

## Flathead Lake (Mackinaw Alley)

**Surface Area:** 122,425 acres  
**Maximum Depth:** 368 feet (112.2 meters)  
**Mackinaw Alley Depth:** 95 feet (20 meters)  
**Drainage Size:** 4,522,476 acres  
**Shoreline Length:** 850,080 feet (170 miles)  
**Elevation:** 2,995 feet (913 meters)

### GENERAL INFORMATION

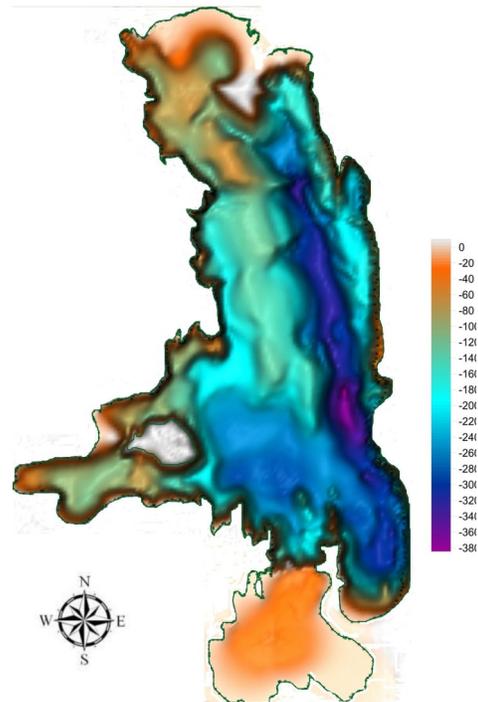
Flathead Lake is located south of Kalispell between the Mission and Salish Mountain Ranges. The geology of the Flathead Basin is a composite of numerous belt series formations: Appekunny argillite (4%), Grinnel argillite (6%), Missoula group (18%), Piegan group (10%), Ravalli group (4%), Siyeh limestone (3%) and Wallace formation (5%); alluvium (14%), undifferentiated Cambrian (3%), glacial (8%) and undifferentiated tertiary sedimentary rocks (5%). The geology includes the Canadian portion of the watershed, hence the slight overlap in conventional designation of formations. All geological formations that composed <3% of the total basin composition were not listed (Ellis & Craft, 2008).

### FISHERIES INFORMATION

For more information see: <https://fwp.mt.gov/fish/stocking.html>

### ADDITIONAL INFORMATION

- This is the largest lake in the study with multiple volunteers and sample sites. The program has had up to 16 monitoring locations on Flathead Lake. Currently, there are five monitoring locations on the lake and discussed in this report. Data for historical monitoring sites can be obtained by contacting WLI.
- Current NMLN citizen volunteers include: Chris Frechette, Rob Mitchell, Marilyn Nelson, Roger Smith, Asta Bowen, and Carroll Blend



Mackinaw Alley Location: 47.832 N, 114.234 W



*Volunteer Walt Curtis on Flathead Lake.*

## LAKE METRICS SUMMARY AND SCORES

Metric	Score	Description
Cold-water fish habitat	High	Temperature and oxygen profiles show that Mackinaw Alley was stratified during summer sampling. The summer temperature and dissolved oxygen profiles show that Mackinaw Alley is outside the avoidance threshold ranges for salmonids.
Nutrient Levels	Low	Flathead Lake (Mackinaw Alley) often ranks low among large lakes for total phosphorus, total nitrogen, and chlorophyll ( <i>a</i> ).
Nutrient Trend	Decreasing	Phosphorous and nitrogen are decreasing.
Trophic Status	Oligo-trophic	Carlson's Trophic Index trend shows Flathead Lake is consistently oligotrophic.
Dreissenid Colonization Potential (Calcium)	High	Calcium concentrations collected in 2010, 2011 and 2016 ranged from a low of 22mg/L (Dayton) to a high of 27 mg/L (Mack Alley). The average calcium concentration for all Flathead lake samples was 24.3mg/L. The average alkalinity was reported at 87mg/L.
Known AIS infestations	None	

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