**Trout Lake Itasca County**

**Summary**

Trout Lake is located 20 miles north of Grand Rapids, MN in Itasca County. There is no evidence of a water quality trend. Trout Lake has four inlets and one outlet, which classify it as a groundwater drainage lake. There is also a large groundwater interaction component with the lake itself. Water quality data have been collected on Trout Lake since 1992. These data show that the lake is oligotrophic (TSI = 36) with very clear water conditions all summer. In fact, it is so cold and deep that it supports lake trout. **Trout Lake is part of the Wabana Chain of Lakes Association (WCOLA). The association is involved in activities such as water quality monitoring and education. Trout Lake itself is mostly located in federally-owned land.**

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| **Lake Vitals** |  | **Long-term Trends** |
| **MN Lake ID:** | 31-0410-00 | Recommend minimum of 8-10 years of data with 4+ readings per season. Minimum confidence accepted by MPCA is 90% |
| **Ecoregion:** | Northern Lakes and Forests |
| **Major Watershed:** | Mississippi R. –Grand Rapids |  |
| **Surface area** | 1736 acres |  |
| **% Littoral area:** | 43% | **Total Phosphorus:** No Trend |
| **Max depth:** | 157 (ft) 48 (m) | **Chlorophyll-a:** No Trend |
| **Aquatic Invasive Species:** | None | **Secchi Depth:** No Trend (1992-2011) |

**Water Quality Characteristics**

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| **Parameters** | **Site 204** |  | **Trophic State Index** | |
| Total Phosphorus Mean (ug/L): | **9.5** |  | **Trophic State:** Oligotrophic (36) | |
| Total Phosphorus Min (ug/L): | <5 |  | The figure below shows the minimum and maximum values with the arrows and the mean with the black dot. | |
| Total Phosphorus Max (ug/L): | 17 |  |
| Number of Observations: | 37 | TPCHLASD_gradients.jpg |  |  |
|  |  |  |  |  |
| Chlorophyll-a Mean (ug/L): | **1.7** |  |  |  |
| Chlorophyll-a Min (ug/L): | <1 |  |  |  |
| Chlorophyll-a Max (ug/L): | 4.1 |  |  |  |
| Number of Observations: | 34 |  |  |  |
|  |  |  |  |  |
| Secchi Depth Mean (ft): | **16.8** |  |  |  |
| Secchi Depth Min (ft): | 9.5 |  |  |  |
| Secchi Depth Max (ft): | 29.5 |  |  |  |
| Number of Observations: | 205 |  |  |  |

**Historical Data Summary**

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| **Monitoring Program** | **Laboratory** | **Years** |
| Citizen Lake Monitoring Program | - | 1988, 1990, 1992-2011 |
| Itasca County Lake Assessment (+JLCWP) | - | 2001-2002 |
| Water Quality Inventory of Itasca County Lakes | - | 2001 |
| MPCA Lake Monitoring Program Project | - | 1988, 1991 |
| Lake Monitoring Program | - | 2000 |
| Clean Water Legacy Surface Water Monitoring | - | 2015 |
| Paleo Lakes | - | 2001-2002 |
| Bigfork River Watershed Priority Waters Assessment | Natural Resource Research Institute | 2001-2002 |
| Wabana Chain of Lakes | Itasca Community College | 2010, 2014 |
| Wabana Chain of Lakes | Instrumental Research | 2005, 2008 |
| Wabana Chain of Lakes | MN Chippewa Tribe | 1999, 2003 |