

Self-Help Lake Monitoring

The Self-Help Lake Monitoring program began in Wisconsin in 1986, relying on volunteers that to assist with collection of data on their lakes. These volunteers monitor water clarity, water chemistry, dissolved oxygen, and plants. The data is used by the DNR to supplement its own monitoring efforts. Since the Self-Help Monitoring program's beginning, over 3,200 volunteers have collected data on over 1,000 lakes in Wisconsin.

Self-help lake data has been collected on Lake Winnebago since 1996. Four sites on the lake have multiple years of data and another three sites have one year of data. The longest term of data collection is four years, collected on two different sites.

Data collection on Lake Butte des Morts dates back to 1988. Two sites have been sampled, with one of the sites having seven years of data. Lake Poygan has two sample locations, one of them with five years of data dating back to 1991. Lake Winneconne only has data from two sites both of them sampled in 2000.

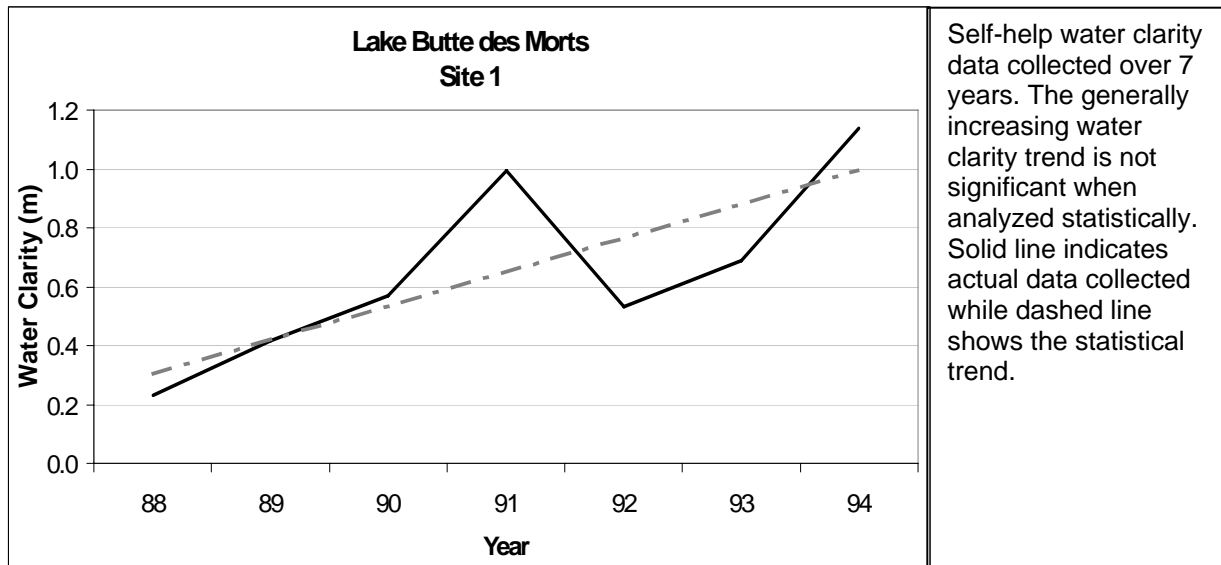
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Winnebago	<i>Deep Hole-S. End</i>																	
	<i>Sea Bouy</i>																	
	<i>Wendt's Landing</i>																	
	<i>Menasha</i>																	
	<i>Southeast</i>																	
	<i>North End</i>																	
	<i>Black Wolf Point</i>																	
Butte des Morts	<i>Site 1</i>																	
	<i>Site 2</i>																	
Winneconne	<i>Central</i>																	
	<i>Site B</i>																	
Poygan	<i>Site 1</i>																	
	<i>Deep Hole</i>																	

Table shows Self-Help Monitoring effort on the Winnebago Pool since 1986. Shaded in box indicates sampling occurred in that calendar year. Seven years (Site 1, Butte des Morts) is the longest stretch of monitoring. Five of the sites were only monitored for one year each.

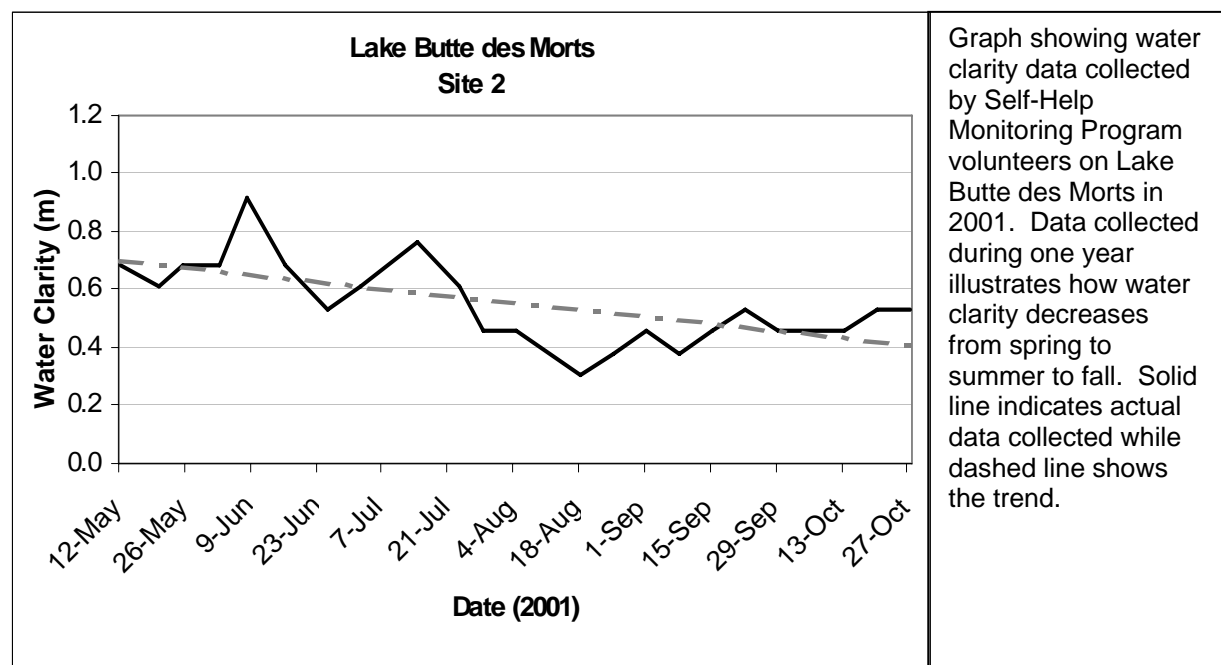
A majority of the data collected on the Winnebago Pool is water clarity in the form of secchi depths, collected primarily during the spring, summer, and early fall months. While none of the sample sites have a long-term record of data collection, which would allow for an analysis of trends, the information is still useful for several reasons. First, the information is useful for comparative purposes. The DNR can compare the data it has collected with the data collected by the self-help volunteers to verify findings. The data comparisons also point out differences across different areas of the lakes, which highlight the variable nature of the system. A few of the self-help sampling sites have a large number of data points for a certain year. This is useful to give a clearer picture of

how the lake behaves over the course of a summer. The DNR's data is typically only collected a few times each year.

One sample site located on Lake Butte des Morts had water clarity recorded 22 times during 2001. The range of observations exhibits little variation but the data does show how water clarity slowly decreases over the course of a summer. This decrease in water clarity is usually attributed to an increase in algae production, fed by warmer water temperatures. To verify this, the chlorophyll-a concentrations can be examined. An increase in algae would show up as an increase in chlorophyll-a concentrations. Unfortunately, the Self-Help Program volunteers did not collect chlorophyll-a samples at this site in 2001. A review of DNR-collected data for 2001 only shows that chlorophyll-a



Self-help water clarity data collected over 7 years. The generally increasing water clarity trend is not significant when analyzed statistically. Solid line indicates actual data collected while dashed line shows the statistical trend.



Graph showing water clarity data collected by Self-Help Monitoring Program volunteers on Lake Butte des Morts in 2001. Data collected during one year illustrates how water clarity decreases from spring to summer to fall. Solid line indicates actual data collected while dashed line shows the trend.

was sampled three times on Lake Poygan. This information is not enough to correlate the decreasing water clarity to algae concentrations.

As a new water quality monitoring strategy is developed for the Winnebago Pool, the Self-Help Monitoring Program volunteers will undoubtedly play a key role. It is imperative that the volunteers continue to collect their data throughout the Pool so that the data can be used to adequately supplement the DNR's data collection efforts. It will only be through this combined monitoring effort that the true state of the Pool's water quality will be determined.

For more information on invasive species you can visit one of the following web pages.

The DNR Self-Help Monitoring Program Site at
<http://dnr.wi.gov/org/water/fhp/lakes/selfhelp/index.htm>

The Secchi Dip-In Program, another volunteer water quality monitoring project, at
<http://dipin.kent.edu>