Water-Data Report 2008

05336000 ST. CROIX RIVER NEAR GRANTSBURG, WI

St. Croix Basin
Upper St. Croix Subbasin

LOCATION.--Lat 45°55′25″, long 92°38′20″ referenced to North American Datum of 1927, Burnett County, Hydrologic Unit 07030001, on left bank, at Norway Point Landing, 12 miles north of Grantsburg and at mile 102.4.

DRAINAGE AREA.--2,820 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1923 to November 1970, October 2007 to current year.

GAGE.--Water-stage recorder in stilling well. Datum of gage is 848.98 ft above mean sea level, adjustment of 1912 (levels by Northern States Power Co.). Prior to Aug. 15, 1934, chain gage; and Aug. 15, 1934 to Oct. 21, 1938, staff gage in stilling well.

REMARKS.--Records good to fair except those for estimated daily discharge, which are fair to poor. Minor fluctuations at times from operations of powerplants on tributaries upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 2001 reached a stage of 15.39 ft, from highwater mark.

REVISIONS.--WSP 1438: 1932.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e2,000	e2,950	e1,030	e1,500	e990	e1,160	e2,000	6,420	2,850	1,680	1,180	996
2	e2,100	e2,800	e1,140	e1,510	e980	e1,200	e2,200	5,880	2,700	1,530	1,160	1,040
3	e2,170	e2,700	e1,250	e1,490	e960	e1,250	e2,500	6,620	2,500	1,390	1,190	1,030
4	e2,400	e2,600	e1,300	e1,480	e950	e1,270	e3,000	7,920	2,320	1,340	1,340	1,010
5	e2,600	e2,550	e1,350	e1,480	e980	e1,280	e3,500	9,230	2,230	1,290	1,340	966
6	e2,750	e2,450	e1,370	e1,480	e1,050	e1,280	4,230	9,090	2,800	1,230	1,290	918
7	e2,950	e2,400	e1,360	e1,490	e1,080	e1,270	5,110	7,910	4,170	1,160	1,250	1,020
8	e3,300	e2,350	e1,330	e1,500	e1,060	e1,260	5,930	6,960	5,270	1,210	1,160	1,090
9	e4,500	e2,300	e1,310	e1,530	e1,040	e1,250	6,430	6,290	5,010	1,290	1,170	1,100
10	e5,000	e2,200	e1,310	e1,570	e1,030	e1,230	6,330	5,640	3,960	1,350	1,060	1,120
11	e4,900	e2,150	e1,330	e1,610	e1,020	e1,210	5,710	5,390	3,230	1,430	996	1,200
12	e4,600	e2,050	e1,330	e1,580	e1,000	e1,180	5,000	5,400	3,840	1,560	996	1,370
13	e4,500	e2,000	e1,320	e1,530	e980	e1,160	4,520	5,280	5,640	1,590	1,050	1,360
14	e4,250	e1,930	e1,320	e1,500	e960	e1,150	4,510	4,820	6,780	1,420	1,040	1,720
15	e4,050	e1,880	e1,300	e1,430	e970	e1,170	4,800	4,490	6,540	1,380	1,050	1,870
16	e4,150	e1,800	e1,300	e1,350	e990	e1,220	5,610	4,130	5,460	1,370	1,120	1,770
17	e4,500	e1,730	e1,310	e1,330	e1,000	e1,220	6,290	3,720	4,520	1,470	1,110	1,670
18	e4,800	e1,690	e1,320	e1,290	e1,020	e1,200	6,690	3,250	3,650	1,770	947	1,580
19	e5,200	e1,650	e1,320	e1,230	e1,030	e1,200	6,730	2,890	3,010	1,770	852	1,470
20	e5,700	e1,620	e1,330	e1,160	e1,030	e1,200	6,510	2,800	2,720	1,670	849	1,400
21	e6,000	e1,610	e1,340	e1,100	e1,040	e1,210	6,320	2,700	2,420	1,640	822	1,340
22	e5,800	e1,600	e1,350	e1,040	e1,040	e1,250	6,520	2,570	2,130	1,570	863	1,300
23	e5,300	e1,590	e1,360	e980	e1,040	e1,260	7,060	2,430	1,980	1,470	928	1,260
24	e4,700	e1,550	e1,370	e940	e1,050	e1,280	7,800	2,350	1,890	1,390	903	1,420
25	e4,400	e1,500	e1,380	e910	e1,070	e1,300	8,080	2,250	1,820	1,340	767	1,690
26	e4,150	e1,400	e1,380	e920	e1,100	e1,360	8,150	2,140	1,730	1,350	740	1,810
27	e3,800	e1,100	e1,370	e930	e1,110	e1,450	8,560	2,040	1,680	1,320	768	1,740
28	e3,600	e900	e1,400	e960	e1,120	e1,650	8,930	2,010	1,790	1,250	1,050	1,630
29	e3,300	e800	e1,420	e980	e1,130	e1,750	8,370	1,920	1,830	1,190	1,200	1,610
30	e3,250	e900	e1,470	e1,000	---	e1,800	7,330	2,250	1,750	1,210	1,200	1,650
31	e3,150	---	e1,490	e1,000	---	e1,900	---	2,750	---	1,210	1,090	---
Total	123,870	56,750	41,260	39,800	29,820	40,570	174,720	139,540	98,220	43,840	32,481	41,150
Mean	3,996	1,892	1,331	1,284	1,028	1,309	5,824	4,501	3,274	1,414	1,048	1,372
Max	6,000	2,950	1,490	1,610	1,130	1,900	8,930	9,230	6,780	1,770	1,340	1,870
Min	2,000	800	1,030	910	950	1,150	2,000	1,920	1,680	1,160	740	918
Ac-ft	245,700	112,600	81,840	78,940	59,150	80,470	346,600	276,800	194,800	86,960	64,430	81,620
Cfsm	1.42	0.67	0.47	0.46	0.36	0.46	2.07	1.60	1.16	0.50	0.37	0.49
In.	1.63	0.75	0.54	0.53	0.39	0.54	2.30	1.84	1.30	0.58	0.43	0.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,049	2,015	1,579	1,384	1,333	2,176	4,725	3,663	2,895	2,147	1,612	2,019
Max	5,199	4,174	2,575	2,300	2,237	5,481	9,774	8,573	7,094	6,630	4,064	8,899
(WY)	(1969)	(1952)	(1952)	(1969)	(1969)	(1945)	(1950)	(1950)	(1944)	(1952)	(1955)	(1941)
Min	997	1,262	888	882	856	1,073	1,597	1,556	1,056	782	616	902
(WY)	(1949)	(1964)	(1926)	(1926)	(1933)	(1934)	(1931)	(1934)	(1934)	(1934)	(1934)	(1933)

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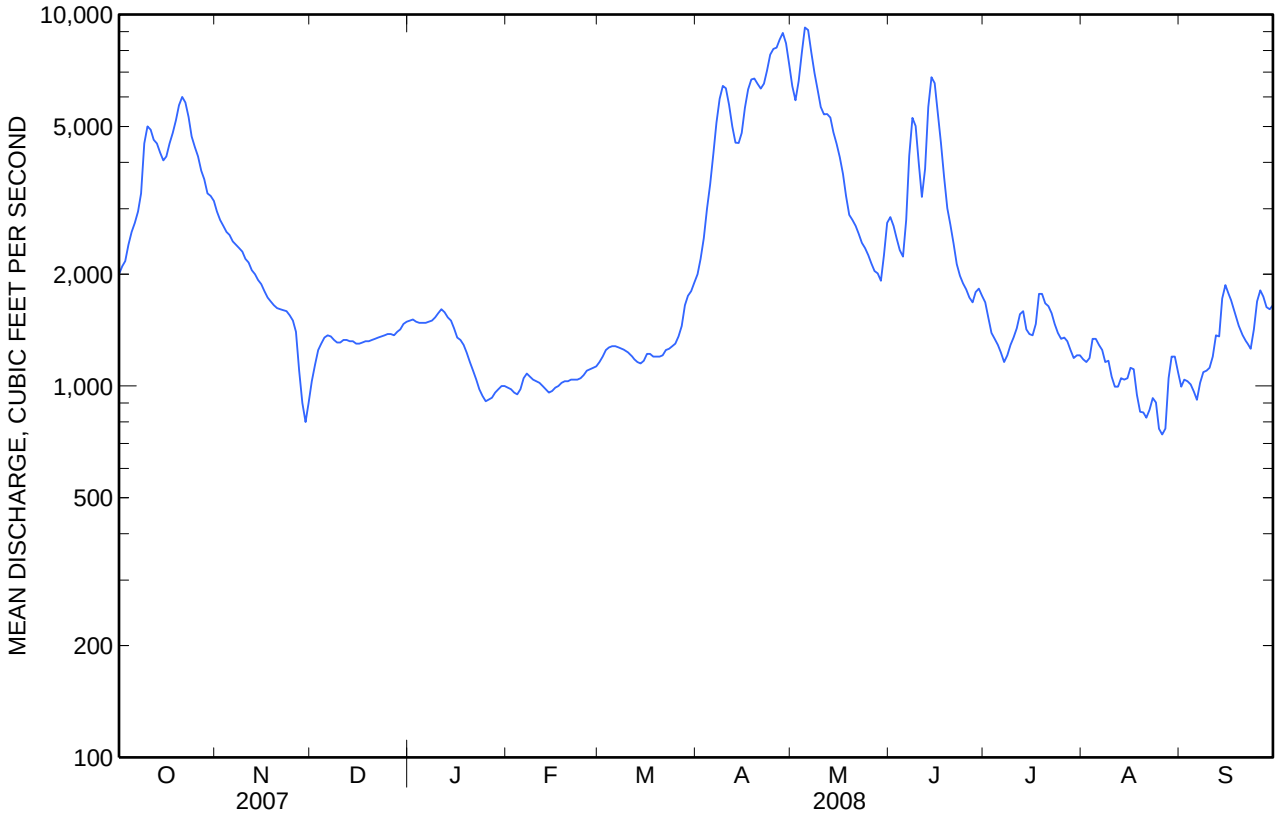
SUMMARY STATISTICS

	Water Year 2008		Water Years 1923 - 2008	
Annual total	862,021			
Annual mean	2,355		2,305	
Highest annual mean			3,526	1952
Lowest annual mean			1,243	1934
Highest daily mean	9,230	May 5	25,300	May 7, 1950
Lowest daily mean	740	Aug 26	510	Aug 14, 1934
Annual seven-day minimum	827	Aug 21	549	Aug 12, 1934
Maximum peak flow	9,530	May 5	26,300	May 7, 1950
Maximum peak stage	9.88	May 5	15.06	May 7, 1950
Instantaneous low flow	717	Aug 26	510	Aug 14, 1934
Annual runoff (ac-ft)	1,710,000		1,670,000	
Annual runoff (cfsm)	0.835		0.817	
Annual runoff (inches)	11.37		11.11	
10 percent exceeds	5,420		4,260	
50 percent exceeds	1,480		1,700	
90 percent exceeds	1,000		1,100	



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WATER-QUALITY RECORDS

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 1 of 2
[Remark codes: <, less than; E, estimated.]

Date	Time	Sample medium and type	Gage height, feet (00065)	Instantaneous discharge, ft3/s (00061)	Drainage area, mi2 (81024)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)
Apr									
22...	1053	Surface water, regular	--	6,400	2,820	742	10.0	6.7	74
24...	1230	Surface water, regular	--	--	2,820	--	8.9	6.7	80
25...	0745	Surface water, regular	--	--	2,820	734	8.6	7.1	76
May									
30...	1315	Surface water, regular	5.08	--	2,820	731	7.9	7.0	135
31...	1045	Surface water, regular	5.47	--	2,820	736	8.6	7.1	152
Jun									
13-13	0745	Surface water, regular	7.30	--	2,820	734	8.7	7.5	105
Jun									
13-13	0835	Surface water, regular	7.30	--	2,820	--	--	--	--
Aug									
08...	0730	Surface water, regular	--	--	2,820	745	6.9	7.6	162
Sep									
11...	0915	Surface water, regular	3.70	1,160	2,820	737	8.5	8.0	150
11...	0925	Surface water, replicate	3.70	1,160	2,820	737	8.5	8.0	150

05336000 ST. CROIX RIVER NEAR GRANTSBURG, WI—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 2 of 2
[Remark codes: <, less than; E, estimated.]

Date	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L as P (00666)	Phosphorus, water, unfltrd mg/L as P (00665)
Apr										
22...	--	9.9	.74	.75	<.020	.17	.003	E.004	.017	.048
24...	--	10.6	.69	.77	.026	.11	.004	E.005	.017	.042
25...	--	10.0	.74	.73	.025	.12	.004	E.005	.019	.041
May										
30...	19.0	15.5	.54	.60	<.020	E.04	E.001	.006	.012	.039
31...	18.0	15.8	.49	.59	<.020	E.03	E.001	.006	.013	.043
Jun										
13-13	--	16.6	.74	.74	<.020	.06	.003	E.005	.020	.049
Jun										
13-13	--	--	.76	.84	<.020	.06	.003	.007	.024	.056
Aug										
08...	15.0	21.5	1.1	.47	E.013	.05	.003	.006	.010	.029
Sep										
11...	15.0	16.3	.55	.37	<.020	E.04	.003	<.006	.007	.021
11...	15.0	16.3	.40	.42	<.020	E.04	.002	<.006	.008	.054