

## Sophie Lake

**Surface Area: 221 acres**

**Maximum Depth: 70 feet (21.3 meters)**

**Shoreline Length: 26,294 (4.98 miles)**

**Elevation: 2,598 feet (792 meters)**

### GENERAL INFORMATION

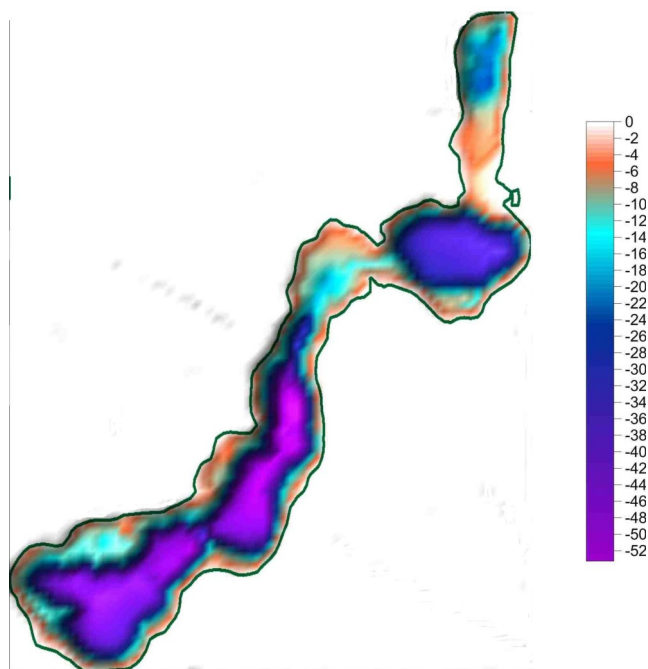
Sophie Lake is located in Lincoln County four miles northwest of Eureka on Highway 37. Surrounding land ownership are State Trust Lands, MFWP, and private. There is one motorized public access site located on the south end of the lake.

### FISHERIES INFORMATION

Sophie Lake is stocked annually with rainbow trout and kokanee. Fish stocking records indicate a presence of rainbow trout and kokanee. Population surveys also found bluegill, bull trout, largescale suckers, northern pike, and northern pike minnow. For more information see: <https://fwp.mt.gov/fish/stocking.html>

### ADDITIONAL INFORMATION

- Due to high water, the public access, dock, and campground were flooded in the spring/summer of 2011 and 2012.
- Current NMLN citizen volunteers include: Barb Hvizdak



Location: 48.963502 N, 115.115744 W



*Volunteer Barb Hvizdak on Sophie Lake.*

LAKE METRICS SUMMARY AND SCORES

Metric	Score	Description
Cold-water fish habitat	High	Temperature and oxygen profiles show that Sophie Lake was stratified or weakly stratified during summer sampling. Temperature profiles indicate that the lake has been within the avoidance threshold range for salmonids at depths of up to 5 meters during July. Oxygen profiles show that Sophie Lake has been between avoidance and anoxic concentration thresholds for salmonids at depths greater than 13 meters. Depth profiles suggest that the ideal depth for salmonid habitation during summer months is between 6-12 meters.
Nutrient Levels	Medium	Sophie Lake often ranks medium among medium lakes for total phosphorus, total nitrogen, and chlorophyll ( <i>a</i> ).
Nutrient Trend	Increasing	Phosphorous and nitrogen have been increasing.
Trophic Status	Oligo-mesotrophic	Carlson's Trophic Index trend shows Sophie Lake is consistently oligo-mesotrophic.
Dreissenid Colonization Potential (Calcium)	Moderate	Total phosphorus and chlorophyll ( <i>a</i> ) levels were noticeably higher for Sophie Lake in 2018 and 2019. Sophie Lake's 2010, 2011, and 2016 average calcium concentration was 23.1 mg/L classifying it as a moderate risk for zebra mussel colonization. The 2012 alkalinity level was reported at 110 mg/L.
Known AIS infestations	None	A EWM survey was conducted in 2012 near the public access site yielding no suspect results, however, northern milfoil was found throughout the lake. Additional visual surveying is recommended based on ease of access, recreational use, and number of macrophytes present.

