

STREAMS TRIBUTARY TO LAKE SUPERIOR

04010500 PIGEON RIVER AT MIDDLE FALLS, NEAR GRAND PORTAGE, MN
(International gaging station)

LOCATION.--Lat 48°00'44", long 89°36'58", in SW¹/₄NE¹/₄ sec. 24, T.64 N., R.6 E., Cook County, Hydrologic Unit 04010101, on the Grand Portage Indian Reservation, on right bank 400 ft upstream from Middle Falls, 2.5 mi upstream from Grand Portage Port of Entry, 3.5 mi upstream from mouth, and 4.7 mi northeast of city of Grand Portage.

DRAINAGE AREA.--609 mi².

PERIOD OF RECORD.--June to October 1921, April to November 1922, March 1923 to current year. Published as "at International Bridge" April 1924 to September 1940; as "below International Bridge" October 1940 to September 1965. Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 744:1927-28. WSP 804: 1934(M). WSP 974: Drainage area. WSP 1337:1924(M), 1925, 1926-28(M), 1931(M), 1938(M), 1941(M), 1945-46(M), 1947, 1948(M), 1950(M).

GAGE.--Water-stage recorder. Datum of gage is 787.58 ft above sea level (NGVD of 1929). Prior to Sept. 30, 1940, nonrecording gage at International Bridge, 5.8 mi upstream at datum 102.24 ft higher. Oct. 1, 1940 to Dec. 31, 1975, at present site at datum 2.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

COOPERATION.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jun 20	1530	*2,600	*7.73	No peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353	602	e345	e188	e161	e209	601	819	443	629	211	124
2	345	552	e340	e182	e160	e210	591	778	494	721	207	126
3	336	519	e340	e180	e160	e209	735	738	570	722	206	136
4	320	472	e340	e179	e159	e208	812	724	554	638	200	130
5	303	444	e335	e179	e158	e206	765	712	513	566	195	126
6	292	432	e325	e180	e157	e210	719	788	463	525	202	122
7	304	420	e315	e180	e154	e215	662	813	433	485	202	125
8	591	393	e305	e180	e151	e222	617	1570	409	522	202	128
9	749	379	e295	e180	e149	e230	594	2210	391	511	201	141
10	679	374	e285	e181	e147	e235	558	1810	405	465	194	175
11	605	369	e275	e182	e143	e240	521	1410	469	431	186	179
12	546	356	e270	e183	e141	e241	487	1210	495	414	184	174
13	495	352	e260	e182	e140	e236	475	1100	464	396	184	166
14	464	347	e250	e180	e139	e231	477	1070	443	378	180	157
15	448	349	e230	e178	e139	e228	478	1020	424	366	178	147
16	444	337	e180	e176	e139	e222	486	921	459	345	173	137
17	441	318	e200	e175	e139	e221	499	839	484	323	173	128
18	441	309	e220	e174	e138	e225	538	776	472	306	170	120
19	488	312	e225	e173	e138	e231	580	727	434	297	163	115
20	498	e310	e225	e172	e139	e248	584	675	1380	284	151	109
21	489	306	e220	e171	e141	e280	564	651	1990	274	136	106
22	481	e310	e215	e170	e144	e320	571	665	1500	268	127	106
23	482	e320	e210	e169	e150	e380	690	666	1190	258	123	112
24	466	e330	e205	e168	e157	e470	745	657	1030	247	119	105
25	434	e345	e200	e167	e174	e680	736	645	888	241	114	99
26	406	e350	e198	e166	e187	e850	693	615	1040	237	111	96
27	394	e350	e195	e165	e195	910	675	564	1100	235	107	94
28	376	e350	e192	e164	e203	838	801	515	940	235	105	92
29	358	e350	e191	e163	e208	753	985	481	795	229	101	85
30	472	e350	e191	e162	---	690	919	463	694	222	99	75
31	624	---	e190	e161	---	635	---	451	---	215	114	---
TOTAL	14124	11307	7767	5410	4510	11283	19158	27083	21366	11985	5018	3735
MEAN	456	377	251	175	156	364	639	874	712	387	162	124
MAX	749	602	345	188	208	910	985	2210	1990	722	211	179
MIN	292	306	180	161	138	206	475	451	391	215	99	75
AC-FT	28010	22430	15410	10730	8950	22380	38000	53720	42380	23770	9950	7410
CFSM	.75	.62	.41	.29	.26	.60	1.05	1.43	1.17	.63	.27	.20
IN.	.86	.69	.47	.33	.28	.69	1.17	1.65	1.31	.73	.31	.23

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	365	355	208	152	127	177	1189	1605	841	422	240	290
MAX	2095	1461	720	431	300	1169	2701	4016	2801	1127	1029	2985
(WY)	1978	1971	1978	1975	1969	1945	1976	1950	1947	1968	1950	1977
MIN	17.4	11.4	2.85	2.18	8.02	60.0	290	138	125	78.0	46.5	40.2
(WY)	1977	1977	1977	1977	1977	1941	1977	1977	1977	1958	1998	1976

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1921 - 2000
ANNUAL TOTAL	223921	142746	
ANNUAL MEAN	613	390	500
HIGHEST ANNUAL MEAN			840
LOWEST ANNUAL MEAN			158
HIGHEST DAILY MEAN	3740	2210	10700
LOWEST DAILY MEAN	180	75	1.0 ^a
ANNUAL SEVEN-DAY MINIMUM	194	92	1.0
INSTANTANEOUS PEAK FLOW		2600	11000
INSTANTANEOUS PEAK STAGE		7.73	7.60 ^b
INSTANTANEOUS LOW FLOW		71 ^c	1.0
ANNUAL RUNOFF (AC-FT)	444100	283100	362500
ANNUAL RUNOFF (CFSM)	1.01	.64	.82
ANNUAL RUNOFF (INCHES)	13.68	8.72	11.16
10 PERCENT EXCEEDS	1440	740	1280
50 PERCENT EXCEEDS	379	306	223
90 PERCENT EXCEEDS	212	139	84

- a Minimum observed.
- b Site and datum then in use.
- c Falling stage.
- e Estimated.

