

**Big Sucker Creek nr Palmers, CR258**  
**STATION ID: H02-031-002**  
**NWS ID: SUCM5**  
**EQuIS ID: S007-601**

**LOCATION:**

<b>Lat:</b> 46.95321118°	<b>UTMX:</b> 584525.7	<b>Township:</b> Duluth					
<b>Long:</b> -91.88915861°	<b>UTMY:</b> 5200563.5	<b>PLS:</b>	TWP	RNG	SEC	Q	QQ
			52	12W	29	SE	SW

**County:** St. Louis**Drainage area (acres):** 23,664.6**Driving directions:** From the intersection of I35 and MN61 in Duluth, take MN61 northeast approximately 11.5 miles to the intersection MN61 and Bergquist Rd (CR258). Turn left (north) onto Bergquist Rd (CR258) and travel north 3.2 miles to river and the gage.**Cooperation:** Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Natural Resources (MNDNR) Clean Water Legacy station.**History:** Gage first installed by MNDNR on 09/25/2008 on the Old Northshore Rd (CR290), but was washed out during the 06/20/2012 historic Duluth flood. The station was temporarily reinstalled in 2012 and monitored through 2014, but was moved upstream to a new location on 10/02/2014.**GAGE:** A Design Analysis H-350XL pressure sensor/data logger and H-355 Gas Purge System are housed in a 2' x 1.5' x 6' Hoffman look-in type shelter on downstream right bank. A solar panel, rain gage, GOES antenna, and GOES GPS are connected to a vertical mast attached to the enclosure. The equipment is powered by a 12V deep cycle marine battery charged by a 1.2-amp solar panel through a Sunsaver power regulator. Data is collected at 15-minute intervals and sent hourly through an H-222 GOES transmitter at 300 baud within a 10-second window. The H-222 clock is synced to GMT, and the datalogger clock is set to CST (6-hour offset).

GOES ID:	D550A0C8	Random Channel:	119
Primary Channel:	95	Azimuth:	156
Transmit Time (GMT):	00:58:55	Elevation:	32

**CHANNEL AND CONTROL:** High flow control is channel. Low flow control is rock riffle approximately 100 ft. downstream of the bridge.**DISCHARGE MEASUREMENTS:****High flow:** Measurement off the downstream side of the bridge or tagline upstream or downstream of bridge.**Low flow:** Wading approximately 75 ft. downstream of the bridge or 20 ft. upstream of the riffle.**Ice:** Measurement under bridge center line or 20 ft. upstream of the bridge.**Diversions, Impoundments, Additional flow inputs:** None**REFERENCE MARKS:****R.M. 1:** Three saw marks in bolt plate next to wire weight on downstream (E) side of the bridge. Established on 06/17/2014 by MNDNR.

Elevation: 101.26 ft. assumed datum (1043.50 ft. NAVD88) Surveyed on 05/29/2018 by MNDNR.

**R.M. 2:** Head of spike in the base of an ash tree approximately 1ft. above ground on E side of the road, downstream right bank, approximately 39 ft. E from the end of the wood bridge. Established on 07/24/2014 by MNDNR. Elevation: 84.15 ft. assumed datum (1026.39 ft. NAVD88) Surveyed on 05/29/2018 by MNDNR.**R.M. 3:** Head of spike in base of balsam tree approximately 1ft. above ground on the E side of the road, downstream right bank. Tree is approximately 10 ft. N from the end of guardrail and then approximately 46 ft. E from guardrail and/or the edge of the road. Established on 07/24/2014 by MNDNR.

Elevation: 89.02 ft. assumed datum (1031.26 ft. NAVD88) Surveyed on 05/29/2018 by MNDNR.

**R.M. 4:** Wire weight checkbar located on downstream (E) side of the bridge. Installed on 10/02/2014 by MNDNR. Elevation: 100.00 ft. assumed datum (1042.24 ft. NAVD88, surveyed in April 2015 by MNDNR survey crew) Surveyed on 05/29/2018 by MNDNR.**Primary Reference:** R.M. 4 (100.00 ft. assumed datum)**Gage zero:** 942.24 ft. NAVD88