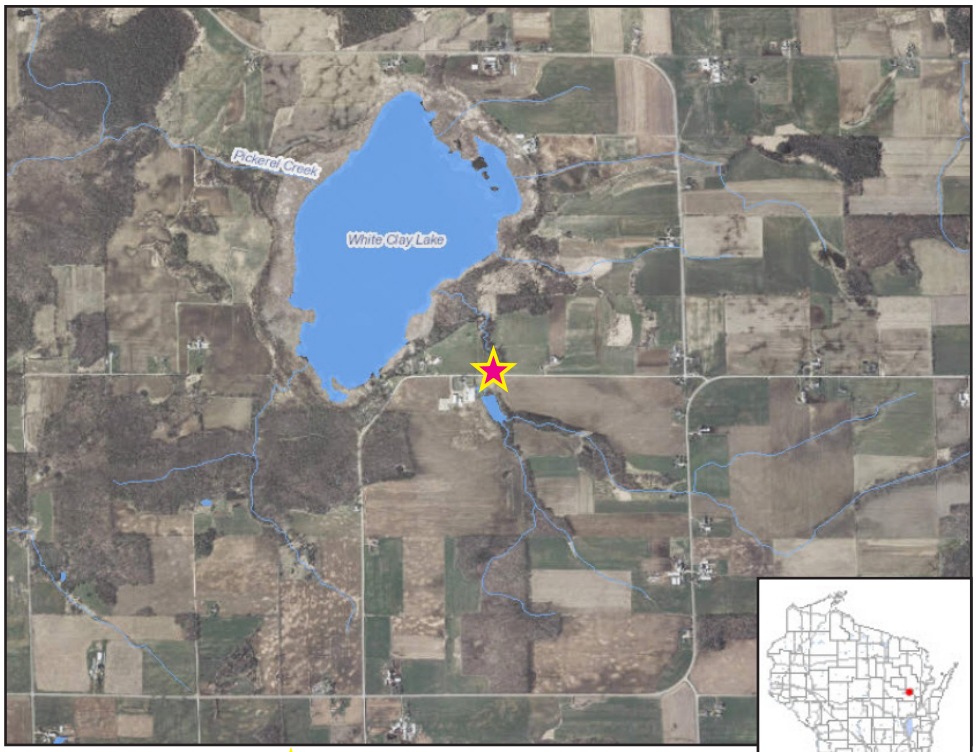
Monitoring Site Information

SWIMS Station ID	10016025
County	Shawno
Watershed	Shawno Lake
Watershed Area	71.16 sq miles
Total Stream Miles in Watershed	76.28 miles
Downstream Waterbody	White Clay Lake
Volunteer(s)	Dave Zelinger and Ray Zuelke

2014 Monitoring Results

Min TP Value	0.0547 mg/L
Max TP Value	0.239 mg/L
Median TP Value	0.0847 mg/L
No. Samples > 0.075 mg/L	4



Map Legend ★ - Sampling Location for 2014

Watch Waters

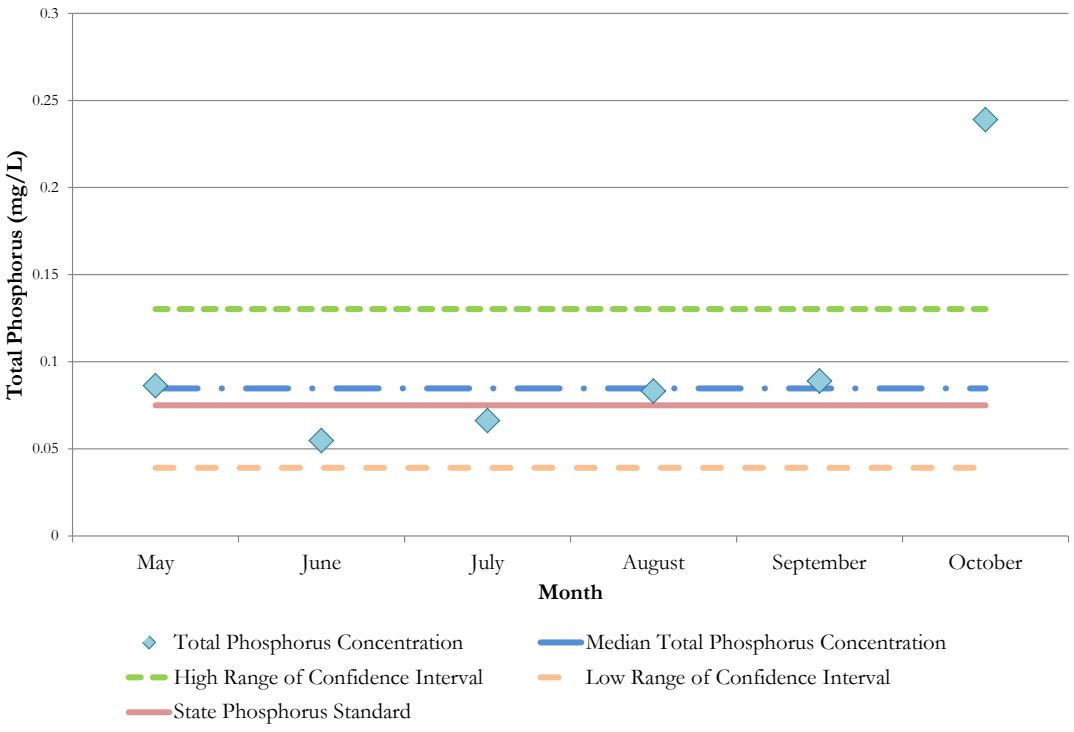
Volunteer Total Phosphorus Monitoring

Trib To White Clay Lake 50 ft DS from Lodge Rd

2014 Monitoring Results

Historic water quality data, used as part of the Shawano Lake Watershed Assessment (UW Stevens Point - Center for Watershed Science and Education 2008), indicate that total phosphorous levels exceeded the impaired listing threshold in several of the tributaries to Shawano Lake. DNR staff and WAV volunteers began collecting total phosphorus data for these streams in 2013 and have continued in 2014 to fill any remaining data gaps.

Total Phosphorus Concentration per Month



Why Phosphorus?

Phosphorus is an essential nutrient responsible for plant growth, but it is also the most visible, widespread water pollutant in Wisconsin lakes. Small increases in phosphorus levels in a lake can bring about substantial increases in aquatic plant and algae growth, which in turn can reduce the recreational use and aquatic biodiversity of said lake. When the excess plants die and are decomposed, oxygen levels in the water drop dramatically which can lead to fish kills.

Additionally, one of the most common impairments in Wisconsin's streams is excess sediments that cover stream bottoms. Since phosphorus moves attached to sediments, it is intimately connected with this source of pollution in our streams. Phosphorus originates naturally from rocks, but its major sources in streams and lakes today are usually associated with human activities: soil erosion, human and animal wastes, septic systems, and runoff from farmland or lawns. Phosphorus-containing contaminants from urban streets and parking lots such as food waste, detergents, and paper products are also potential sources of phosphorus pollution from the surrounding landscape. The impact that phosphorus can have in streams is less apparent than in lakes due to the overall movement of water, but in areas with slow velocity, where sediment can settle and deposit along the bottom substrate, algae blooms can result.

Photo credits to Matt Berg, David Seligman, Linda Warren, and Adrian Konell

Volunteer Monitoring Protocol

To assess in stream phosphorus levels, WAV volunteers collected water samples that were analyzed for total phosphorus (TP) at the State Lab of Hygiene during the growing season (May through October). Following Wisconsin Department of Natural Resources (WDNR) methods, six phosphorus water samples were collected at each monitoring site - one per month for each of the six months during the growing season, The water samples were collected approximately 30 days apart and no samples were collected within 15 days of one another.
Total phosphorus impairment is assessed using the criteria in the table below.

TP Criteria Exceeded

The total phosphorus criteria is exceeded if the lower confidence limit of the sample median exceeds the state total phosphorus criteria of 0.075 mg/L.

Watch Waters

The site is classified as Watch Waters if the median total phosphorus concentration falls within the confidence limit.

TP Criteria Met

The total phosphorus criteria is met if the upper limit of the confidence interval does not exceed the state total phosphorus criteria of 0.075 mg/L.

PROJECT PARTNERS

WISCONSIN DEPT. OF NATURAL RESOURCES

Water Action Volunteers

ENVIRONMENTAL RESOURCES CENTER

UW Extension
University of Wisconsin-Extension