WISCONSIN RIVER TMDL

Presentation for North Central Wisconsin Stormwater Coalition

July 25, 2013

Wisconsin River TMDL

- How did we get here?
- What has already been done?
- How will the TMDL impact municipal stormwater?

Wisconsin River TMDL

- **How did we get a TMDL?**
- What has already been done?
- How will the TMDL impact municipal stormwater?

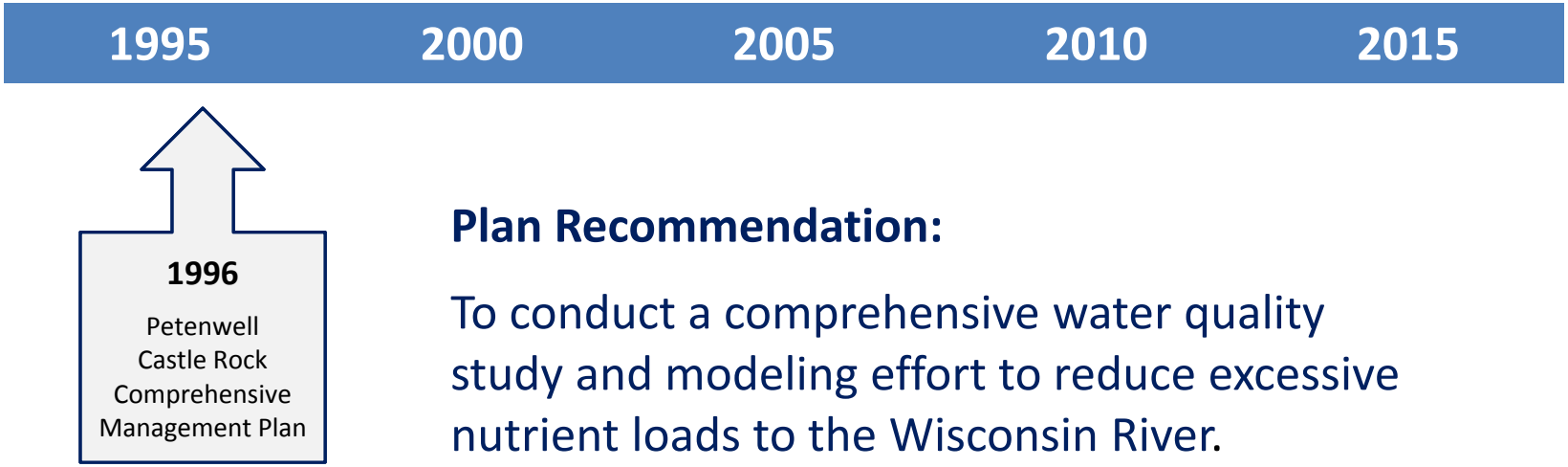
Reservoir Water Quality Impairments

- Impoundments are an ideal setting for algae growth
- Water from a large upstream drainage areas are slowed and warmed behind the dams.
- The water carries high levels of phosphorus, which is a primary food source for algae.

Algae Bloom Petenwell

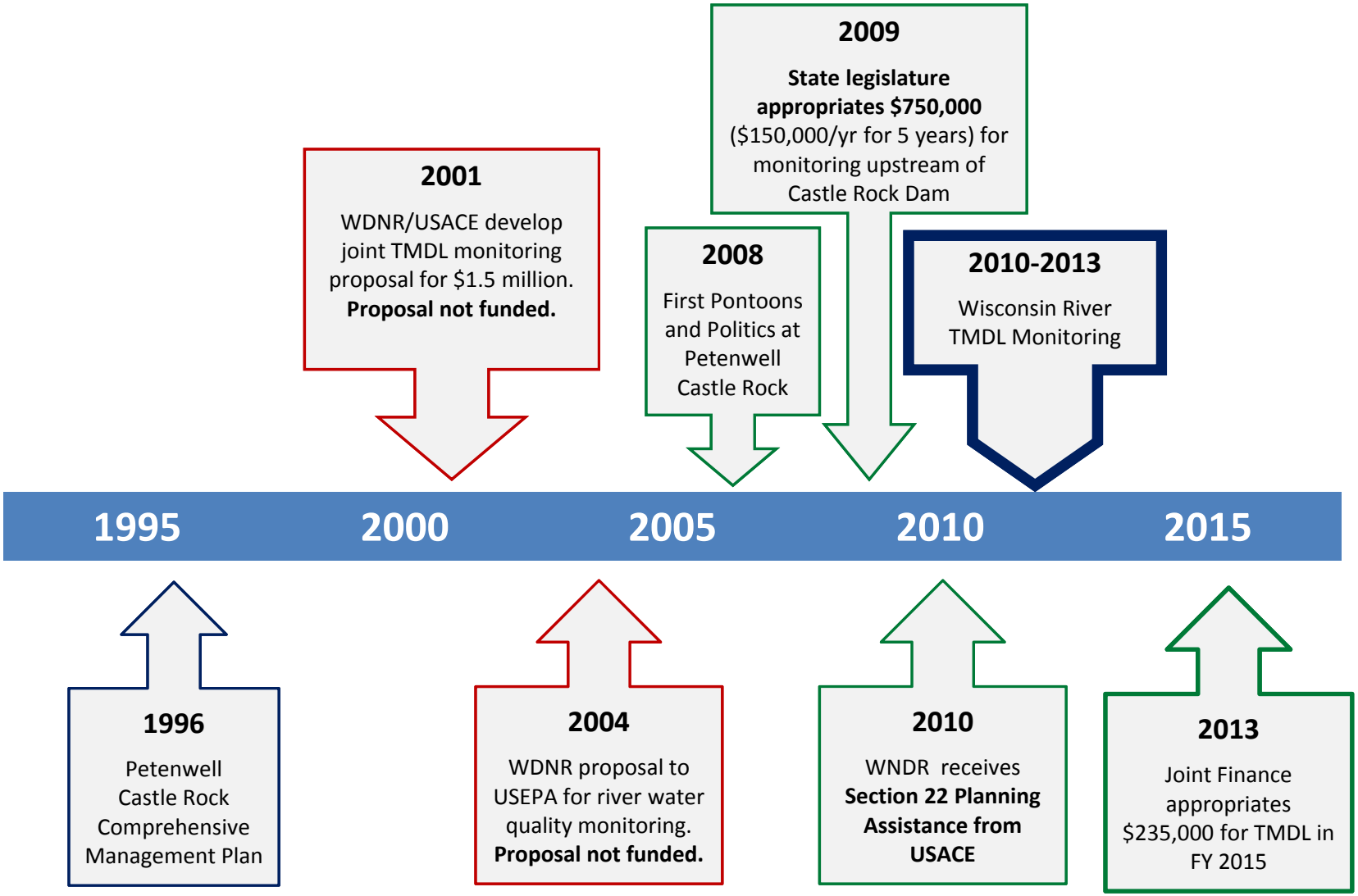
Wisconsin River TMDL

Why Now?

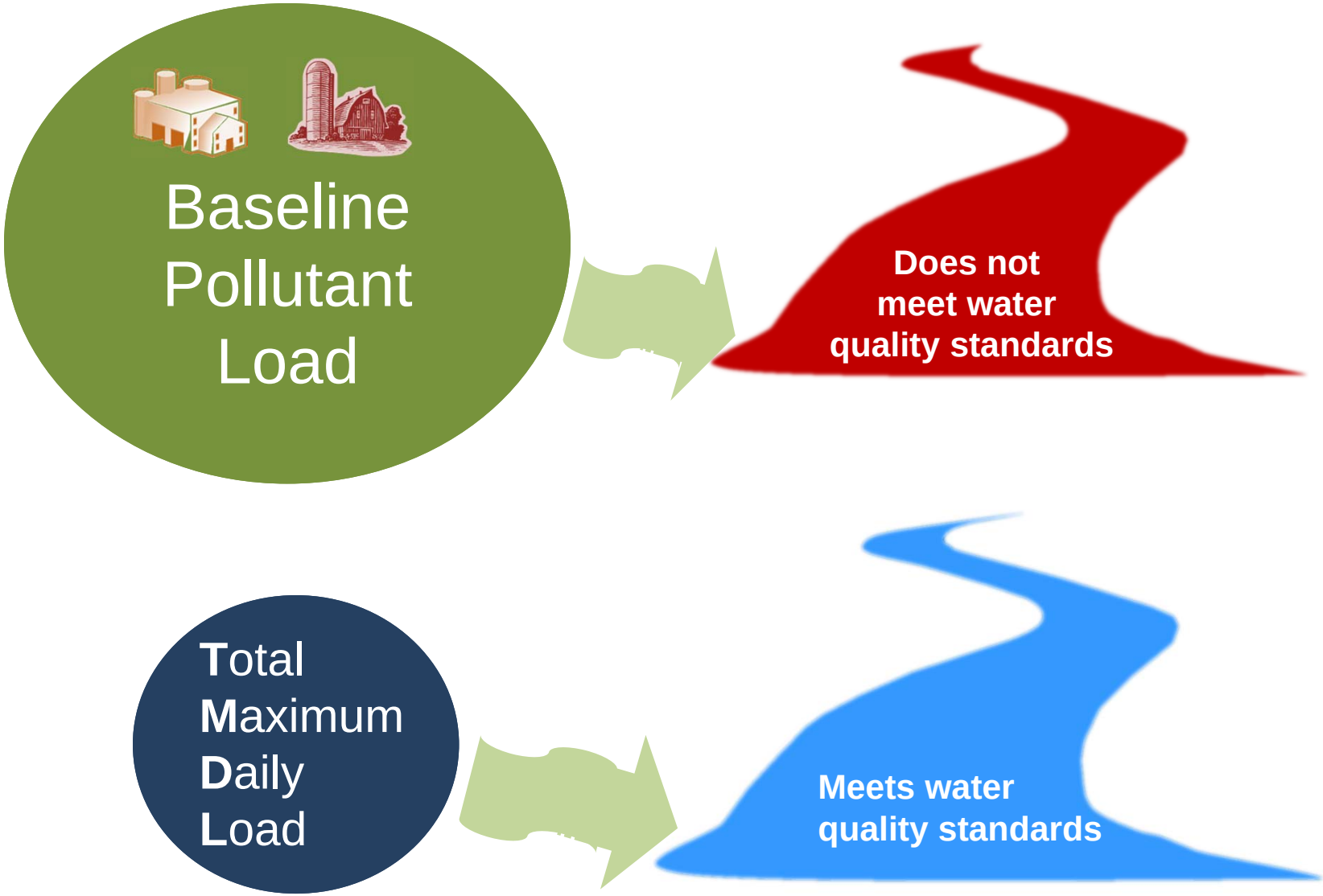


Plan Recommendation:

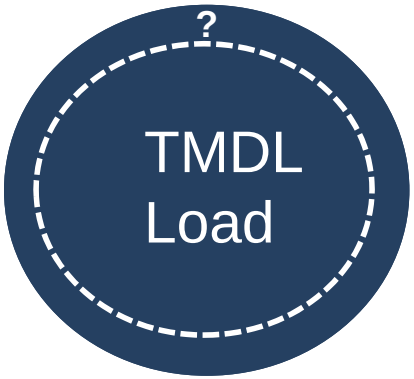
To conduct a comprehensive water quality study and modeling effort to reduce excessive nutrient loads to the Wisconsin River.


2009
State legislature appropriates $750,000 ($150,000/yr for 5 years) for monitoring upstream of Castle Rock Dam
2001
WDNR/USACE develop joint TMDL monitoring proposal for $1.5 million. Proposal not funded.
2008
First Pontoons and Politics at Petenwell Castle Rock
2010-2013
Wisconsin River TMDL Monitoring
1995
2000
2005
2010
2015
1996
Petenwell Castle Rock Comprehensive Management Plan
2004
WDNR proposal to USEPA for river water quality monitoring. Proposal not funded.
2010
WNDR receives Section 22 Planning Assistance from USACE
2013
Joint Finance appropriates $235,000 for TMDL in FY 2015

Why develop a TMDL?



Developing a TMDL



What is the magnitude of the
Total **M**aximum **D**aily **L**oad ?

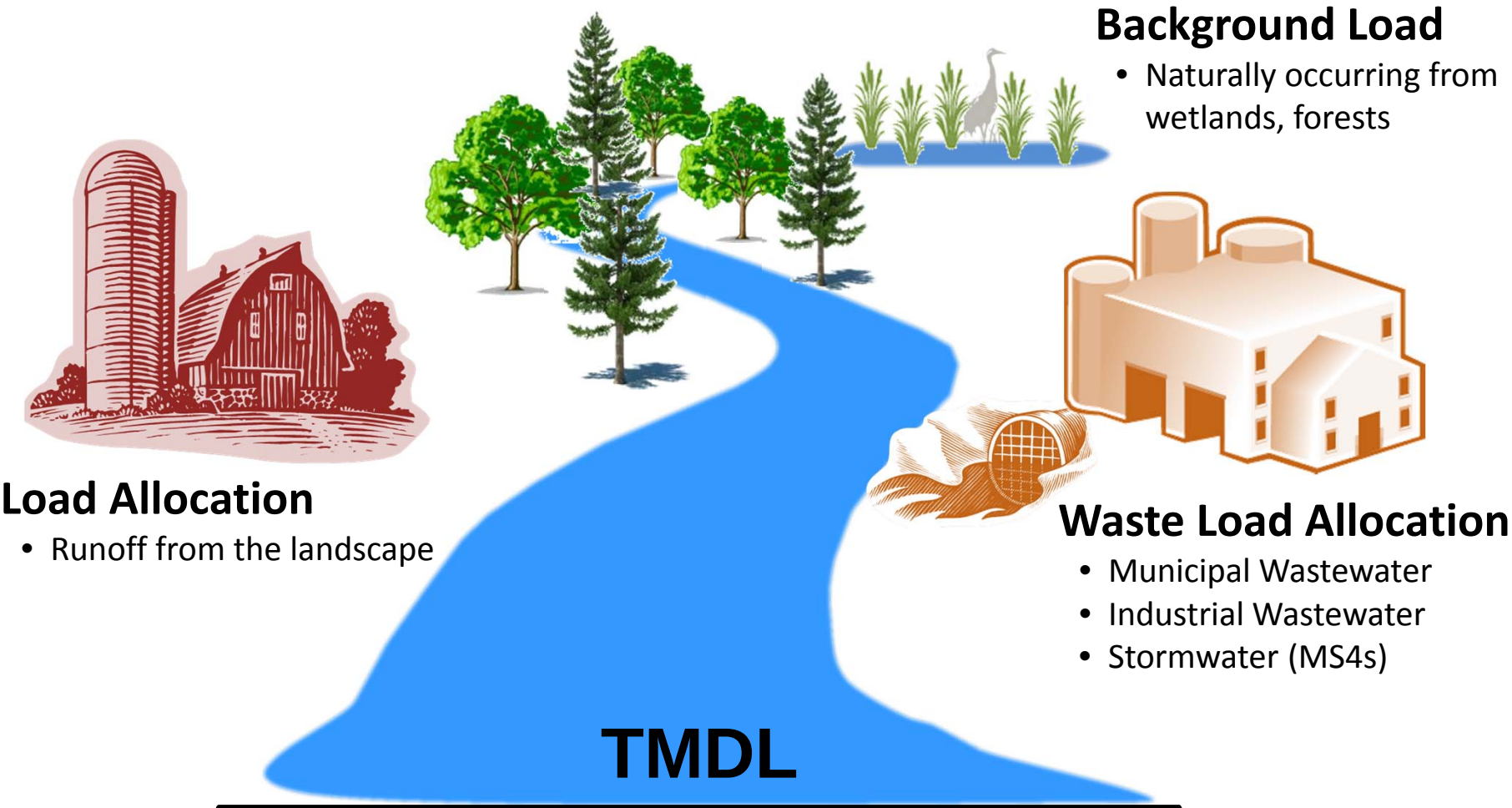
Developing a TMDL

Baseline Pollutant Load

How will the TMDL be apportioned among loading sources?

WRB Total Maximum Daily Load (TMDL)

Each subwatershed is assessed for:



Load Allocation + Waste Load Allocation + Margin of Safety

WISCONSIN DEPT. OF NATURAL RESOURCES

Wisconsin River TMDL

- How did we get here?
- **What has been done?**
- How will the TMDL impact municipal stormwater?

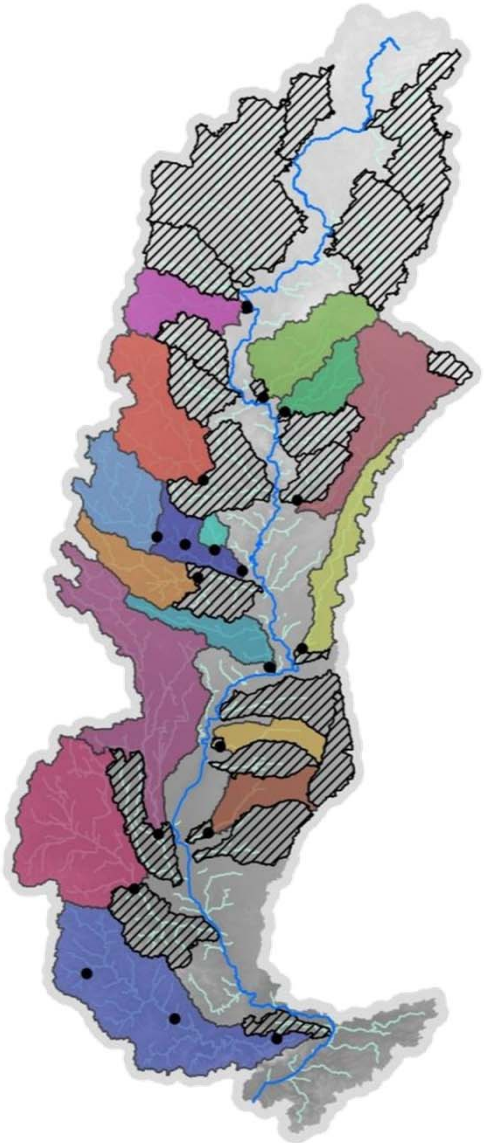
TMDL Development - Monitoring (2009-2013)

What are the measured flows, and pollutant concentration/loads:

- Entering from tributaries?
- On the main stem of the river?

What are the measured reservoir conditions in response to loads/flows?

TMDL Development – Monitoring (2009-2013)



Tributary Watershed Loads

19 stations with daily discharge & bi-monthly water quality

Main stem Loads

13 stations with daily discharge & bi-monthly water quality

Phosphorus Evaluation Sites

98 stations with monthly P samples

Reservoirs

5 major reservoirs

Big Eau Pleine, Lake Dubay, Petenwell, Castle Rock & Lake Wisconsin

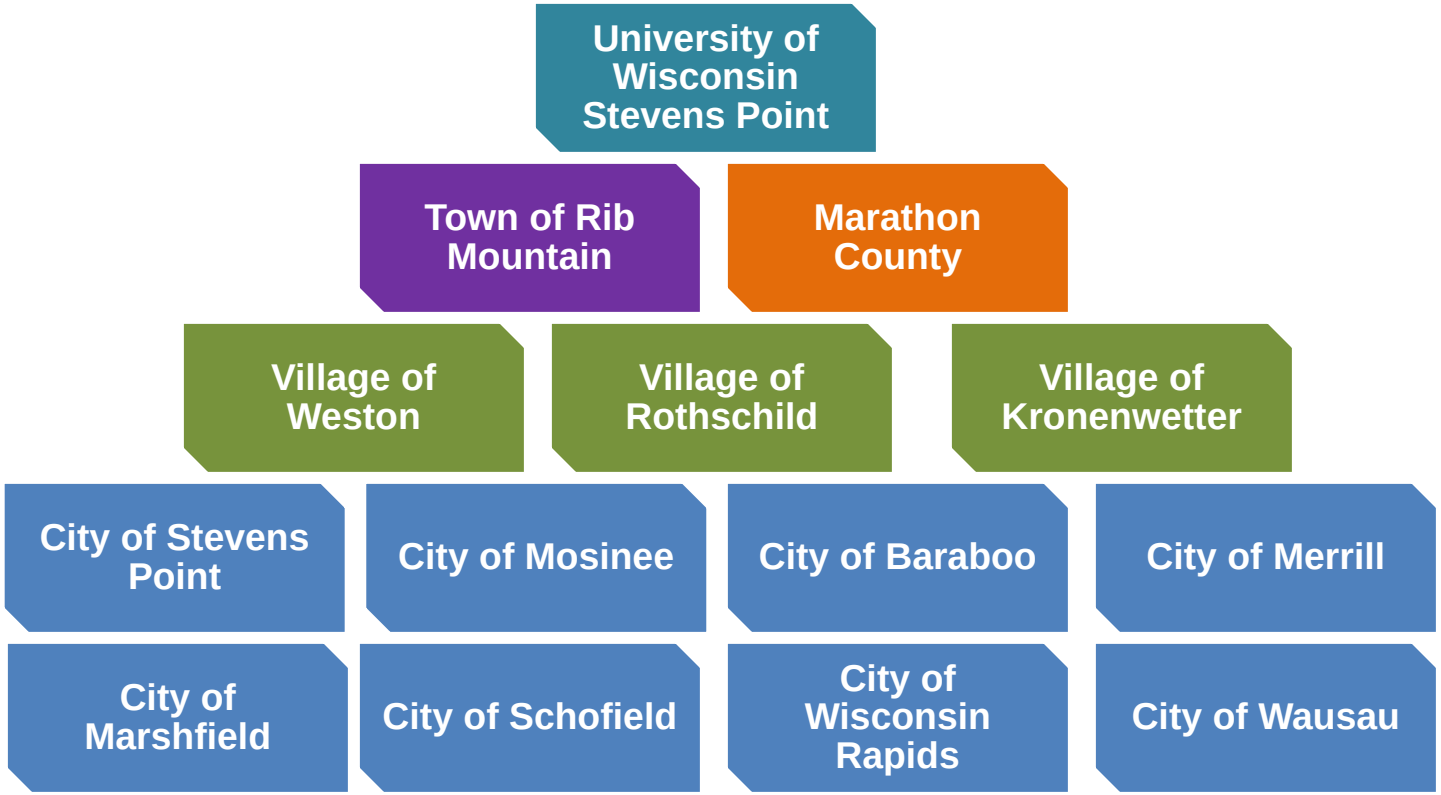
Wisconsin River TMDL

- How did we get here?
- Where are we going?
- **How will the TMDL impact municipal stormwater?**

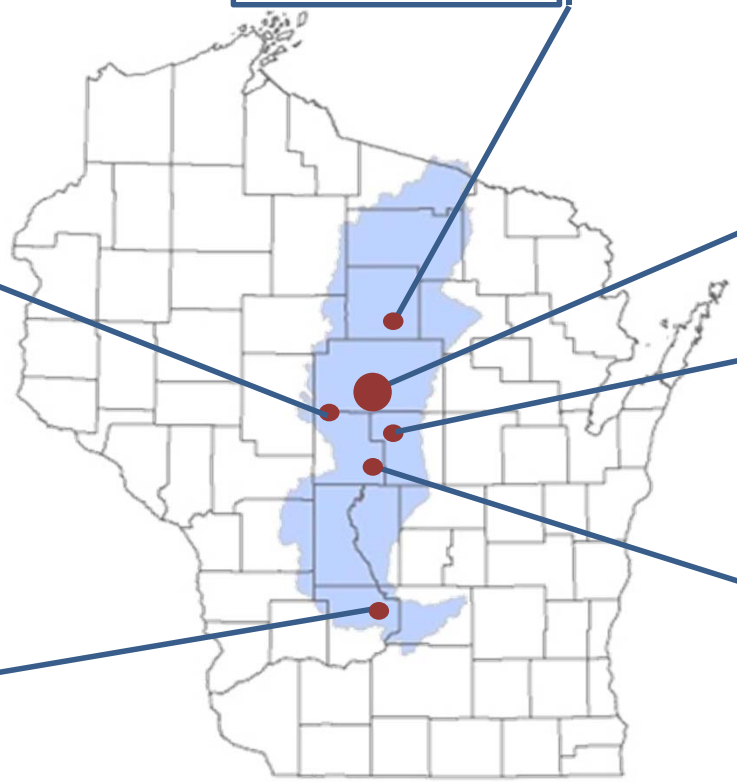
Wisconsin River TMDL

- How did we get here?
- Where are we going?
- **How will the TMDL impact municipal stormwater?**
  - **Permitted MS4s**
  - **TMDL Development**
  - **TMDL Implementation**

MS4s with Permit Coverage in TMDL Basin



MS4s with Permit Coverage in TMDL Basin



City of Merrill

City of Marshfield

City of Baraboo

Wausau Area

- City of Wausau
- City of Schofield
- City of Mosinee
- Village of Weston
- Village of Rothschild
- Village of Kronenwetter
- Marathon County
- Town of Rib Mountain

Stevens Point

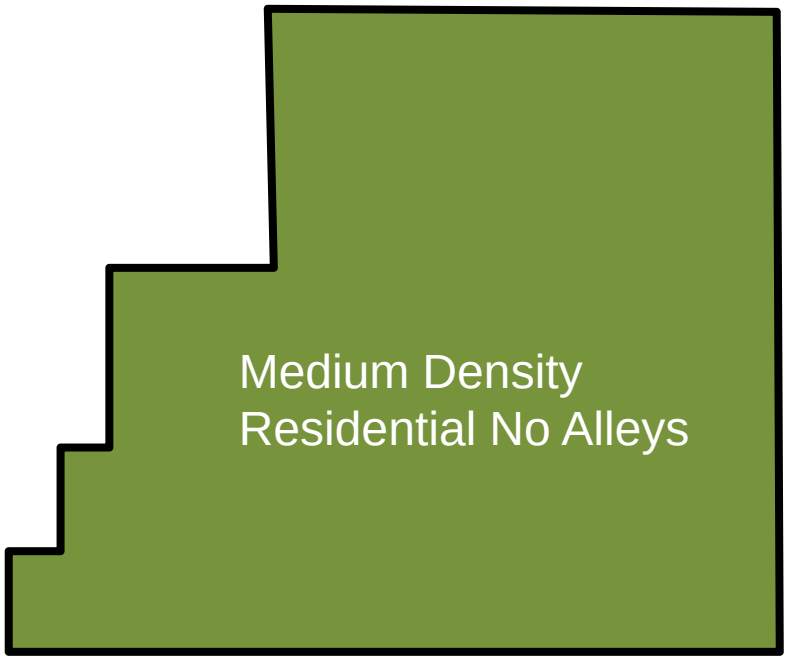
- City of Stevens Point
- UW-Stevens Point

City of Wisconsin Rapids

SLAMM Modeling for TMDL

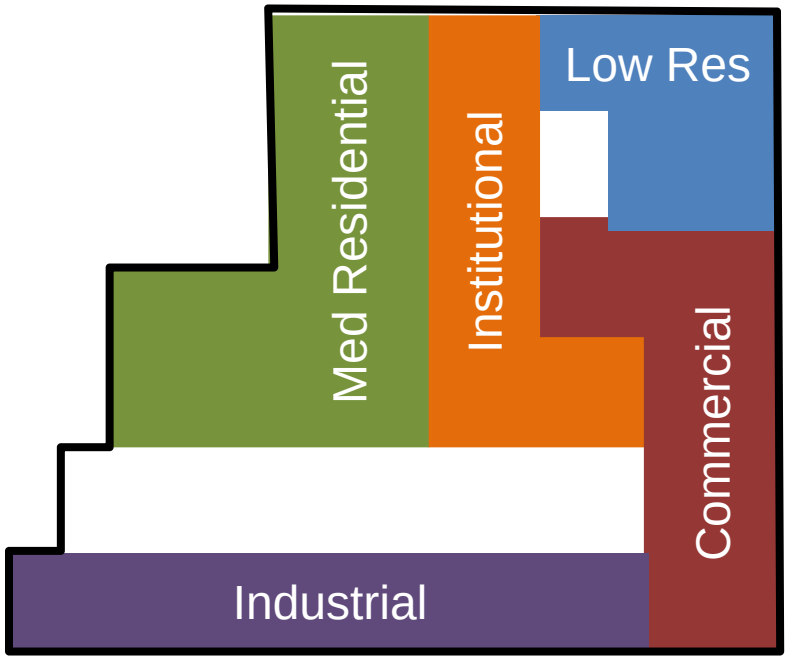
TMDL Development

Per-unit-area load approach

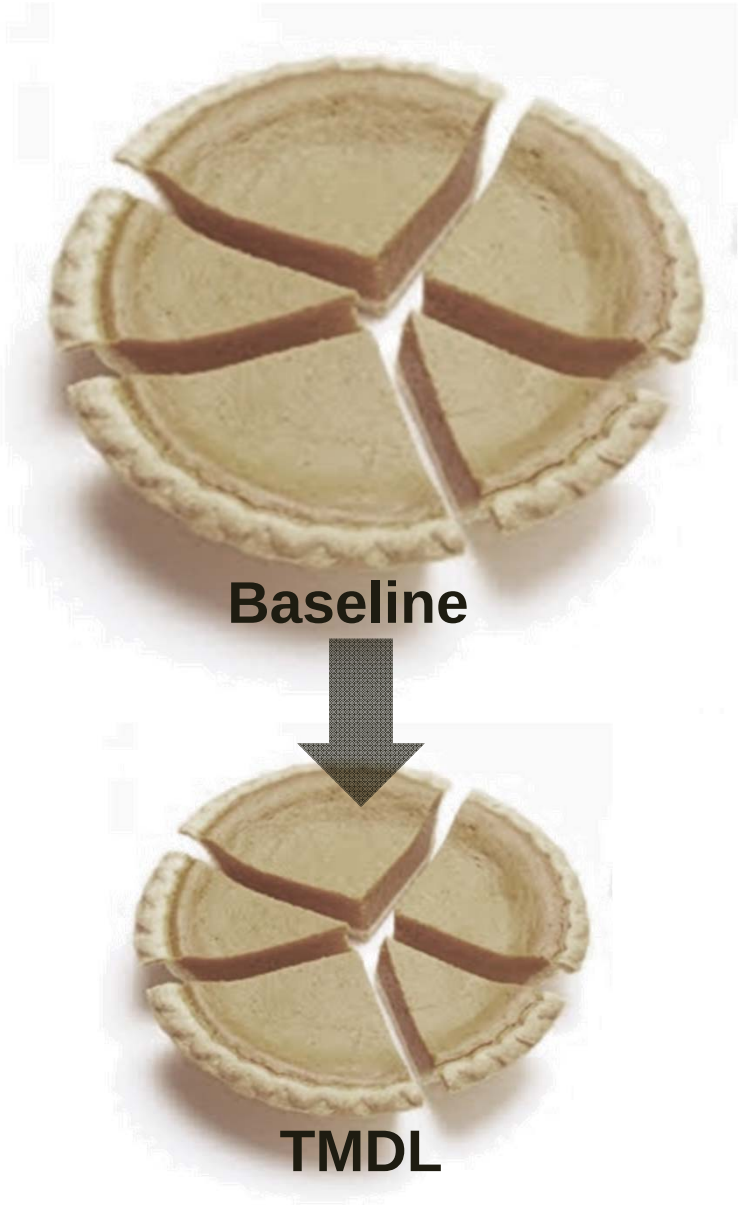


TMDL Implementation

Detailed Approach



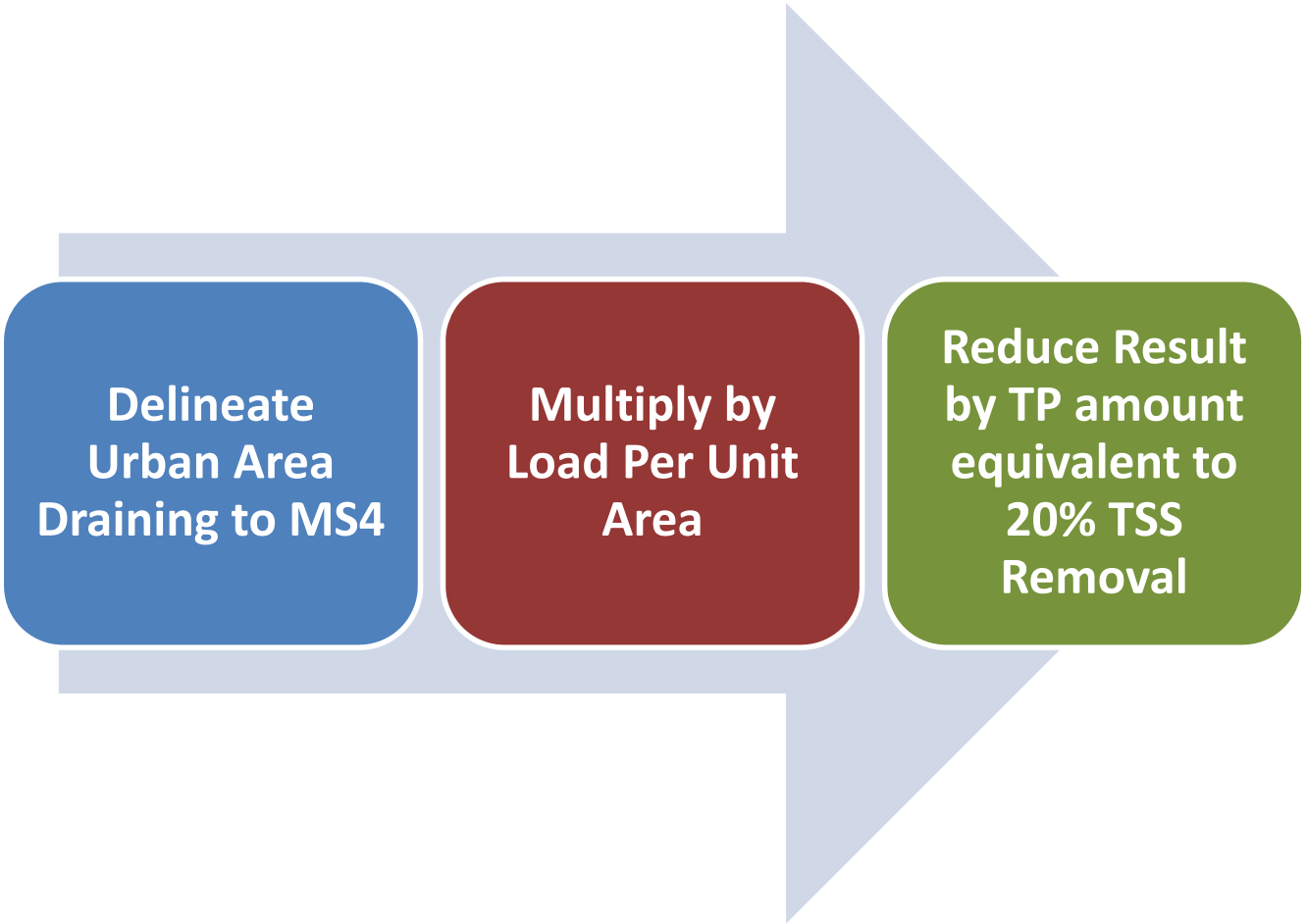
How will TMDL allocations be developed?



Proportional Allocation Method

- Proportional allocation method is developed from **baseline conditions**
- **Baseline Conditions** reflect current regulatory requirements.
- The TMDL load for each reach is divided proportionally according to each source's baseline load contribution

How will baseline loads be calculated for permitted MS4s?



How will stormwater waste load allocations be incorporated into WPDES Permits?

The WLA must be expressed in the permit and must be consistent with the TMDL.

- ~~WLA expressed as a daily or monthly mass allocation.~~
- Stormwater WLA will likely to be expressed as a percent reduction, as compared to no controls.
- WLA can be implemented on an average annual basis by MS4s.
- WLAs will be reach-specific, thus may vary within MS4 limits.
- MS4s allowed to do water quality trading

What is Compliance Schedule for MS4s?

1st WPDES Permit after TMDL Completion

- Evaluate facilities
- Assess compliance options

2nd WPDES Permit after TMDL Completion and Beyond

- Extended timeline to achieve TMDL waste load compliance.

When can MS4s get Adaptive Management Credit?

MS4s can only do adaptive management if they get brought in by a traditional point source.

- Must be in a TMDL watershed
- Must have TP load reduction goals
- Cannot be used to meet the 20% TSS control requirement of s. NR 151.13
- Must work with a municipal or industrial discharger towards a joint adaptive management project
- Only practices within the same TMDL reach or potentially in an upstream reach of the MS4 count towards compliance

Who do I contact?

WCR - Baldwin

Bob Baczynski
WCR Runoff Supervisor

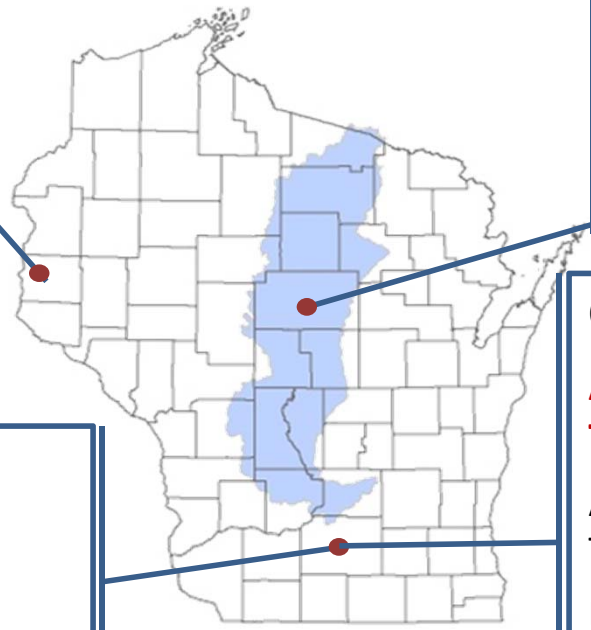
WCR- Wausau

Eric Donaldson
Wastewater Sector Lead

Terry Kafka
Nonpoint Source Sector Lead

Brad Johnson
TMDL Stormwater Sector Lead

Doug Casina
CAFO Sector Lead



SCR - Fitchburg

Andy Morton
SCR Runoff Supervisor

Eric Rortvedt
Statewide TMDL Stormwater Guidance

Laura Bub
SCR MS4 Compliance

Central Office - Madison

Ann Hirekatur
TMDL Project Manager

Adam Freihoefer
TMDL Modeling Lead

Kevin Kirsch
Statewide TMDL Policy Coordinator
TMDL Stormwater Guidance Team

Jim Bertolacini
MS4 Permits Statewide

Mary Anne Lowndes
Runoff Section Chief

Wisconsin River TMDL Technical Stakeholder Group

Group Charge: Review detailed technical scopes and participate in technical discussions on the following:

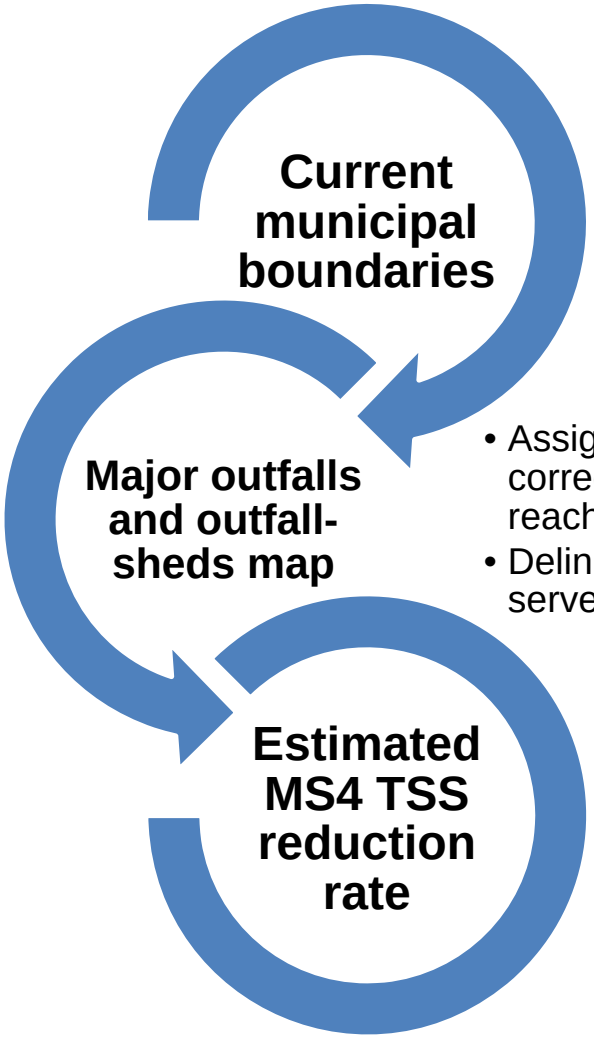
Scope of Discussion:

- Monitoring Data
- SWAT Modeling Scope
  - NPS Data Collection
  - PS Data Collection
  - Reach Delineation
  - Model setup, calibration, validation, etc
- SLAMM Modeling Scope
- Reservoir Modeling
  - Bathtub
  - CE-Qual-W2
- Allocation Database Setup

Wisconsin River TMDL Technical Stakeholder Group

- Two meetings in November 2013 (before Thanksgiving)
- Possible follow-up meeting(s) in early 2014

What does the DNR need from you?



- Calculate baseline loads

- Assign loads to correct TMDL reach
- Delineate areas served by MS4

- Existing conditions SWAT model calibration

For More Information and Involvement

- TMDL Technical Stakeholder Committee – November 2014
- TMDL MS4 Implementation Guidance –late 2013/early 2014

- WR TMDL Website – Coming Soon
- TMDLs and Urban Runoff
  http://dnr.wi.gov/topic/tmdls/rockriver.html