



Water-Data Report 2011

04057814 GREENWOOD RELEASE NEAR GREENWOOD, MI

Northwestern Lake Michigan Basin
Escanaba Subbasin

LOCATION.--Lat 46°26'22", long 87°47'52" referenced to North American Datum of 1927, in NW ¼ SW ¼ sec.27, T.47 N., R.28 W., Marquette County, MI, Hydrologic Unit 04030110, on left bank at outlet of Greenwood Afterbay releasing to Middle Branch Escanaba River, 2.6 mi upstream from Bell Creek, and 3.8 mi southwest of Greenwood.

DRAINAGE AREA.--67.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder and concrete flume. Datum of gage is 1,473.77 ft above sea level (Cliffs Natural Resources Inc. bench mark). Prior to Nov. 7, 1973, nonrecording gage at same site and different datum.

REMARKS.--Records fair. Since December 1972, flow from Greenwood Reservoir (station 04057811) below spillway elevation 1,515 ft is completely regulated by Greenwood Afterbay release structure (station 04057812) into the Middle Branch Escanaba River. Since January 1973, water diverted immediately upstream from station via Greenwood Diversion (station 04057813) to Green Creek for iron ore processing and some returned to Middle Branch Escanaba River 27 mi downstream via another Green Creek. Since October 1979, some of the diversion returned 31 mi downstream via Goose Lake Outlet and East Branch Escanaba River. Overflow from reservoir spillway bypasses and returns to the Middle Branch Escanaba River 0.5 mi downstream from station. Several measurements of water temperature were made during the year. Gage-height telemeter at station.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	24	24	25	25	25	25	25	25	25	25	25	25
2	24	25	25	25	25	25	25	25	25	25	25	25
3	25	25	25	25	25	25	25	25	25	25	25	25
4	25	25	25	25	25	25	25	25	25	25	25	25
5	25	25	25	25	25	25	25	25	25	25	25	25
6	25	25	e24	25	25	25	25	25	25	25	25	25
7	24	25	e24	25	25	25	25	25	25	25	25	25
8	24	25	25	25	25	25	25	25	25	25	25	25
9	25	25	25	25	25	25	25	25	25	25	25	25
10	25	25	25	25	25	25	25	25	25	25	25	25
11	25	25	25	25	25	25	26	25	25	25	25	25
12	24	25	25	25	25	25	25	25	25	25	25	25
13	24	25	25	25	25	25	25	25	25	25	25	25
14	24	25	25	25	25	25	25	25	25	25	25	25
15	24	25	25	25	25	25	25	25	25	25	25	25
16	24	25	25	25	25	25	25	25	25	25	25	25
17	24	25	25	25	25	25	25	25	25	25	25	25
18	24	25	25	25	25	25	25	25	25	25	25	25
19	24	25	25	25	25	25	25	25	25	25	25	25
20	24	25	25	25	25	25	25	25	25	25	25	25
21	24	25	25	25	25	25	25	25	25	25	25	25
22	24	25	25	25	25	25	25	25	25	25	25	25
23	24	25	25	25	25	25	25	25	25	25	25	25
24	25	25	25	25	25	25	25	25	25	25	25	25
25	25	25	25	25	25	25	25	25	25	25	25	25
26	25	25	25	25	25	25	26	25	25	25	25	25
27	25	25	25	25	25	25	26	25	25	25	25	25
28	25	25	25	25	25	25	26	25	25	25	25	25
29	25	25	25	25	---	25	25	25	25	25	25	25
30	25	25	25	25	---	25	25	25	25	25	25	25
31	24	---	25	25	---	25	25	25	25	25	25	---
Total	758	749	773	775	700	775	754	775	750	775	775	750
Mean	24.5	25.0	24.9	25.0	25.0	25.0	25.1	25.0	25.0	25.0	25.0	25.0
Max	25	25	25	25	25	25	26	25	25	25	25	25
Min	24	24	24	25	25	25	25	25	25	25	25	25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	27.6	27.1	24.9	24.7	25.3	27.0	26.6	26.1	26.3	25.6	24.9	24.7
Max	141	122	35.6	32.6	35.9	56.3	44.9	40.3	42.2	42.2	30.6	30.2
(WY)	(1973)	(1973)	(1974)	(1974)	(1986)	(1989)	(1989)	(1976)	(1975)	(1974)	(1997)	(1984)
Min	12.9	13.0	13.0	14.0	13.3	16.5	12.1	17.3	21.7	17.0	14.2	13.0
(WY)	(2008)	(2008)	(1999)	(2009)	(2007)	(2009)	(1998)	(1999)	(1995)	(2010)	(2007)	(2007)

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	Calendar Year 2010	Water Year 2011		Water Years 1973 - 2011	
Annual total	8,234	9,109			
Annual mean	22.6	25.0		25.9	
Highest annual mean				44.8	1973
Lowest annual mean				18.0	2007
Highest daily mean	25	Feb 10	26	Apr 11	^a 290 Oct 1, 1972
Lowest daily mean	16	Aug 16	24	Oct 1	0.00 Apr 15, 1998 ^b
Annual seven-day minimum	16	Sep 8	24	Oct 12	0.00 Apr 15, 1998
10 percent exceeds	25		25		28
50 percent exceeds	24		25		25
90 percent exceeds	17		25		23

^a Prior to regulation; since regulation began, 63 ft³/s, July 10, 11, 1974.

^b Also occurred Apr. 16-29, 1998; result of shutdown of flume for maintenance.

