

## Lake Partner Program Data for Crystal Lake

### Total Phosphorus

Table 1. Total Phosphorus (TP) concentrations for two sampling sites on Crystal Lake, 2002-2010.

LAKE_NAME	STN	Site ID	Site Description	Year	Average TP
CRYSTAL LAKE	1063	1	Clear Bay	2002	12.2
CRYSTAL LAKE	1063	1	Clear Bay	2003	10.9
CRYSTAL LAKE	1063	1	Clear Bay	2004	11.8
CRYSTAL LAKE	1063	1	Clear Bay	2005	10.9
CRYSTAL LAKE	1063	1	Clear Bay	2006	13.2
CRYSTAL LAKE	1063	1	Clear Bay	2007	13.7
CRYSTAL LAKE	1063	1	Clear Bay	2008	15.5
CRYSTAL LAKE	1063	1	Clear Bay	2009	15.0
CRYSTAL LAKE	1063	1	Clear Bay	2010	7.2
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2002	10.4
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2003	8.9
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2004	10.0
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2005	9.5
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2006	11.2
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2007	14.4
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2008	12.1
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2009	10.9
CRYSTAL LAKE	1063	2	Mid Lake, deep spot	2010	7.6

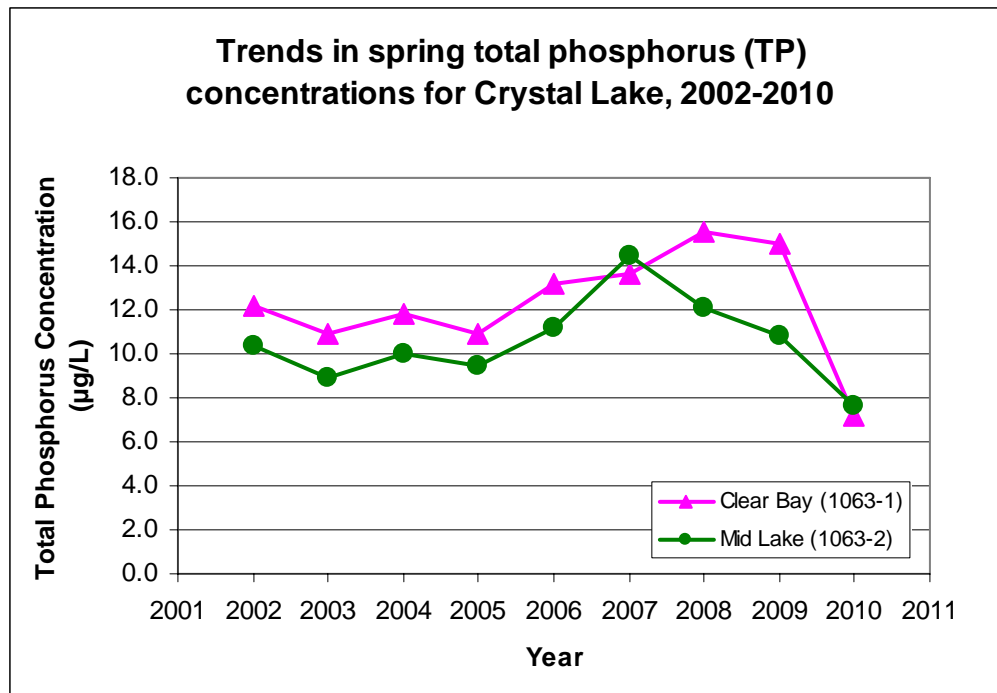


Figure 1. Trends in spring total phosphorus (TP) concentrations for 2 sites on Crystal Lake, 2002-2010.

**Summary:**

Crystal Lake is located on the Canadian Shield and is sampled at two locations each spring for total phosphorus (TP) concentrations and monthly for water transparency (Secchi depth).

Based on the Lake Partner Program data from 2002-2010, TP concentrations in Crystal Lake have ranged from 7.2 to 15.5 µg/L. The overall average for the whole lake is 11.4 µg/L. The average TP concentrations for Site 1 (Clear Bay) and Site 2 (mid lake) are 12.3 and 10.5 µg/L, respectively. Both of these sites show similar patterns of between-year variation in TP.

The majority of Ontario lakes monitored as part of the Lake Partner Program have an average TP concentration of 10-13 µg/L of TP. Therefore, Crystal Lake has relatively good water quality with respect to phosphorus concentrations in comparison to other Lake Partner lakes across Ontario.

With respect to trophic status, Crystal Lake can range from ‘oligotrophic’ to borderline ‘mesotrophic’ lake, meaning that it has a low to moderate amount of nutrients. “Oligotrophic” is a term given to lakes that have average TP concentrations of less than 10 µg/L. “Mesotrophic” is a term given to lakes that have average TP concentrations between 10-20 µg/L. From year-to-year, the ice-free season (May-October), TP concentrations can vary from low (oligotrophic) to moderate (mesotrophic) (Figure 1)

## Secchi Disk Transparency

Table 2. Annual average Secchi disk transparency readings for Crystal Lake, 1996-2010)

LAKE_NAME	STN	Site ID	Site Description	Year	Average Annual Secchi depth (m)
CRYSTAL LAKE	1063	1	Clear Bay	1996	5.0
CRYSTAL LAKE	1063	1	Clear Bay	1998	4.3
CRYSTAL LAKE	1063	1	Clear Bay	1999	4.9
CRYSTAL LAKE	1063	1	Clear Bay	2000	5.1
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CRYSTAL LAKE	1063	2	Mid Lake, deep spot	1996	4.8
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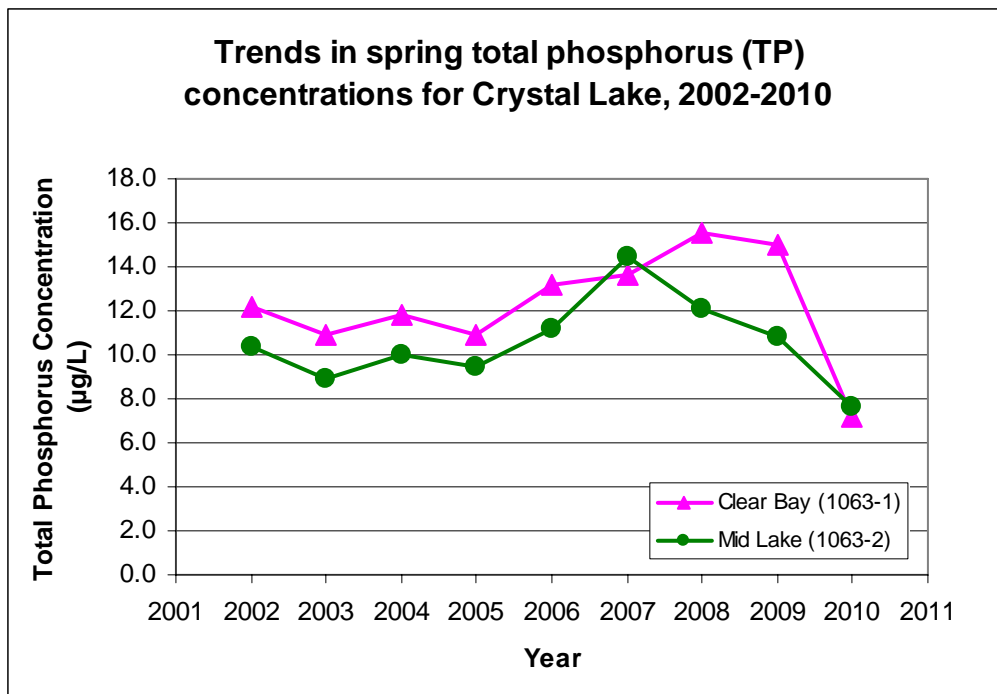


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