

## Monitoring Site Information

SWIMS Station ID	10040834
County	Fond du Lac
Watershed	Big Green Lake
Watershed Area	107.31 sq miles
Total Stream Miles in Watershed	141.08 miles
Downstream Waterbody	Silver Creek
Volunteer(s)	David Seligman and Mitchell Busch

## 2014 Monitoring Results

Min TP Value	0.03805 mg/L
Max TP Value	0.195 mg/L
Median TP Value	0.131 mg/L
No. Samples > 0.075 mg/L	3



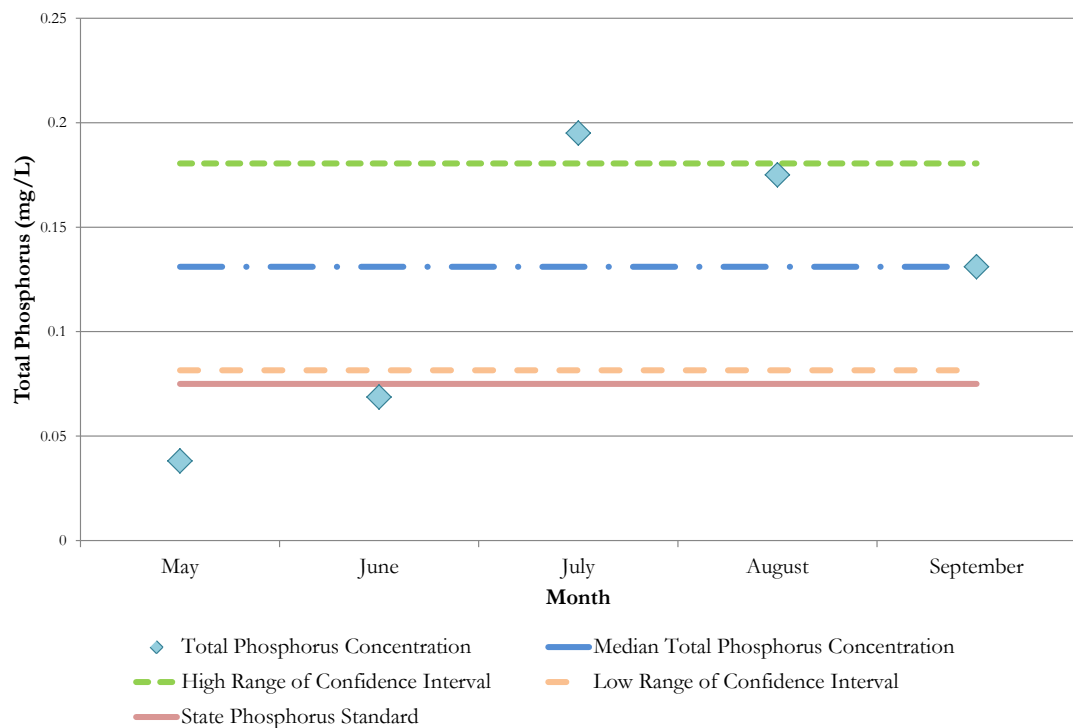
Map Legend - Sampling Location for 2014

**TP Criteria Exceeded**

# Volunteer Total Phosphorus Monitoring Un. Trib to Silver Creek US Arcade Road 2014 Monitoring Results

The goal of this project is to assess the water quality condition of both the Silver Creek and the Dakin Creek Watersheds to determine if portions of the watersheds should be placed on the 303(d) Impaired Waters list in 2018. Water Action Volunteers and DNR staff participated in collecting the total phosphorus samples during 2014 and the water quality data will be shared with other interested agencies and groups, such as USGS, Green Lake County LWCD, Green Lake Association, NRCS, and Green Lake Sanitary District.

## 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.

## Total Phosphorus Exceedence Criteria



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.



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



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

