Water-Data Report 2013

05487520 Des Moines River near Swan, IA

Des Moines Basin
Lake Red Rock Subbasin

LOCATION.--Lat 41°29'21.84", long 93°16'41.70" referenced to North American Datum of 1983, in NE ¼ SW ¼ NE ¼ sec.9, T.77 N., R.21 W., Marion County, IA, Hydrologic Unit 07100008, on left bank 75 ft south of Beardsley Drive, 4.5 mi downstream of bridge on State Highway 316, 1.6 mi northeast of Swan, 3.9 mi downstream from Camp Creek, 23.7 mi upstream from Red Rock Dam, and 162.9 mi upstream from mouth.

DRAINAGE AREA.--11,700 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records from October 2009 to current year. October 1985 to September 2009, at site 4.5 mi upstream and published as "near Runnells" (station 05487500). Records are not equivalent because of difference in drainage area.

GAGE.--Water-stage recorder. Datum of gage is 699.24 ft above North American Vertical Datum of 1988.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Saylorville Lake (station 05481630), 38.7 mi upstream. Stage-discharge relation is affected at times by backwater from Lake Red Rock (station 05488100). U.S. Geological Survey data collection platform with satellite telemetry at station.

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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	300	380	e341	e318	e351	e293	6,810	7,430	e36,200	e21,600	2,790	759
2	274	e387	e341	e311	e374	e271	6,940	7,150	e35,500	e20,200	2,740	830
3	e284	e377	e345	e305	e368	e306	6,850	7,660	e34,300	e18,700	2,680	778
4	e280	e361	e348	e312	e364	e340	5,760	e7,130	e33,900	e17,800	2,430	743
5	e279	e335	e347	e315	e361	e362	4,260	e8,250	32,700	e17,200	2,170	775
6	e275	e374	e340	e319	e379	e336	3,700	e14,800	31,200	e16,500	2,010	833
7	e287	e344	e367	e304	e456	e383	2,890	e21,000	29,500	e15,400	2,340	781
8	e281	e335	e345	e315	e413	e349	2,560	e24,300	27,300	e14,300	2,360	961
9	e285	e352	e395	e291	e370	e992	3,050	e23,600	24,500	e13,400	2,080	825
10	e290	e364	e386	e294	e444	6,510	4,870	e23,500	21,500	12,200	1,800	740
11	e295	e371	e373	e303	e400	9,670	9,510	e21,500	19,200	e11,900	1,570	722
12	296	e625	e335	e320	e375	7,350	8,950	e21,100	19,400	e11,500	1,530	634
13	305	e338	e387	e405	e396	5,070	7,980	e25,400	20,100	e10,600	1,680	686
14	517	e322	e413	e344	e409	3,110	7,990	e20,600	20,700	e10,300	1,700	697
15	675	e287	e365	e317	e370	2,610	7,730	16,300	21,500	e9,380	1,790	684
16	654	e316	e489	e303	e336	4,250	7,340	15,200	23,400	e8,920	1,720	845
17	493	e328	e460	e292	e336	6,610	9,330	13,900	25,500	e8,130	1,610	1,030
18	341	e332	e366	e295	e301	7,160	18,700	12,500	26,500	e7,430	1,620	1,160
19	268	e322	e362	e280	e241	7,000	22,200	11,500	26,500	e6,830	1,550	1,070
20	399	e328	e326	e267	e233	6,310	25,900	11,300	e29,200	e6,650	1,520	1,390
21	396	e316	e330	e276	e314	5,570	28,100	11,600	e35,300	e5,170	1,270	1,600
22	383	e302	e324	e289	e297	3,210	29,300	12,000	e34,100	e4,840	1,310	e1,240
23	475	e316	e340	e285	e327	3,330	29,100	11,900	e29,500	4,060	1,530	e1,030
24	503	e295	e350	e302	e340	3,220	28,100	11,900	e23,600	3,530	1,430	e879
25	217	e302	e327	e300	e336	2,970	26,000	11,900	e20,700	3,450	1,210	e798
26	321	e312	e322	e309	e327	2,870	23,000	12,500	e18,800	3,350	1,100	e760
27	403	e305	e316	e299	e314	2,480	19,800	14,200	e18,500	3,260	935	e738
28	417	e319	e324	e333	e301	2,250	16,400	e21,000	e20,500	3,160	843	e738
29	488	e314	e329	e359	---	2,270	12,300	e29,700	e23,000	3,070	875	e726
30	386	e328	e324	e376	---	4,340	8,390	e33,800	e22,500	2,970	843	e721
31	362	---	e326	e353	---	6,020	---	e36,000	---	2,860	830	---
Total	11,429	10,287	11,043	9,691	9,833	107,812	393,810	520,620	785,100	298,660	51,866	26,173
Mean	369	343	356	313	351	3,478	13,130	16,790	26,170	9,634	1,673	872
Max	675	625	489	405	456	9,670	29,300	36,000	36,200	21,600	2,790	1,600
Min	217	287	316	267	233	271	2,560	7,130	18,500	2,860	830	634
Ac-ft	22,670	20,400	21,900	19,220	19,500	213,800	781,100	1,033,000	1,557,000	592,400	102,900	51,910
Cfsm	0.03	0.03	0.03	0.03	0.03	0.30	1.12	1.44	2.24	0.82	0.14	0.07
In.	0.04	0.03	0.04	0.03	0.03	0.34	1.25	1.66	2.50	0.95	0.16	0.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2010 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	4,358	4,904	2,674	2,028	3,119	12,680	14,870	14,730	22,170	18,940	9,806	3,542
Max	10,640	11,100	4,616	3,740	7,462	34,050	24,960	17,610	34,110	45,300	32,100	11,590
(WY)	(2011)	(2010)	(2010)	(2010)	(2011)	(2010)	(2010)	(2010)	(2010)	(2010)	(2010)	(2010)
Min	369	343	356	313	351	2,921	4,736	6,962	5,109	1,219	479	382
(WY)	(2013)	(2013)	(2013)	(2013)	(2013)	(2012)	(2012)	(2012)	(2012)	(2012)	(2012)	(2012)

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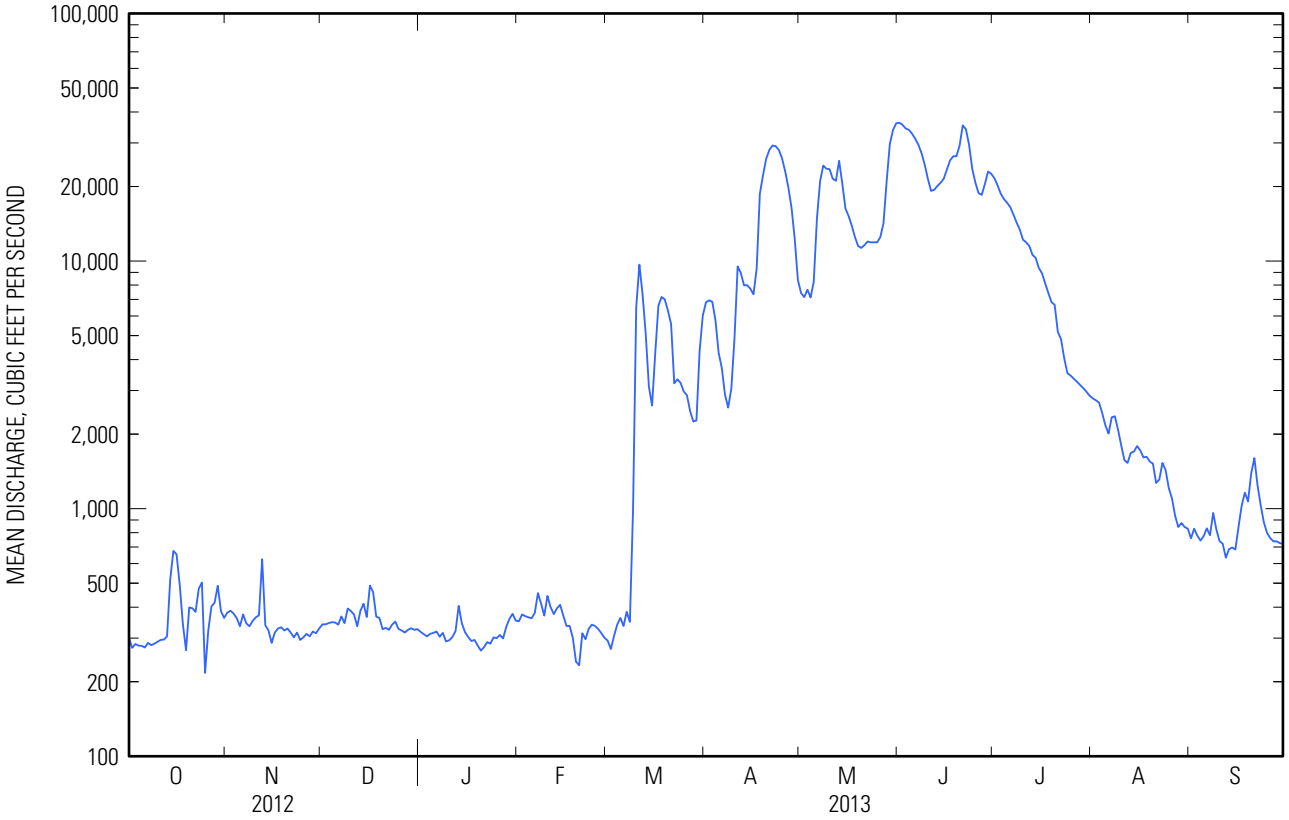
SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 2010 - 2013	
Annual total	747,865		2,236,324			
Annual mean	2,043		6,127		9,513	
Highest annual mean					19,170	2010
Lowest annual mean					2,161	2012
Highest daily mean	15,000	Apr 16	36,200	Jun 1	55,600	Jul 5, 2010[a]
Lowest daily mean	217	Oct 25	217	Oct 25	217	Oct 25, 2012
Annual seven-day minimum	280	Oct 2	280	Oct 2	280	Oct 2, 2012
Maximum peak flow			[b]37,100	Jun 1	55,900	Jul 5, 2010
Maximum peak stage			67.27	Jun 20	79.26	Jul 5, 2010
Annual runoff (ac-ft)	1,483,000		4,436,000		6,891,000	
Annual runoff (cfsm)	0.175		0.524		0.813	
Annual runoff (inches)	2.38		7.11		11.05	
10 percent exceeds	5,620		21,500		26,300	
50 percent exceeds	654		845		4,180	
90 percent exceeds	322		302		373	

[a] Also Jul 6, 2010.
[b] Estimated.



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WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 2011 to current year, records fragmentary.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	18.6	8.5	4.2	0.1	0.2	1.5	5.4	16.2	---	---	24.4	28.9
2	18.6	8.9	5.4	0.1	0.2	2.1	5.4	12.8	---	---	25.5	26.8
3	18.5	8.8	7.6	0.1	0.1	2.8	6.1	7.4	---	---	25.2	25.5
4	17.8	9.0	8.7	0.1	0.1	3.2	7.2	6.7	---	---	24.7	25.1
5	15.0	8.5	7.4	0.1	0.2	3.7	8.2	8.2	---	---	24.5	26.0
6	11.8	8.3	6.0	0.2	0.2	2.4	9.1	10.1	---	---	24.9	26.7
7	10.3	8.5	6.1	0.3	0.1	2.2	9.5	11.6	---	---	25.7	26.9
8	10.6	---	6.0	0.3	0.0	2.7	11.6	12.2	---	---	25.6	27.1
9	11.3	---	5.1	0.3	0.1	4.1	13.6	12.4	---	---	25.6	27.4
10	11.4	---	3.0	0.2	0.2	1.1	10.9	13.8	---	---	25.2	27.5
11	11.4	---	1.1	0.1	0.5	0.3	8.5	14.0	---	---	25.5	27.1
12	11.7	---	0.8	0.2	0.6	0.2	7.8	13.9	---	---	25.7	26.2
13	12.3	---	1.4	0.3	1.1	0.5	7.4	14.5	---	---	25.2	24.9
14	14.8	---	2.4	0.3	2.3	2.2	8.8	15.8	---	---	24.3	23.0
15	14.3	7.0	3.6	0.3	1.7	4.0	8.9	17.7	---	---	23.8	21.6
16	15.0	7.5	4.9	0.2	0.9	4.5	8.3	18.8	---	---	23.4	20.0
17	15.3	7.5	4.5	0.3	0.8	2.9	7.9	20.0	---	---	23.8	18.5
18	13.1	7.6	3.7	0.3	2.0	3.0	6.8	20.6	---	---	24.3	19.2
19	10.6	8.5	3.2	0.4	0.7	2.2	6.3	21.3	---	---	24.5	22.1
20	10.7	9.3	0.8	0.8	0.4	2.1	6.5	20.9	---	---	25.0	21.7
21	12.2	9.3	0.2	0.3	0.2	1.9	7.7	20.5	---	---	25.9	20.4
22	14.8	9.2	0.3	0.2	0.1	2.4	8.9	19.8	---	---	26.2	20.4
23	17.2	7.9	0.4	0.2	0.1	2.9	9.0	19.3	---	---	25.7	20.4
24	17.9	4.7	0.2	0.1	0.2	2.3	8.3	19.4	---	---	26.3	19.9
25	17.5	3.2	0.2	0.2	0.2	2.2	9.2	18.3	---	---	26.9	20.1
26	12.9	3.3	0.3	0.3	0.6	3.0	10.5	---	---	---	27.6	20.7
27	10.3	2.7	0.2	0.2	1.0	4.4	11.4	---	---	---	28.3	21.7
28	9.5	1.8	0.1	0.1	0.9	5.9	12.8	---	---	---	28.6	21.7
29	8.9	2.2	0.0	0.1	---	7.4	14.4	---	---	---	29.3	20.1
30	8.5	3.4	0.1	0.1	---	6.9	15.9	---	---	---	29.6	19.4
31	8.5	---	0.1	0.1	---	5.4	---	---	---	22.5	29.9	---
Mean	13.3	---	2.8	0.2	0.6	3.0	9.1	---	---	---	25.8	23.2
Max	18.6	---	8.7	0.8	2.3	7.4	15.9	---	---	---	29.9	28.9
Min	8.5	---	0.0	0.1	0.0	0.2	5.4	---	---	---	23.4	18.5