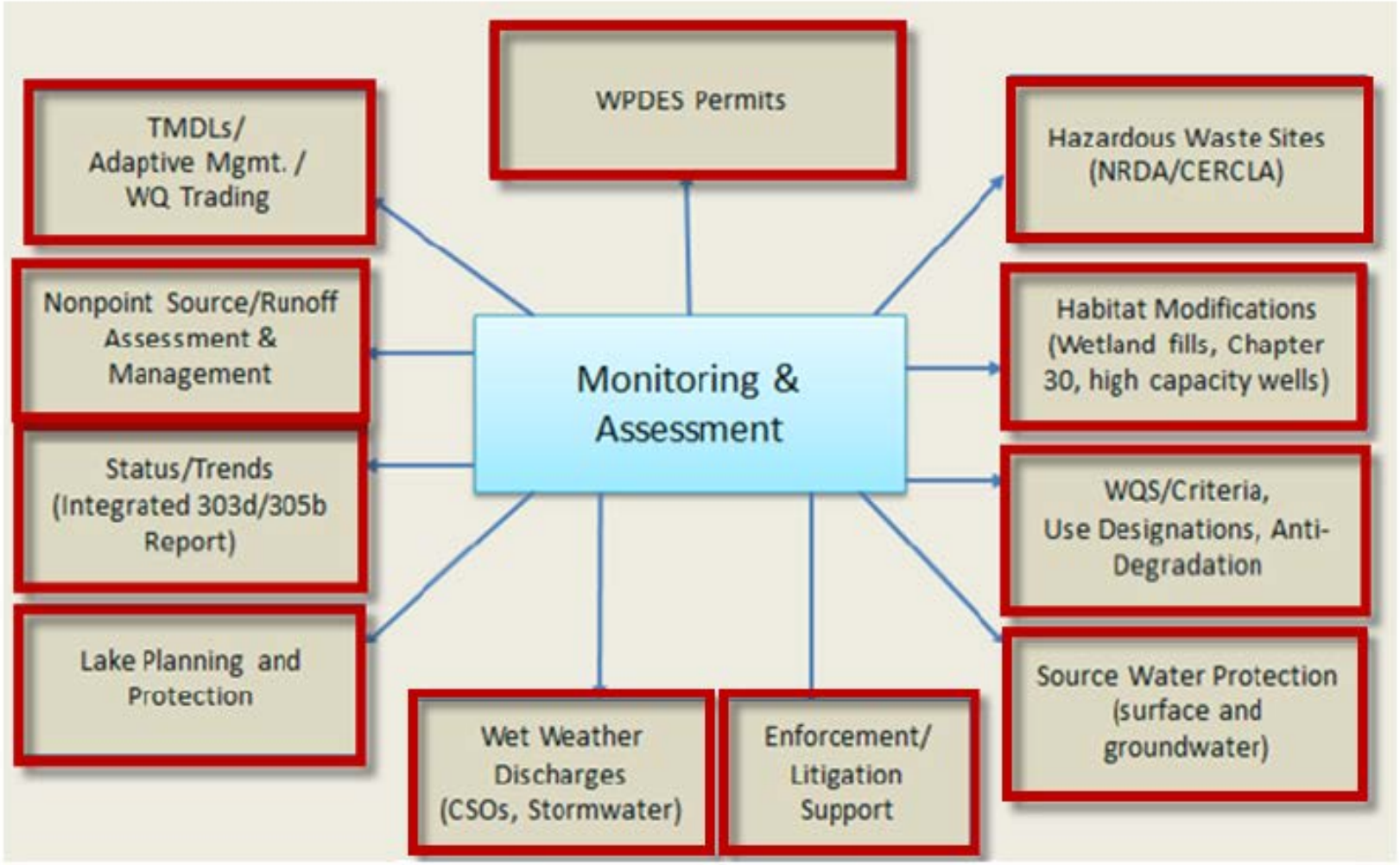
Targeted Watershed Assessments for WQ Planning 2017

Monitoring strategy designed for multiple needs



Targeted Watershed Assessment Monitoring is a core monitoring program element.

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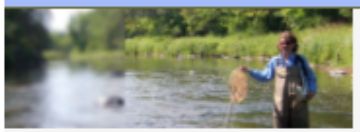
Wisconsin water monitoring

Find data and reports describing water condition near you!

Discover how water and fisheries biologists determine aquatic health.

Learn how data are used in assessments, planning and management.

Strategy and Reports



- Monitoring Strategy 2015-2020 [PDF]
- Strategy update with appendices
- Executive Summary
- Monitoring & Research Reports
- SWIMS Database
- Water Condition Viewer

River Health

- Long-Term Trend Water Quality Network
- Biotic Index Baseline Study
- National Rivers and Streams Assessment

Stream Condition

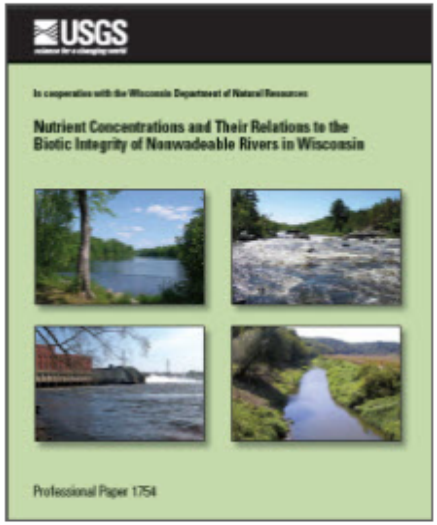
- Trend Reference Streams
- Natural Community Stratified Design
- Targeted Watershed Approach
- Water Action Volunteers Stream Monitoring
- Targeted Watershed Site Selection Tool

Search Waters

Go!

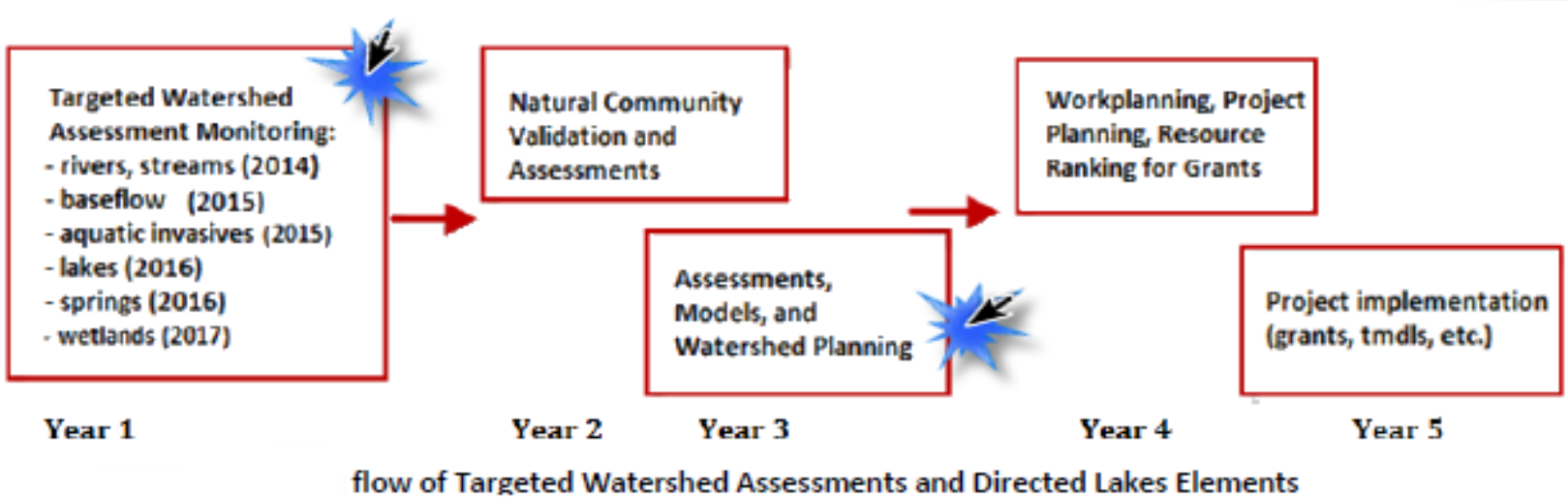
Monitoring Strategy Update

Read the latest update to Wisconsin's Water Resources Monitoring Strategy PDF which sets the direction for resource allocation for monitoring for the next 5 to 10 years.



Read the USGS document on nutrient concentrations and the health of biological communities in nonwadeable streams. DNR videos at DNR YouTube channel.

What are Targeted Watershed Assessments?

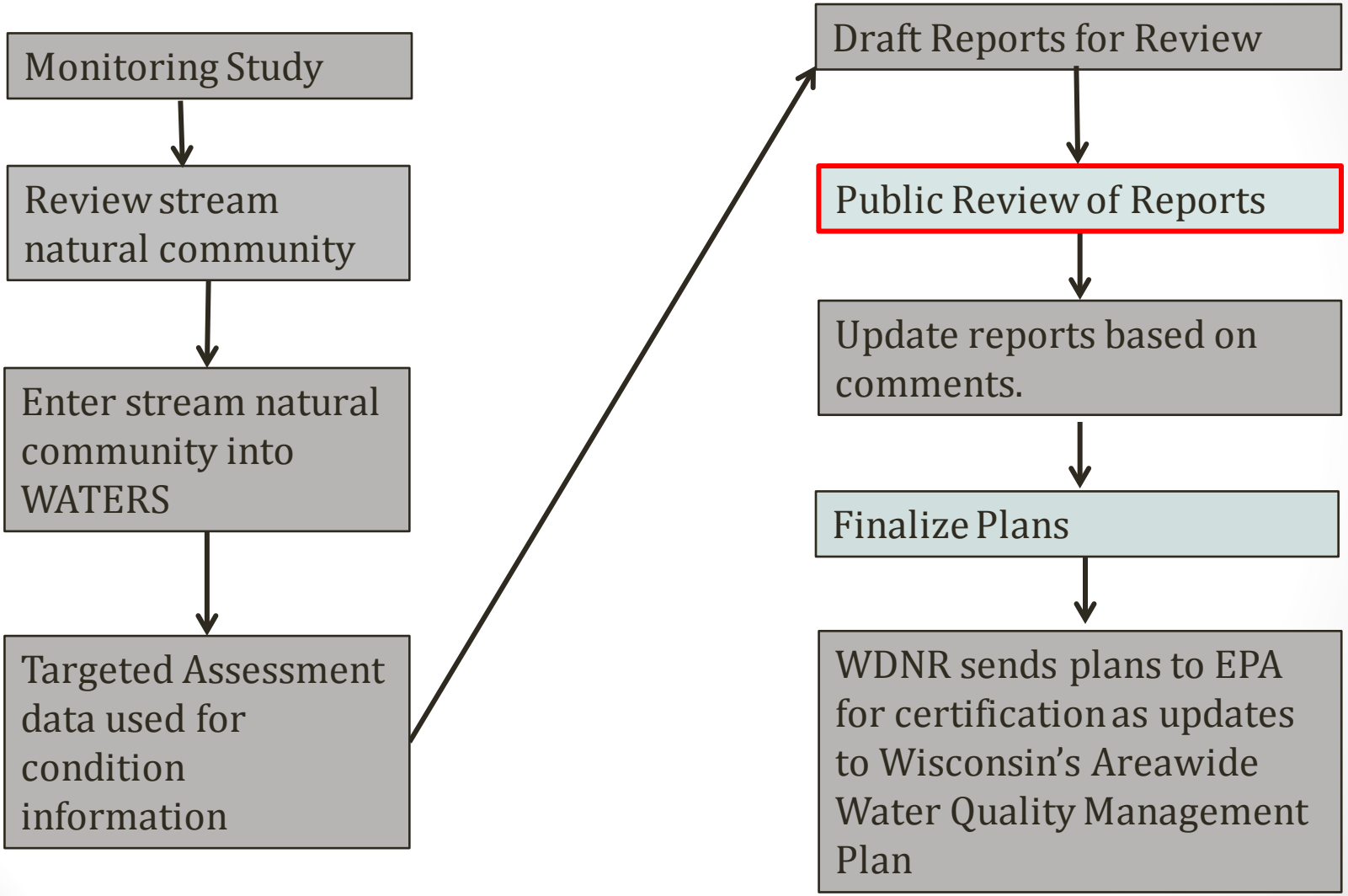


flow of Targeted Watershed Assessments and Directed Lakes Elements

Category	Rationale
Stressor Identification	"Poor" IBI scores where usual stressor may not indicate a problem (TP, TN, TSS, or Qual. Habitat).
Nutrient Impacts	High priority WTs in Nutrient Reduction Strategy or site specific nutrient study
Watershed Planning	Updates to HUC10 level watershed /water quality plans or to assess management actions
Protection	Baseline data on "Healthy but Vulnerable" watersheds in the Healthy Watersheds Assessment
Evaluation/Success	Evaluate the effectiveness of NPS BMPs, one WT in partnership with NRCs NWQI

TWAs & WQ Planning

Targeted Assessments & WQ Planning



Timeline for Planning

December – plan update schedule

- Template updated for project areas

January – Stream Types (NC validation)

- Review stream types for TWA areas
- Update databases & download results
- Draft reports

February – May Review & finalize reports

- Biologist finalize draft reports

June to August – Public Review, Send to USEPA

- Final reports public review
- Update with comments, change
- Send final report to USEPA, update databases

WQ Plan - Table of Contents

Overview & Management Recommendations

- Watershed Overview
- Population, Land Use, Site Characteristics
- Study Summary & Recommendations

Monitoring Project Discussion

- Purpose of Project
- Site Selection and Study Design
- Methods, Procedures, Equipment and Quality Assurance

Results **** Database & GIS support**

- Water Assessment Summary Table
- Fisheries Assemblage, IBI, and Natural Community Analysis
- Habitat, Macroinvertebrate Results, Chemistry summary (table, maps)

Discussion & Recommendations

- Watershed/Water Condition
- Mgmt. Priorities
- Resource Goals & Recommendations

[TWA Guidance Document]

Sampling Methods

Methods, Equipment and Quality Assurance

Fish Assemblage

The fisheries assemblage was collected with the following methods:

- Wadeable Stream Fish Community Evaluation Form 3600-230 (R 7/00)
- Guidelines for Assessing Fish Communities of Wadeable Streams in Wisconsin

The method for fish collected was conducted by electroshocking a section of stream with a minimum station length of 35 times the mean stream width (Lyons, 1992). A stream tow barge with a generator and two probes was used at the lower most Pine Creek site. A backpack shocker with a single probe was used at the other four sites. All fish were collected, identified, and counted.

Habitat Evaluation

At each site, qualitative notes on average stream width and depth, riparian buffers and land use, evidence of sedimentation, fish cover and potential management options were also recorded. A qualitative habitat survey (Simonson, et. al., 1994) was performed at the upper stream reaches while a quantitative habitat survey was collected at the lower station both on Pine and Calvin Creeks.

- Guidelines for Qualitative Physical Habitat Evaluation of Wadeable Streams
- Qualitative Habitat Rating less that 10m Form (3600-532A) (R 6/07)
- Guidelines for Evaluating Habitat of Wadeable Streams Revised June 2002 (Quantitative Habitat)
- Wadeable Stream Quantitative Habitat Evaluation Form 3600-228 (R 6/07)

Macroinvertebrate Evaluation

Macroinvertebrate samples were obtained by kick sampling and collecting using a D-frame net at three sites in Pine Creek and three sites in Calvin Creek. Samples were preserved and sent to the University of Wisconsin-Stevens Point for analyses.

- Guidelines for Collecting Macroinvertebrate Samples in Wadeable Streams
- Wadeable Macroinvertebrate Field Data Report Form 3200-081 (R 08/14)

Sampling Methods Continued

Water Sampling

Water samples were collected once per month throughout the growing season (May through October), one site in Pine Creek and one site in Calvin Creek. Samples were analyzed for total phosphorus, total nitrogen, and total suspended solids at the State Laboratory of Hygiene.

- Guidelines and Procedures for Surface Water Grab Sampling (Dec. 2005 Version 3)

Continuous Temperature

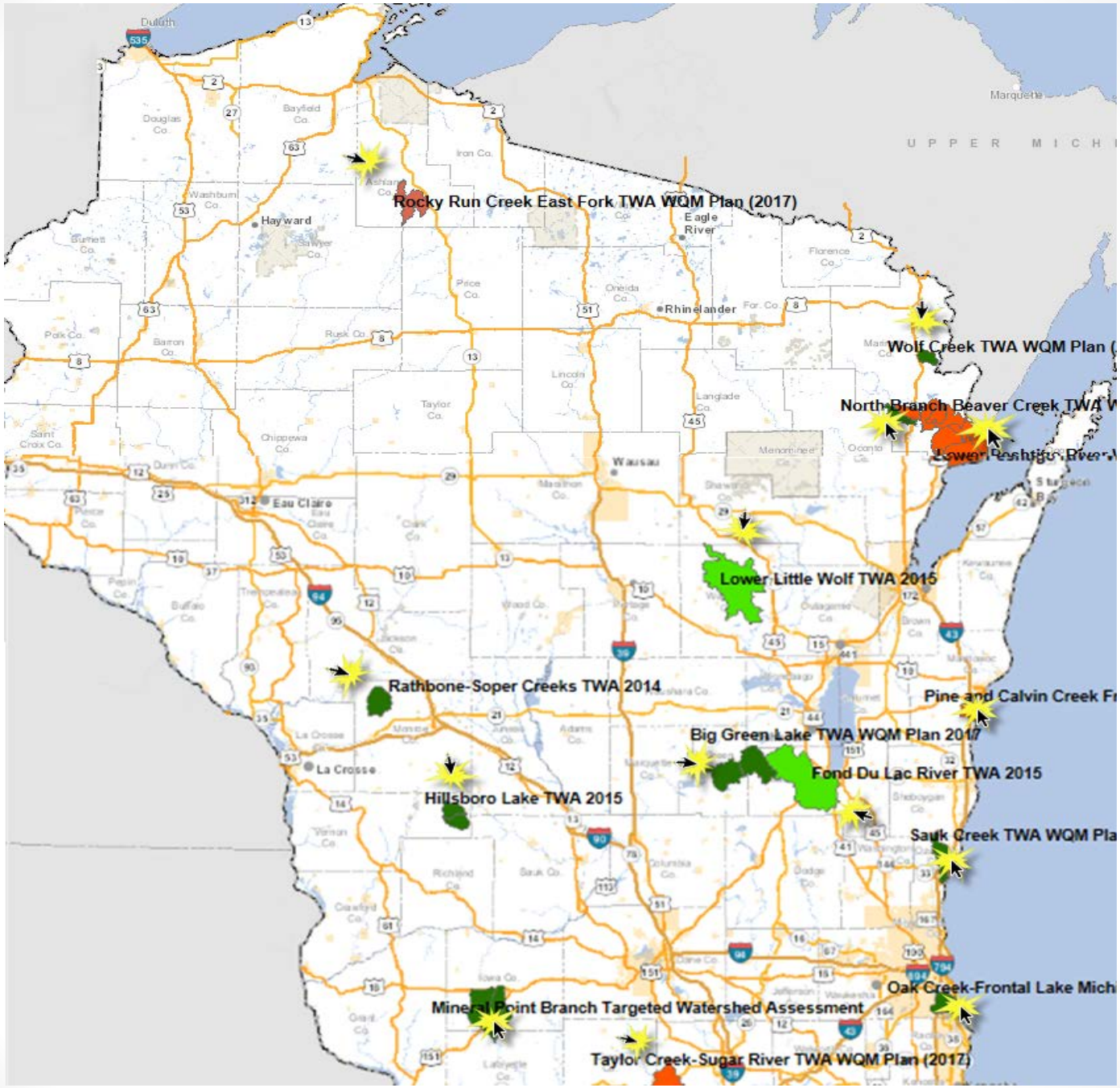
Water temperature data loggers (HOBO brand) were placed in Pine Creek at CTH LS and Calvin Creek at S. 26th Street from May to October 2016. The loggers recorded hourly water temperature.

- Guidelines and Standard Procedures for Continuous Temperature Monitoring Wisconsin DNR May 2004 (Version 1)

Diatom Sampling

Diatom samples were collected at one site in both Pine Creek and Calvin Creek following the Diatom sampling in wadeable streams protocol.

- Diatom Collections for Calculation of the Diatom Nutrient Index (DNI), WQ Monitoring 2016 SOP v2.3 01


Rocky Run Creek East Fork TWA WQM Plan (2017)
Wolf Creek TWA WQM Plan (
North Branch Beaver Creek TWA W
Lower Little Wolf TWA 2015
Rathbone-Soper Creeks TWA 2014
Pine and Calvin Creek Fr
Big Green Lake TWA WQM Plan 2017
Fond Du Lac River TWA 2015
Hillsboro Lake TWA 2015
Sauk Creek TWA WQM Pla
Oak Creek-Frontal Lake Mich
Mineral Point Branch Targeted Watershed Assessment
Taylor Creek-Sugar River TWA WQM Plan (2017)
Hayward
Eagle River
Rhinelander
Wausau
Eau Claire
La Crosse
Duluth
Marquette
UPPER MICH