

**05489500 DES MOINES RIVER AT OTTUMWA, IA**

Des Moines Basin  
Lower Des Moines Subbasin

LOCATION.--Lat 41°00'39", long 92°24'40" referenced to North American Datum of 1927, in SE ¼ NE ¼ sec.25, T.72 N., R.14 W., Wapello County, IA, Hydrologic Unit 07100009, on right bank 15 ft downstream from Colorado and Eastern Railroad bridge at Ottumwa, 0.4 mi downstream from Ottumwa powerplant, 6.5 mi upstream from Village Creek, 9.5 mi downstream from South Avery Creek, and 91.9 mi upstream from mouth.

DRAINAGE AREA.--13,374 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--March 1917 to current year (published as "at Eldon" October 1930 to March 1935). Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 525: 1917-20. WSP 1308: 1917-23 (M), 1925-27 (M), 1931. WSP 1438: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 622.00 ft above NGVD of 1929. Prior to September 30, 1930, nonrecording gage at Market Street Bridge 1,700 ft upstream at datum 0.83 ft higher; October 1, 1930 to March 31, 1935, nonrecording gage at Eldon 15 mi downstream at different datum; April 1, 1935 to October 25, 1963, water-stage recorder at site 1,100 ft downstream at Vine Street Bridge at datum 0.77 ft higher.

REMARKS.--Records are considered good, except for those estimated daily discharges, which are poor. Prior to December 12, 1958 and since November 30, 1960, diurnal fluctuations at low and medium stages are caused by powerplant upstream of station about ½ mile. Flow regulated by Lake Red Rock (station 05488100) 48.2 mi upstream since March 12, 1969. U.S. Army Corps of Engineers rain gage and data collection platform with satellite telemetry at station. Precipitation records are available online at the U.S. Army Corps of Engineers website: [www2.mvr.usace.army.mil/WaterControl/datamining2.cfm](http://www2.mvr.usace.army.mil/WaterControl/datamining2.cfm).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 135,000 ft<sup>3</sup>/s, June 7, 1947, gage height, 20.2 ft, site and datum then in use; minimum daily discharge, 26 ft<sup>3</sup>/s, October 25, 1990, when gates at dam in Ottumwa were closed.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1850, that of June 7, 1947. Flood of May 31, 1903, reached a stage of 19.4 ft, former site and datum at Vine Street Bridge or about 22 ft at Market Street Bridge, from information by U.S. Army Corps of Engineers and U.S. National Weather Service, discharge about 140,000 ft<sup>3</sup>/s.

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**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**  
**DAILY MEAN VALUES**

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,860	2,090	4,980	5,240	2,820	9,590	23,300	25,100	25,100	17,900	1,450	18,300
2	1,620	1,800	4,050	8,160	e2,830	10,800	27,100	21,400	24,400	17,900	1,170	18,400
3	1,750	1,770	2,450	9,100	e2,880	12,100	24,300	20,700	17,800	17,700	1,150	18,500
4	1,580	1,560	1,720	9,960	e2,940	8,750	24,100	20,200	18,800	17,700	1,110	18,500
5	1,570	1,560	1,350	9,850	e2,940	6,440	23,400	19,600	18,800	17,500	1,220	18,500
6	1,330	1,550	1,160	8,520	e2,840	6,100	23,200	22,700	21,700	17,400	1,060	18,500
7	1,070	1,600	1,150	6,550	e2,600	5,500	23,100	29,800	23,200	17,700	2,040	19,300
8	1,510	1,950	760	7,720	e2,610	4,550	23,000	24,100	23,100	17,800	3,830	18,600
9	1,580	1,830	1,190	7,890	e2,390	5,840	20,900	e16,400	22,800	e17,700	e8,960	18,400
10	1,580	2,010	1,440	7,800	e2,480	9,710	20,500	e20,500	22,700	e17,600	e10,500	18,400
11	1,580	1,960	1,460	6,230	e2,240	15,400	19,800	22,800	22,500	17,400	8,280	18,300
12	1,770	1,920	e1,740	5,500	1,900	18,100	23,400	23,500	22,400	17,500	6,960	18,200
13	1,880	1,720	e2,400	5,350	2,090	20,300	24,000	23,600	22,500	17,400	5,540	18,000
14	2,030	1,670	e3,030	3,420	e2,430	22,900	23,000	23,500	22,400	17,100	2,970	17,900
15	1,550	1,750	3,850	2,420	e2,560	25,200	21,900	23,500	22,500	15,000	2,120	17,600
16	1,210	1,790	4,240	2,490	e2,260	27,200	20,800	23,300	22,300	11,800	2,120	17,900
17	1,070	2,020	4,290	2,130	e2,220	28,100	19,300	23,200	22,200	10,300	2,430	17,900
18	1,110	1,860	4,290	1,560	e2,340	29,300	17,800	23,100	22,700	8,950	2,610	18,200
19	1,470	2,210	4,340	2,050	e2,170	29,400	16,300	23,100	22,300	6,560	1,990	18,300
20	1,570	1,980	4,340	2,570	2,080	29,500	14,600	23,100	22,100	4,250	2,580	18,200
21	1,630	1,800	4,540	3,170	3,020	27,600	12,900	23,200	21,900	2,330	3,150	17,900
22	2,470	1,480	5,420	4,990	4,440	27,400	12,900	23,300	18,800	2,280	5,600	18,000
23	2,790	1,660	6,120	5,850	7,490	27,000	13,000	23,200	18,600	2,310	13,400	17,900
24	2,270	1,600	6,170	4,490	11,800	26,100	13,600	23,300	18,400	2,290	31,900	17,900
25	1,920	1,590	4,930	4,000	17,000	25,300	23,200	23,100	18,400	2,300	17,100	17,800
26	2,120	1,500	4,730	4,120	16,800	25,000	33,400	23,100	18,200	2,280	14,100	15,600
27	2,360	1,820	4,480	4,490	15,000	24,800	28,000	23,200	18,100	2,400	10,300	12,900
28	2,600	2,030	3,420	e4,100	11,600	23,500	22,300	23,200	18,200	2,090	17,300	10,400
29	2,710	3,740	2,840	e3,770	---	23,000	26,900	23,100	18,200	2,080	18,200	9,840
30	2,580	4,860	3,340	e3,390	---	22,800	28,000	23,200	18,000	1,780	18,200	10,600
31	2,220	---	3,830	3,180	---	23,200	---	25,200	---	1,480	18,200	---
<b>Total</b>	56,360	58,680	104,050	160,060	136,770	600,480	648,000	710,300	629,100	326,780	237,540	514,740
<b>Mean</b>	1,818	1,956	3,356	5,163	4,885	19,370	21,600	22,910	20,970	10,540	7,663	17,160
<b>Max</b>	2,790	4,860	6,170	9,960	17,000	29,500	33,400	29,800	25,100	17,900	31,900	19,300
<b>Min</b>	1,070	1,480	760	1,560	1,900	4,550	12,900	16,400	17,800	1,480	1,060	9,840
<b>Ac-ft</b>	111,800	116,400	206,400	317,500	271,300	1,191,000	1,285,000	1,409,000	1,248,000	648,200	471,200	1,021,000
<b>Cfs/m</b>	0.14	0.15	0.25	0.39	0.37	1.45	1.62	1.71	1.57	0.79	0.57	1.28
<b>In.</b>	0.16	0.16	0.29	0.45	0.38	1.67	1.80	1.98	1.75	0.91	0.66	1.43

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	3,628	4,411	3,994	2,749	4,582	9,693	12,500	13,430	14,190	14,030	7,677	4,573
<b>Max</b>	18,390	19,250	13,980	12,380	16,470	21,750	25,330	29,770	31,980	85,570	47,380	34,790
<b>(WY)</b>	(1974)	(1987)	(1993)	(1973)	(1973)	(1983)	(1983)	(1993)	(1984)	(1993)	(1993)	(1993)
<b>Min</b>	307	327	381	290	328	891	962	519	282	238	610	366
<b>(WY)</b>	(2001)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1988)	(1976)

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1970 - 2007 <sup>a</sup>	
<b>Annual total</b>	1,709,455		4,182,860			
<b>Annual mean</b>	4,683		11,460		7,970	
<b>Highest annual mean</b>					26,350	1993
<b>Lowest annual mean</b>					1,120	1977
<b>Highest daily mean</b>	18,600	May 4	33,400	Apr 26	110,000	Jul 12, 1993
<b>Lowest daily mean</b>	671	Aug 7	760	Dec 8	26	Oct 25, 1990 <sup>b</sup>
<b>Annual seven-day minimum</b>	879	Aug 1	1,220	Dec 5	182	Jul 7, 1977
<b>Maximum peak flow</b>			35,100	Aug 24	112,000	Jul 12, 1993
<b>Maximum peak stage</b>			11.13	Aug 24	22.15	Jul 12, 1993
<b>Annual runoff (ac-ft)</b>	3,391,000		8,297,000		5,774,000	
<b>Annual runoff (cfsm)</b>	0.350		0.857		0.596	
<b>Annual runoff (inches)</b>	4.75		11.63		8.10	
<b>10 percent exceeds</b>	11,500		23,300		20,000	
<b>50 percent exceeds</b>	3,230		8,950		4,140	
<b>90 percent exceeds</b>	1,500		1,600		661	

<sup>a</sup> Post regulation.

<sup>b</sup> Gates at dam in Ottumwa closed.

