

## 05129115 VERMILION RIVER NEAR CRANE LAKE, MN

LOCATION.--Lat 48°15'53", long 92°33'57", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 30, T.67 N., R.17 W., St. Louis County, Hydrologic Unit 09030002, in Superior National Forest, on left bank 350 ft downstream from bridge on Forest Route 491, 3.5 mi upstream from mouth, and 3.5 mi west of city of Crane Lake.

DRAINAGE AREA.-- 905 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,180 ft above sea level (from topographic map).

REMARKS.--Records fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 1979 reached a stage of 15.15 ft, from high-water mark, discharge approximately 4,600 ft<sup>3</sup>/s.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353	1,470	439	340	338	270	740	1,220	2,270	1,050	323	108
2	373	1,490	427	349	333	264	1,000	1,170	2,110	1,020	314	99
3	376	1,440	416	351	329	257	1,240	1,130	1,970	1,020	315	93
4	369	1,340	411	350	326	258	1,530	1,090	1,840	1,020	300	89
5	359	1,220	398	342	322	263	1,790	1,040	1,760	1,010	269	88
6	346	1,110	388	335	321	265	2,030	1,040	1,740	969	252	86
7	330	1,010	384	336	316	269	2,230	1,030	1,670	924	235	78
8	321	936	387	338	307	263	2,460	1,040	1,680	880	225	72
9	322	886	381	343	300	251	2,640	1,110	1,710	841	213	69
10	318	847	376	343	297	246	2,630	1,350	1,700	801	203	71
11	311	807	365	339	298	248	2,560	1,550	1,670	761	192	69
12	302	772	371	341	299	245	2,480	1,580	1,660	724	186	68
13	293	746	358	342	295	237	2,370	1,550	1,610	686	172	69
14	289	721	358	339	297	233	2,250	1,500	1,590	651	166	67
15	288	697	360	330	295	230	2,120	1,460	1,730	643	155	66
16	276	680	359	310	290	228	2,000	1,410	1,820	630	151	65
17	265	663	349	299	283	227	1,890	1,350	1,830	607	153	65
18	257	645	344	e310	271	226	1,820	1,300	1,790	582	208	62
19	257	621	336	e325	267	224	1,730	1,290	1,710	556	211	70
20	258	623	343	341	265	222	1,680	1,300	1,640	556	205	75
21	251	606	343	352	275	222	1,640	1,300	1,540	514	184	72
22	247	595	337	359	280	221	1,560	1,320	1,460	485	170	71
23	269	582	327	363	279	221	1,500	1,330	1,390	462	162	69
24	319	538	317	368	276	222	1,430	1,320	1,320	447	154	68
25	370	518	310	368	274	221	1,370	1,320	1,230	419	148	70
26	394	494	309	360	272	219	1,340	1,950	1,160	399	142	68
27	398	482	306	353	270	216	1,340	2,530	1,110	381	133	66
28	396	470	311	349	271	217	1,320	2,680	1,070	370	127	60
29	393	456	309	344	---	237	1,290	2,660	1,030	351	119	58
30	576	447	312	340	---	296	1,260	2,570	1,060	339	112	56
31	1,220	---	330	339	---	314	---	2,430	---	333	109	---
TOTAL	11,096	23,912	11,061	10,598	8,246	7,532	53,240	46,920	47,870	20,431	6,008	2,187
MEAN	358	797	357	342	294	243	1,775	1,514	1,596	659	194	72.9
MAX	1,220	1,490	439	368	338	314	2,640	2,680	2,270	1,050	323	108
MIN	247	447	306	299	265	216	740	1,030	1,030	333	109	56
AC-FT	22,010	47,430	21,940	21,020	16,360	14,940	105,600	93,070	94,950	40,520	11,920	4,340
CFSM	0.40	0.88	0.39	0.38	0.33	0.27	1.96	1.67	1.76	0.73	0.21	0.08
IN.	0.46	0.98	0.45	0.44	0.34	0.31	2.19	1.93	1.97	0.84	0.25	0.09

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2005, BY WATER YEAR (WY)

MEAN	540	542	412	288	235	281	1,204	1,369	974	749	514	450
MAX	1,436	1,138	872	476	374	574	2,286	3,012	2,234	1,609	2,225	1,880
(WY)	(1996)	(1983)	(1983)	(1996)	(1997)	(1995)	(2001)	(2001)	(2001)	(1985)	(2001)	(1988)
MIN	110	132	106	84.4	63.9	89.5	294	363	205	113	60.0	69.1
(WY)	(1998)	(2003)	(2003)	(2003)	(2003)	(1988)	(2003)	(2003)	(1980)	(1980)	(1980)	(1998)

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1979 - 2005	
ANNUAL TOTAL	229,622		249,101		632	
ANNUAL MEAN	627		682		213	
HIGHEST ANNUAL MEAN					1,132	2001
LOWEST ANNUAL MEAN					213	2003
HIGHEST DAILY MEAN	2,370	Apr 10	2,680	May 28	4,300	Apr 25, 1985
LOWEST DAILY MEAN	93	Aug 29	56	Sep 30	38	Aug 13, 1980
ANNUAL SEVEN-DAY MINIMUM	96	Aug 29	64	Sep 24	40	Aug 10, 1980
MAXIMUM PEAK FLOW			2,710	May 28	4,360	Apr 25, 1985
MAXIMUM PEAK STAGE			12.64	May 28	15.20	Apr 25, 1985
INSTANTANEOUS LOW FLOW			a55	Sep 30	38	Aug 13, 1980
ANNUAL RUNOFF (AC-FT)	455,500		494,100		457,900	
ANNUAL RUNOFF (CFSM)	0.693		0.754		0.698	
ANNUAL RUNOFF (INCHES)	9.44		10.24		9.49	
10 PERCENT EXCEEDS	1,520		1,670		1,440	
50 PERCENT EXCEEDS	362		353		417	
90 PERCENT EXCEEDS	186		146		153	

a Falling stage.  
e Estimated.

