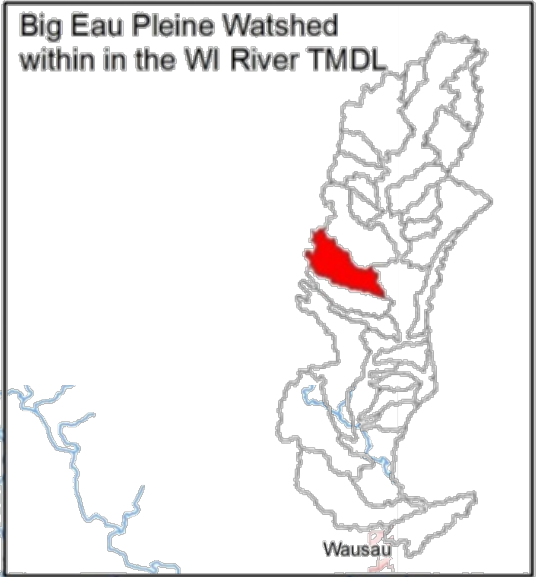
- ✓ Highest P loads
- ✓ Greatest potential to achieve load reductions

Priority TMDL Sub-Watersheds

- Water quality practices beyond NR 151
- Consider
 - 9-key element plan
 - Local farmer-led initiatives

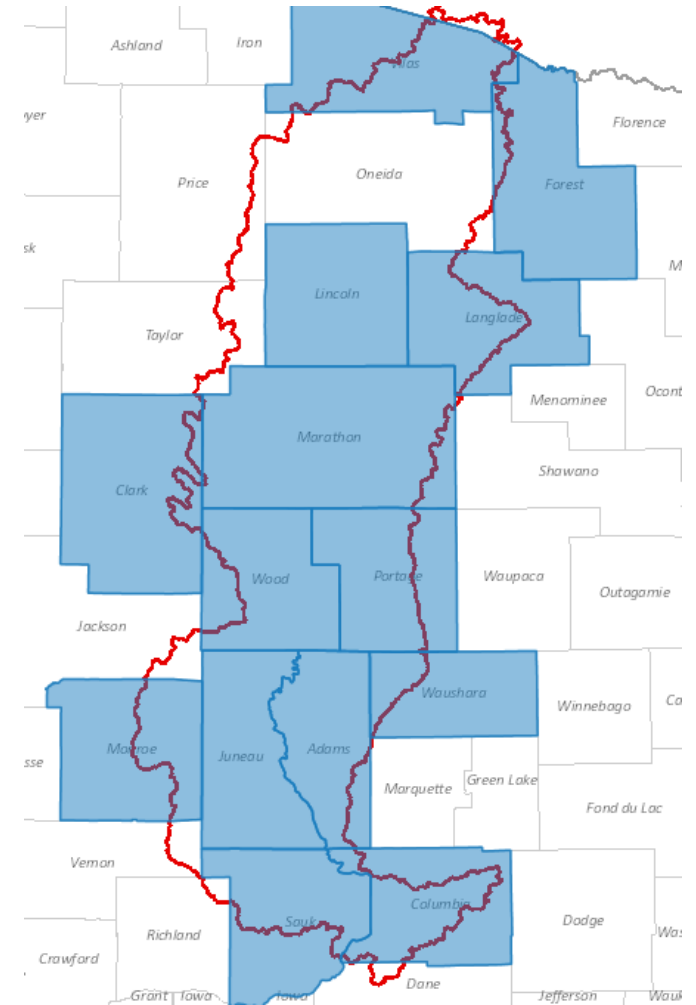
Fenwood Creek Watershed 9-Key Element Plan

Fenwood Creek
Location within the
Big Eau Pleine Watershed



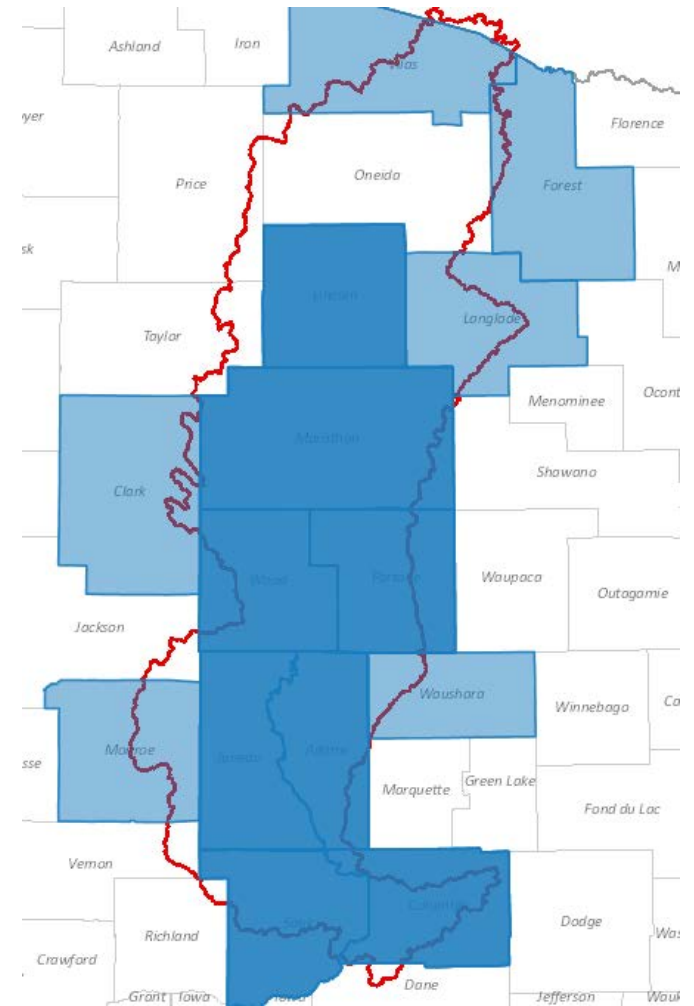
Nonpoint Source Stakeholder Engagement

- January 2015 meeting

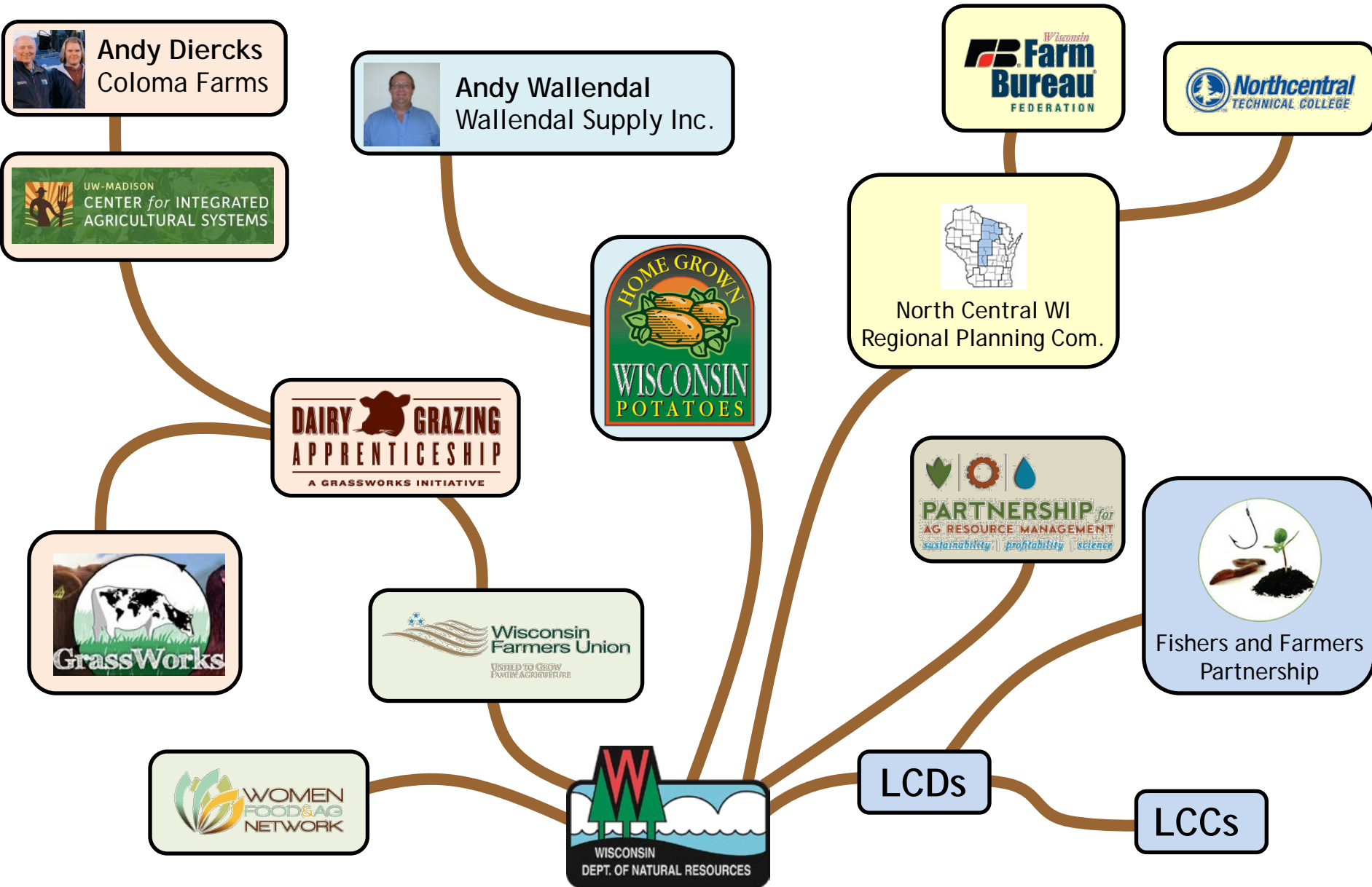


Nonpoint Source Stakeholder Engagement

- Follow up meetings with Land Conservation Departments



Nonpoint Source Stakeholder Engagement



What's in a 9-Key Element Plan?

- 1 Identify the causes and sources** that need to be controlled to achieve pollutant load reductions. This includes quantifying significant sources and background levels using maps and tables.
- 2 Estimate the load reductions** expected from selected management measures.
- 3 Describe management measures** that need to be implemented to achieve load reductions. Map priority areas for practices.
- 4 Estimate amounts of technical and financial assistance needed**, associated costs, and/or the sources and authorities that will be relied upon, to implement the plan.
- 5 Develop an information & education component** to encourage participation and plan implementation.
- 6 Develop a schedule** for implementing the management measures identified in the plan.
- 7 Describe interim, measurable milestones** to assess if the plan is being implemented.
- 8 Identify a set of criteria** to determine whether plan objectives are or are not being achieved over time. Outline how and when the plan will be revised if progress is not being made.
- 9 Develop a monitoring component** to evaluate the effectiveness of the implementation efforts over time using criteria from elements 6, 7 and 8.

4 Myths about land and water management plans and the 9 key elements...

Myth 1: 9 key element plans must be massive documents.

Fact:

- Nine key element plans **do not need to be massive, long documents.**
- Much of the required information can be pulled from **readily available sources**, such as county land and water plans, TMDLs, ordinances, grants, and habitat and water quality monitoring data.



4 Myths about land and water management plans and the 9 key elements...

Myth 2: 9 key element plans must cover the entire county.

Fact:

- 9 key element plans **do not need to cover the entire county.**
- The DNR recommends identifying one or more priority areas to develop a 9 key element plan (typically HUC-12 scale, approx. 35 square miles).
- The scale of nine key element plans should be determined based on available information, and available staff resources and funding within the selected area(s).



4 Myths about land and water management plans and the 9 key elements...

Myth 3: Element #9 will bog counties down with follow-up monitoring.

Fact: The monitoring component (element #9) of the plan can be met, at a minimum, by tracking if the plan schedule and milestones (elements #6 and #7) are implemented over time. Monitoring can also be accomplished using water quality sampling, computer modeling and tallying the number of practices (and corresponding pollutant load reductions) implemented in specific areas.

Monitoring should be a team effort at the state and local level, and will be implemented as available resources allow. **Counties are encouraged to include Regional DNR Water Quality Biologists in crafting and implementing a monitoring strategy for their plan(s).**



4 Myths about land and water management plans and the 9 key elements...

Myth 4: County Land and Water Management Plans must contain the nine key elements and must be approved by the EPA.

Fact: Section ATCP 50.12, Wis. Adm. Code, was revised in 2014 and include changes to the Land and Water Resource Management (LWRM) plan content requirements. These revisions **DO NOT** require LWRM plans to meet the 9 key elements or to have EPA approval. However, many plan requirements are **consistent** with the nine key elements. Accordingly, when counties update their LWRM plans to meet ATCP 50.12, the county's plan may also meet the nine key elements within a specific watershed(s). ATCP 50 was revised to help counties use available and current WQ information from DNR for specific watersheds within their LWRM plan as well as help develop a LWRM plan that is consistent with the nine key elements to become eligible for Section 319 and other EPA grant funding, such as the Great Lakes Restoration Initiative (GLRI) funds.

For More Information



Wisconsin River Basin
Clean Waterways Project

November 2014

Updates on the Wisconsin River TMDL and water quality improvement efforts.

Water quality efforts underway

A Total Maximum Daily Load (TMDL) is the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. A waterway that exceeds water quality standards is often no longer suitable for its designated uses, such as wildlife habitat, fishing, or other recreational activities. The ultimate goal of a TMDL is to improve water quality by reducing pollutants such as phosphorus and sediment.

How did we get a TMDL in the Wisconsin River Basin?

In 2008, the Petenwell and Castle Rock Stewards—a group of local residents and business owners who depend on the Wisconsin River, its reservoirs and tributaries for recreation and for their livelihood—took area legislators out on pontoon boats on Petenwell and Castle Rock Reservoirs. After these elected officials observed the water quality problems firsthand, the state Legislature allocated funding for a water quality improvement project and directed the Wisconsin Department of Natural Resources to develop a [TMDL project for the WI River](#).

Stay up to date!

A TMDL requires several years of monitoring data to determine where the pollutants are coming from. This data is combined with computer models to determine how reductions can be made fairly and in the most cost-effective way possible. Through this newsletter, the Wisconsin River TMDL team is working to communicate progress on the different stages of TMDL development and invite public feedback. This quarterly newsletter also highlights information, tools and resources available to help with conservation efforts in the state.

 [Subscribe](#) to receive email updates about the Wisconsin River TMDL.

Created by Susan Sandford—Wisconsin Department of Natural Resources Bureau of Water Quality

IN THIS ISSUE



Mapping the land in the Wisconsin River Basin

The Wisconsin DNR is using an innovative approach to create high quality spatial datasets and maps that will help to prioritize areas for conservation and achieve water quality improvements.

[Page 2](#)



EVAAL
Erosion Vulnerability Assessment
for Agricultural Lands

EVAAL: A new tool for precision conservation

The DNR has developed a new toolset to assist watershed managers in prioritizing areas within a watershed that may be vulnerable to water erosion (and thus increased nutrient inputs) and thus may contribute to downstream surface water quality problems.

[Page 4](#)



- Initial invite sent to 281
- Currently **850+** subscribers

Quarterly Newsletter



Questions?

