Water-Data Report 2013

05331580 MISSISSIPPI RIVER BELOW LOCK AND DAM 2, AT HASTINGS, MN

Upper Mississippi Basin
Twin Cities Subbasin

LOCATION.--Lat 44°44′45″, long 92°50′52″ referenced to North American Datum of 1983, in SE ¼ SW ¼ SW ¼ sec.22, T.115 N., R.17 W., Dakota County, MN, Hydrologic Unit 07010206, near bridge on U.S. Highway 61 in Hastings, 1.2 mi downstream from Lock and Dam 2, 2.5 mi upstream from St. Croix River, and at mile 813.8 upstream from Ohio River.

DRAINAGE AREA.--37,100 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1996 to September 2004, October 2006 to current year.

GAGE.--Water-stage and velocity recorder since November 2008.

REMARKS.--Records fair except for estimated flows, which are poor. Water-discharges computed on the basis of routed discharge for Mississippi River at St. Paul (station 05331000) adjusted for inflow (including Metropolitan Wastewater Treatment Plant) for the entire water year.

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 05331580, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/05331580.2013.pdf

05331580 MISSISSIPPI RIVER BELOW LOCK AND DAM 2, AT HASTINGS, MN—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES
[e, estimated]

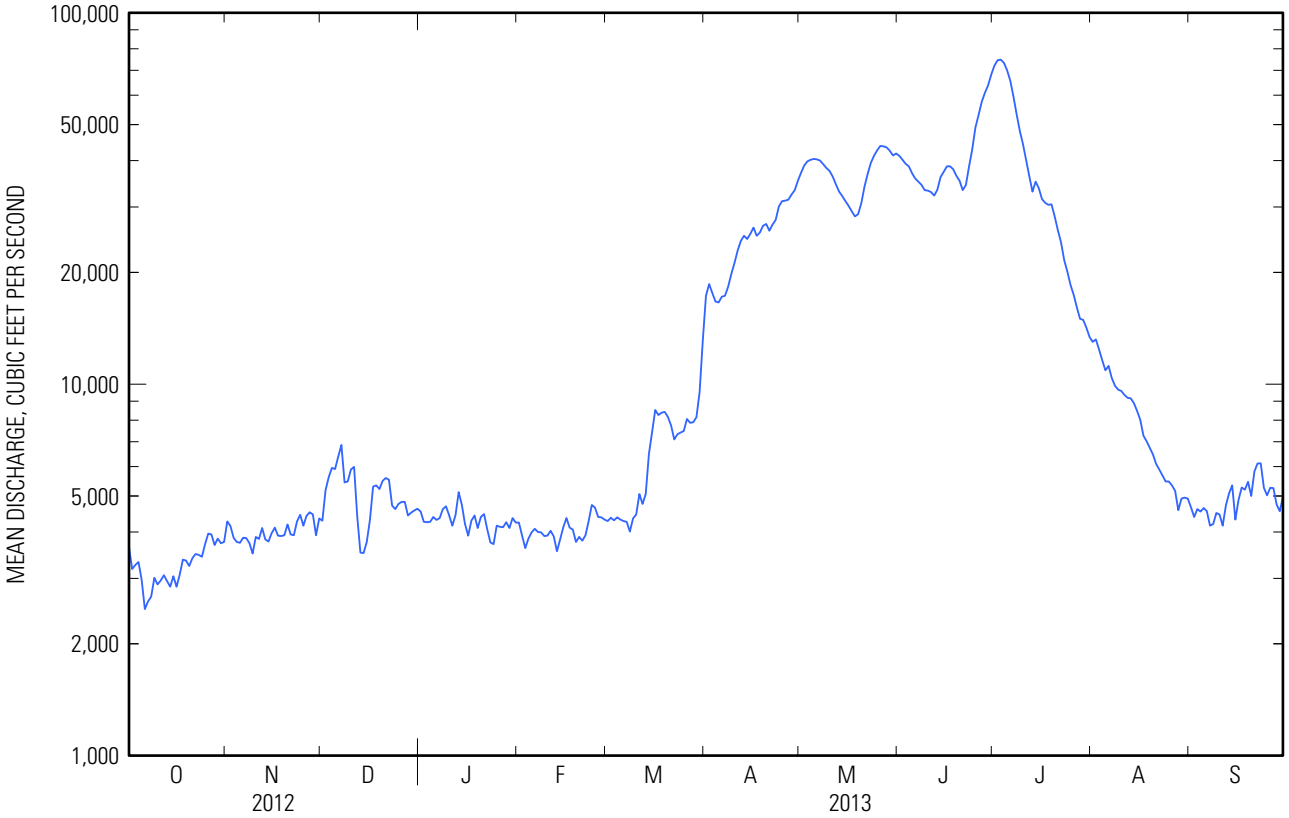
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,640	4,270	4,290	e4,540	4,240	e4,280	e17,300	e37,100	e41,200	e72,100	e13,000	e4,660
2	3,180	4,150	5,180	e4,260	3,910	e4,370	e18,600	e38,800	e40,200	e74,500	e13,200	e4,390
3	3,260	3,860	5,620	e4,250	e3,620	e4,300	e17,600	e39,800	e39,200	e74,800	e12,400	e4,610
4	3,320	3,760	5,950	e4,260	e3,840	e4,380	e16,700	e40,200	e38,600	e73,300	e11,600	e4,540
5	2,970	3,740	5,910	e4,390	e3,990	e4,320	e16,600	e40,400	e37,000	e70,000	e10,900	e4,640
6	2,480	3,860	6,380	e4,310	e4,080	e4,280	e17,200	e40,300	e35,800	e65,600	e11,200	e4,550
7	2,600	3,850	6,860	e4,360	e4,000	e4,260	e17,300	e40,000	e35,100	e59,500	e10,400	e4,160
8	2,680	3,730	5,440	e4,610	e3,990	e4,010	e18,300	e39,100	e34,400	e53,300	e9,910	e4,200
9	3,010	3,500	5,470	e4,690	e3,900	e4,350	e19,800	e38,200	e33,300	e48,100	e9,670	e4,500
10	2,890	3,880	5,890	e4,430	e3,910	e4,460	e21,200	e37,500	e33,200	e44,300	e9,590	e4,460
11	2,960	3,830	5,990	e4,160	4,030	e5,060	e22,900	e36,200	e32,900	e40,100	e9,360	e4,160
12	3,060	4,100	e4,400	e4,440	3,890	e4,760	e24,300	e34,500	e32,200	e36,300	e9,190	e4,710
13	2,950	3,820	3,520	e5,120	3,550	e5,060	e25,100	e33,000	e33,400	e33,000	e9,160	e5,080
14	2,850	3,770	3,510	e4,730	3,820	e6,480	e24,600	e32,100	e36,100	e35,100	e8,890	e5,340
15	3,040	3,970	3,760	e4,200	4,120	e7,420	e25,400	e31,100	e37,300	e33,700	e8,470	e4,320
16	2,850	4,110	e4,310	e3,910	4,360	e8,520	e26,400	e30,200	e38,600	e31,500	e8,020	e4,880
17	3,070	3,910	e5,300	e4,290	e4,110	e8,260	e25,100	e29,200	e38,600	e30,800	e7,270	e5,270
18	3,370	3,900	e5,340	e4,430	4,060	e8,380	e25,600	e28,300	e37,900	e30,400	e7,020	e5,200
19	3,350	3,920	5,220	e4,100	3,760	e8,420	e26,700	e28,700	e36,400	e30,500	e6,740	e5,460
20	3,240	4,190	5,490	e4,390	3,880	e8,160	e27,000	e30,700	e35,300	e28,300	e6,470	e5,000
21	3,400	3,940	5,590	e4,470	3,790	e7,740	e25,900	e34,000	e33,300	e26,000	e6,100	e5,820
22	3,490	3,920	5,530	e4,070	e3,920	e7,100	e26,900	e36,800	e34,400	e24,100	e5,890	e6,120
23	3,470	4,270	4,710	e3,750	e4,280	e7,330	e27,700	e39,400	e38,600	e21,600	e5,680	e6,120
24	3,430	4,450	e4,610	e3,710	4,730	e7,410	e30,100	e41,200	e42,900	e20,100	e5,470	e5,260
25	3,710	4,160	e4,760	e4,160	4,650	e7,480	e31,100	e42,600	e49,100	e18,500	e5,470	e5,020
26	3,960	4,420	e4,820	e4,130	4,390	e8,060	e31,200	e43,800	e53,100	e17,400	e5,340	e5,260
27	3,940	4,520	e4,820	e4,120	4,380	e7,870	e31,400	e43,700	e57,600	e16,100	e5,160	e5,250
28	3,690	4,460	e4,430	e4,250	e4,320	e7,900	e32,400	e43,400	e60,900	e15,000	e4,580	e4,750
29	3,840	3,920	e4,510	e4,100	---	e8,150	e33,300	e42,500	e63,800	e14,900	e4,920	e4,550
30	3,730	4,350	e4,570	e4,360	---	e9,530	e35,300	e41,300	e68,200	e14,200	e4,950	e4,970
31	3,760	---	e4,620	e4,240	---	e13,100	---	e41,800	---	e13,400	e4,920	---
Total	101,190	120,530	156,800	133,230	113,520	205,200	739,000	1,155,900	1,228,600	1,166,500	250,940	147,250
Mean	3,264	4,018	5,058	4,298	4,054	6,619	24,630	37,290	40,950	37,630	8,095	4,908
Max	3,960	4,520	6,860	5,120	4,730	13,100	35,300	43,800	68,200	74,800	13,200	6,120
Min	2,480	3,500	3,510	3,710	3,550	4,010	16,600	28,300	32,200	13,400	4,580	4,160
Ac-ft	200,700	239,100	311,000	264,300	225,200	407,000	1,466,000	2,293,000	2,437,000	2,314,000	497,700	292,100
Cfsm	0.09	0.11	0.14	0.12	0.11	0.18	0.66	1.01	1.10	1.01	0.22	0.13
In.	0.10	0.12	0.16	0.13	0.11	0.21	0.74	1.16	1.23	1.17	0.25	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	11,940	11,970	8,685	7,079	6,830	16,220	40,310	32,690	29,800	23,310	11,740	8,697
Max	42,750	26,670	15,970	14,480	14,900	44,130	95,650	76,140	53,270	52,470	30,260	24,400
(WY)	(2011)	(2011)	(2011)	(2011)	(2011)	(2010)	(2001)	(2001)	(2011)	(2011)	(2011)	(2010)
Min	3,264	4,018	3,908	3,728	3,089	6,436	10,400	11,270	10,580	5,559	4,971	3,656
(WY)	(2013)	(2013)	(2007)	(2004)	(2007)	(2001)	(2000)	(2004)	(2009)	(2007)	(2007)	(2012)

05331580 MISSISSIPPI RIVER BELOW LOCK AND DAM 2, AT HASTINGS, MN—Continued

SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1996 - 2013	
Annual total	4,819,670		5,518,660			
Annual mean	13,170		15,120		17,460	
Highest annual mean					37,390	2011
Lowest annual mean					10,310	2000
Highest daily mean	68,200	Jun 3	74,800	Jul 3	147,000	Apr 19, 2001
Lowest daily mean	2,480	Oct 6	2,480	Oct 6	2,390	Dec 5, 2006
Annual seven-day minimum	2,800	Oct 5	2,800	Oct 5	2,710	Feb 16, 2007
Maximum peak flow			[a]74,800	Jul 3	[b]147,000	Apr 19, 2001
Maximum peak stage			16.53	Jul 2	19.44	Apr 12, 2011
Instantaneous low flow			[c]2,480	Oct 6	[d]2,390	Dec 5, 2006
Annual runoff (ac-ft)	9,560,000		10,950,000		12,650,000	
Annual runoff (cfsm)	0.355		0.408		0.471	
Annual runoff (inches)	4.83		5.53		6.39	
10 percent exceeds	35,500		38,900		39,000	
50 percent exceeds	6,160		5,340		10,800	
90 percent exceeds	3,480		3,760		4,420	

[a] Daily-mean discharge, routed flow. Affected by regulation.
[c] Minimum daily-mean discharge, routed flow. Affected by regulation.
[d] Minimum daily-mean discharge. Affected by regulation.