

Poplar River nr Lutsen, 0.2mi US of MN61**STATION ID: H01-063-003****EQUIS ID: S004-406****NWS ID: POPM5****LOCATION:**

Lat:	47°38'24.7"N	UTMX:	671945.4	Township:	-- unknown name --				
Long:	90°42'38.8"W	UTMY:	5278849.7	PLS:	TWP	RNG	SEC	Q	QQ
					60	3W	33	NE	SW

County: Cook**USGS Quad:** H27b Lutsen**Drainage area (acres):** 72,960

Driving directions: From Tofte, MN, travel N on MN61 for ~7.5 miles. After the sign for Superior National Golf Course and across the bridge turn left on Cook County Hwy 5 (Ski Hill Rd) by Lutsen. Take another immediate left into a dirt parking lot. Drive through small path on south side of parking lot into woods to parking lot for cemetery and walk ~300 yards to gage. You will cross a fairway (Hole 3) and then turn left when you reach a tee off (Hole 9), gage is at golf cart bridge.

History: MPCA has maintained this site since 2001. DNR upgraded to Design Analysis equipment in 2008. This is *not* the same location as USGS site 04012500 POPLAR RIVER AT LUTSEN, MN (Hydstra sites E01063001/H01063001). That location is about 100 yards downstream from this location.

Cooperation: MN Pollution Control Agency, MN Department of Natural Resources, Lutsen Resort.

GAGE: Base gage is a wire-weight gage attached to upstream side of bridge. A Design Analysis H-350XL Pressure Transducer and H-355 Gas Purge System are housed in a 2' x 1.5' x 6' Hoffman look-in type shelter. The equipment is powered by a 12V deep cycle marine battery charged by a 1.2-amp solar panel through a SunSaver power regulator. Solar panel is attached to side of shelter on a 10' mast. The rain gage is mounted on the golf cart bridge. Data collected at 15-min intervals and transmitted via Goes satellite at 1-hour intervals.

Goes ID:	D550B3BE	Random Channel:	119
Primary Channel:	95	Azimuth:	156
Transmit Time (GMT):	00:59:05	Elevation:	32

CHANNEL AND CONTROL: Control is channel that is rock and bedrock. Waterfall located 150ft. DS of gage.

DISCHARGE MEASUREMENTS:

Low flow: Wading 30-50ft. upstream of bridge at gage or 250ft US of bridge at first bend.

High flow: Crane measurement off Lutsen Resort bridge near mouth of Lake Superior.

Winter Flow: Wading 25-50ft. US of bridge or, if unsafe, wading at mouth of Lake Superior at resort.

Alt meas spot: mouth of river at Lake Superior. Go to Lutsen Resort, go down hill and around back of resort.

REFERENCE MARKS:

R.M. 1: Chiseled square on top of large boulder, 20ft NW of path, 70ft NNE of gage. Boulder is 11'L x 6'H x 7'W (08/14/08 KCW/GAK)

Elevation: 21.82ft. assumed datum

R.M. 2: Chiseled X in southwest corner of left upstream abutment.

Elevation: 19.48ft. assumed datum

R.M. 3: Chiseled square in northwest corner of right downstream abutment.

Elevation: 19.40ft. assumed datum

R.M. 4: ~~3 Black paint marks 15ft west of equipment upstream side of bridge. (PCA measure down point)~~

~~Elevation: 20.00ft. assumed datum. Never found during 05/15/15 and 08/12/15 surveys.~~

R.M. 5: Checkbar on wire weight located on US side of bridge. Installed on 08/14/08.

Elevation: 22.20ft. assumed datum

Primary reference: R.M. 5 (Wire weight checkbar) 22.20 ft assumed