

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 mi².

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 good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 1979 reached a stage of 15.15 ft, from high-water mark, discharge approximately 4,600 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	152	121	104	68	57	148	375	510	316	252	149
2	113	148	117	103	70	58	144	357	516	303	261	140
3	109	147	111	103	71	54	141	346	505	302	260	124
4	131	144	107	101	71	54	139	330	489	290	255	114
5	145	140	103	103	69	54	137	312	463	277	251	105
6	144	136	101	101	69	54	135	304	435	293	242	97
7	146	135	102	99	67	54	133	294	430	372	231	91
8	146	135	100	100	67	56	135	283	421	401	222	84
9	146	135	96	101	67	55	141	276	414	385	212	79
10	143	134	97	100	66	54	160	292	410	430	200	75
11	147	133	97	94	66	53	178	287	408	511	192	77
12	176	133	98	92	65	54	187	278	402	525	182	143
13	182	131	98	89	64	54	198	273	396	498	173	232
14	181	130	99	86	63	54	209	275	375	463	166	275
15	183	129	98	83	64	58	216	273	357	444	154	292
16	177	127	98	80	62	71	218	268	336	427	144	297
17	173	127	96	78	61	80	227	262	330	419	136	298
18	171	128	100	78	62	87	230	256	319	406	130	292
19	175	127	105	79	63	105	268	302	305	381	124	410
20	169	127	110	77	62	115	355	425	290	366	123	605
21	165	127	113	74	63	114	511	485	270	357	166	683
22	161	126	115	73	63	118	609	512	256	346	203	718
23	156	130	115	70	61	135	611	538	244	325	206	707
24	152	129	115	68	58	184	584	528	246	306	201	670
25	148	128	116	70	56	210	550	498	299	286	186	615
26	147	126	115	72	56	202	517	476	354	271	173	576
27	143	125	113	69	56	196	489	444	375	253	151	553
28	144	125	112	67	58	186	446	422	374	239	164	545
29	151	126	110	68	---	174	417	408	363	228	185	532
30	156	122	111	66	---	162	398	408	340	242	178	518
31	155	---	110	67	---	153	---	474	---	244	165	---
TOTAL	4,759	3,962	3,299	2,615	1,788	3,115	8,831	11,261	11,232	10,906	5,888	10,096
MEAN	154	132	106	84.4	63.9	100	294	363	374	352	190	337
MAX	183	152	121	104	71	210	611	538	516	525	261	718
MIN	109	122	96	66	56	53	133	256	244	228	123	75
AC-FT	9,440	7,860	6,540	5,190	3,550	6,180	17,520	22,340	22,280	21,630	11,680	20,030
CFSM	0.17	0.15	0.12	0.09	0.07	0.11	0.33	0.40	0.41	0.39	0.21	0.37
IN.	0.20	0.16	0.14	0.11	0.07	0.13	0.36	0.46	0.46	0.45	0.24	0.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2003, BY WATER YEAR (WY)

MEAN	553	538	417	286	232	282	1,155	1,369	937	764	541	472
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1979 - 2003	
ANNUAL TOTAL	128,374		77,752		631	
ANNUAL MEAN	352		213		213	
HIGHEST ANNUAL MEAN					1,132	2001
LOWEST ANNUAL MEAN					213	2003
HIGHEST DAILY MEAN	1,310	Apr 17	718	Sep 22	4,300	Apr 25, 1985
LOWEST DAILY MEAN	96	Dec 9	53	Mar 11	38	Aug 13, 1980
ANNUAL SEVEN-DAY MINIMUM	98	Dec 9	54	Mar 5	40	Aug 10, 1980
MAXIMUM PEAK FLOW			726	Sep 22	4,360	Apr 25, 1985
MAXIMUM PEAK STAGE			7.79	Sep 22	15.20	Apr 25, 1985
INSTANTANEOUS LOW FLOW			52	Mar 4, 12	38	Aug 13, 1980
ANNUAL RUNOFF (AC-FT)	254,600		154,200		457,500	
ANNUAL RUNOFF (CFSM)	0.39		0.24		0.70	
ANNUAL RUNOFF (INCHES)	5.28		3.20		9.48	
10 PERCENT EXCEEDS	669		444		1,420	
50 PERCENT EXCEEDS	275		149		425	
90 PERCENT EXCEEDS	125		67		152	

