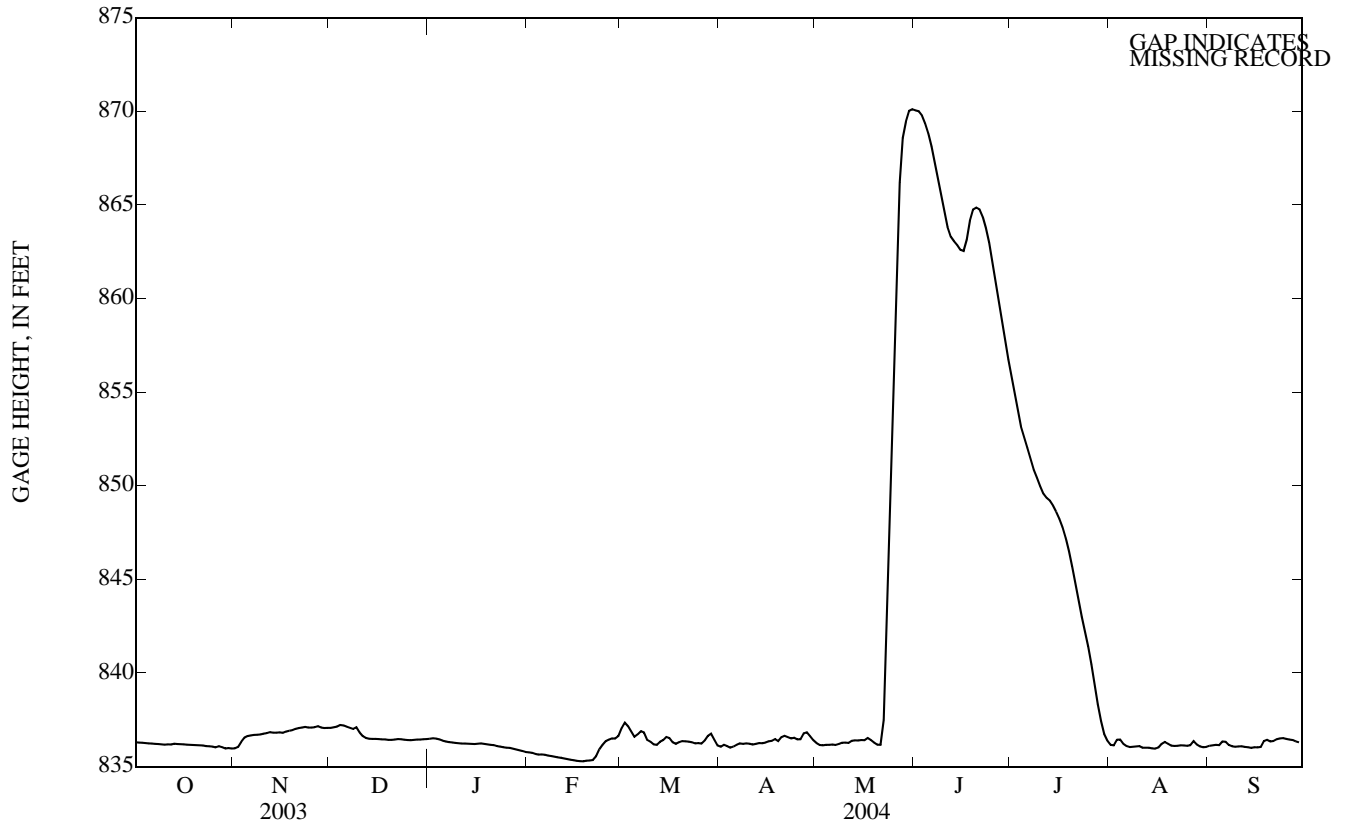


05481630 SAYLORVILLE LAKE NEAR SAYLORVILLE, IA—Continued



05481650 DES MOINES RIVER NEAR SAYLORVILLE, IA

LOCATION.--Lat 41°40'50", long 93°40'05", SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.5, T.79 N., R.24 W., Polk County, Hydrologic Unit 07100004, on left bank 5 ft upstream of Fisher Bridge on county highway R6F, 2.0 mi west of Saylorville, 2.1 mi downstream from Rock Creek, 2.3 mi downstream from Saylorville Dam, 2.3 mi upstream from Beaver Creek, and at mile 211.4.

DRAINAGE AREA.--5,841 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 787.42 ft above NGVD of 1929 (levels by U. S. Army Corps of Engineers). Prior to Aug. 6, 1970, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Saylorville Lake (Station 05481630) 2.3 mi upstream since Apr. 12, 1977. U.S. Army Corps of Engineers data collection platform with satellite telemetry and U.S. National Weather Service Limited Automatic Remote Collector (LARC) at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,400 ft³/s Apr. 10, 1965, gage height, 24.02 ft; minimum daily discharge, 13 ft³/s Jan. 25, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1893, 24.5 ft June 24, 1954, from floodmarks, discharge, 60,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	201	199	264	e287	2,750	3,690	3,280	14,700	9,150	2,820	675
2	198	201	200	265	e269	3,680	2,970	2,870	11,900	8,600	2,370	669
3	199	247	202	e276	257	4,470	2,690	2,550	11,300	8,670	2,170	655
4	200	295	202	e264	230	4,540	2,510	2,290	11,200	8,520	2,660	654
5	202	206	201	e268	209	4,310	2,140	2,180	11,100	7,950	3,140	669
6	203	201	e225	e285	208	4,300	1,890	2,080	11,200	7,490	2,560	999
7	204	199	e362	e272	207	4,940	1,870	2,040	11,300	7,390	2,080	1,200
8	204	197	e387	e245	207	5,370	1,850	1,980	11,200	7,740	1,920	882
9	204	198	e438	224	208	5,040	1,720	1,940	11,100	8,130	1,820	640
10	206	198	e482	219	208	3,800	1,640	1,930	11,200	8,150	1,810	562
11	204	199	e414	222	208	3,060	1,640	1,940	11,300	8,300	1,800	476
12	203	196	e405	234	208	2,360	1,510	1,940	11,300	7,760	1,610	472
13	204	193	e350	243	208	1,850	1,410	1,930	11,400	7,250	1,480	466
14	204	195	231	246	207	1,680	1,410	2,040	11,400	7,200	1,470	460
15	202	196	236	244	208	1,670	1,410	2,150	11,400	7,160	1,340	453
16	201	196	e240	245	207	2,030	1,410	2,240	11,400	7,100	1,200	440
17	203	196	e230	e247	206	2,290	1,420	2,320	11,300	7,070	1,150	431
18	207	197	e235	e245	207	2,030	1,430	2,650	11,400	7,020	1,350	1,430
19	207	195	e232	e239	208	1,820	1,410	2,700	11,500	6,970	1,690	3,970
20	208	197	228	e228	231	1,780	1,360	2,530	11,500	6,910	1,570	5,690
21	205	196	206	e230	236	1,770	1,470	2,250	11,500	6,850	1,280	6,540
22	205	196	204	e234	286	1,770	1,650	e2,430	11,600	6,770	1,160	6,790
23	204	197	e213	e230	284	1,760	1,770	e2,490	11,600	6,670	1,140	6,830
24	204	193	e239	e235	453	1,760	1,790	e3,190	11,500	6,590	1,150	6,420
25	204	196	e253	e242	621	1,680	2,060	e3,180	11,300	6,510	1,130	5,970
26	202	197	e259	e240	790	1,630	2,250	e2,050	11,200	6,420	1,130	5,830
27	207	198	e264	e238	1,200	1,630	2,620	e2,780	11,100	6,330	1,200	5,500
28	216	197	268	e255	1,610	2,140	3,630	8,300	11,000	5,890	1,820	5,010
29	219	197	263	e256	2,050	3,330	4,140	14,200	10,800	5,180	1,680	4,390
30	204	199	265	e256	---	4,890	3,820	14,800	10,200	4,400	1,170	3,810
31	203	---	264	e264	---	4,770	---	15,300	---	3,370	916	---
TOTAL	6,334	6,069	8,397	7,655	11,918	90,900	62,580	116,550	341,900	219,510	51,786	78,983
MEAN	204	202	271	247	411	2,932	2,086	3,760	11,400	7,081	1,671	2,633
MAX	219	295	482	285	2,050	5,370	4,140	15,300	14,700	9,150	3,140	6,830
MIN	198	193	199	219	206	1,630	1,360	1,930	10,200	3,370	916	431
AC-FT	12,560	12,040	16,660	15,180	23,640	180,300	124,100	231,200	678,200	435,400	102,700	156,700
CFSM	0.03	0.03	0.05	0.04	0.07	0.50	0.36	0.64	1.95	1.21	0.29	0.45
IN.	0.04	0.04	0.05	0.05	0.08	0.58	0.40	0.74	2.18	1.40	0.33	0.50

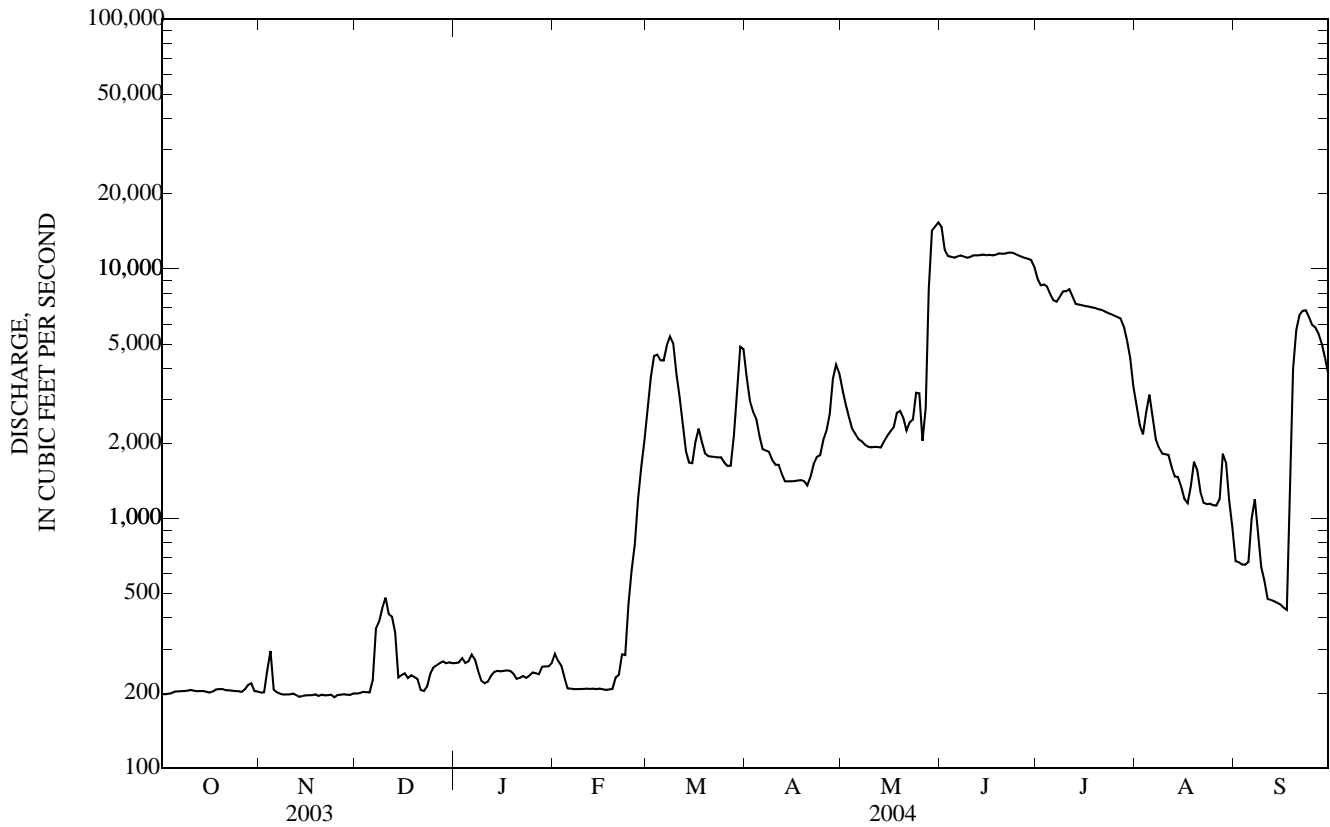
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2004, BY WATER YEAR (WY)

MEAN	1,685	1,914	1,586	879	1,437	4,130	6,597	6,527	7,267	6,499	2,978	1,957
MAX	7,161	6,210	5,345	3,605	6,591	13,800	17,790	18,170	19,540	32,820	15,440	13,450
(WY)	(1987)	(1987)	(1983)	(1983)	(1984)	(1983)	(1993)	(1993)	(1991)	(1993)	(1993)	(1993)
MIN	194	190	205	190	204	362	365	741	877	254	212	199
(WY)	(1990)	(1990)	(1990)	(1991)	(2000)	(1981)	(2000)	(2000)	(1988)	(1988)	(1989)	(2003)

05481650 DES MOINES RIVER NEAR SAYLORVILLE, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1978 - 2004 a	
ANNUAL TOTAL	865,768		1,002,582			
ANNUAL MEAN	2,372		2,739		3,629	
HIGHEST ANNUAL MEAN					11,320	1993
LOWEST ANNUAL MEAN					487	1989
HIGHEST DAILY MEAN	12,800	Jun 30	15,300	May 31	44,300	Jul 21, 1993
LOWEST DAILY MEAN	193	Nov 13	193	Nov 13 b	144	Nov 29, 1977
ANNUAL SEVEN-DAY MINIMUM	195	Nov 13	195	Nov 13	165	Mar 5, 1978
MAXIMUM PEAK FLOW			15,500	May 31	45,700	Jul 21, 1993
MAXIMUM PEAK STAGE			13.98	May 31	24.22	Jul 21, 1993
ANNUAL RUNOFF (AC-FT)	1,717,000		1,989,000		2,629,000	
ANNUAL RUNOFF (CFSM)	0.406		0.469		0.621	
ANNUAL RUNOFF (INCHES)	5.51		6.39		8.44	
10 PERCENT EXCEEDS	8,160		8,540		10,900	
50 PERCENT EXCEEDS	390		1,410		1,770	
90 PERCENT EXCEEDS	198		202		228	

a Post regulation
 b Also Nov. 24.
 e Estimated.



05481650 DES MOINES RIVER NEAR SAYLORVILLE, IA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD: October 1961 to September 30, 2004 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1967 to September 30, 2004 (discontinued).

WATER TEMPERATURES: October 1961 to September 30, 2004 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: October 1961 to September 30, 2004 (discontinued).

REMARKS.--Records of specific conductance are obtained from suspended-sediment samples at time of analysis. During periods of partial ice cover, sediment samples are collected in open water channel.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,400 microsiemens Feb. 18, 1977; minimum daily, 90 microsiemens Feb. 19, 1971.

WATER TEMPERATURES: Maximum daily, 36.0°C June 29, 1971; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,400 mg/L May 14, 1970; minimum daily mean, 1 mg/L Jan. 8, 1965, Sept. 1, 1988, Feb. 9, July 8, 1990, Dec. 4, 5, and Dec. 9, 2000.

SEDIMENT LOADS: Maximum daily, 148,000 tons June 12, 1966; minimum daily, 0.56 tons Sept. 1, 1988.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 831 microsiemens Feb. 21; minimum daily, 414 microsiemens May 29.

WATER TEMPERATURES: Maximum daily, 28°C Aug. 3; minimum daily, 0.0°C many days during water period.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 149 mg/L May 23; minimum daily mean, 9.0 mg/L Nov. 18, Dec. 20, 31, Jan 1, July 3.

SEDIMENT LOADS: Maximum daily, 2,150 tons May 29; minimum daily, 4.6 tons Nov. 18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Suspnd. sedi-ment, sieve diameter percent <.063mm (70331)	Suspended sedi-ment concentration mg/L (80154)	Suspended sedi-ment discharge, tons/d (80155)
OCT 15...	1105	203	14.5	99	25	14
NOV 18...	1500	200	--	93	10	5.4
DEC 16...	1445	240	--	95	21	14
MAR 23...	1255	1,760	--	97	24	114
MAY 07...	1350	2,040	--	98	28	154
JUN 08...	0830	11,200	--	90	17	514
JUL 21...	1325	6,870	--	75	71	1,320
SEP 17...	1130	433	--	97	21	25

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time
OCT 15...	1105
NOV 18...	1500
DEC 16...	1445
MAR 23...	1255
MAY 07...	1350
JUN 08...	0830
JUL 21...	1325
SEP 17...	1130

05481650 DES MOINES RIVER NEAR SAYLORVILLE, IA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, LABORATORY, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	606	---	643	680	---	746	617	620	471	---	---	617
2	620	---	648	674	---	706	654	614	471	---	618	627
3	---	---	---	646	---	691	646	618	467	---	644	615
4	---	510	---	---	---	654	617	627	467	607	---	---
5	612	---	---	---	---	571	635	638	472	602	---	---
6	621	638	---	---	---	599	665	646	485	586	667	607
7	618	---	638	---	---	545	643	---	522	604	629	619
8	641	---	640	658	---	534	642	---	546	619	---	617
9	---	---	648	---	689	561	668	---	524	621	---	627
10	---	635	---	683	---	547	627	---	548	636	640	613
11	639	625	---	664	---	553	618	---	594	---	662	---
12	---	633	---	667	---	503	640	---	576	---	673	---
13	624	630	---	675	---	---	636	---	552	654	672	608
14	637	629	---	675	---	---	643	---	574	646	636	610
15	616	632	---	665	---	---	626	---	592	640	---	574
16	640	---	641	679	---	---	632	---	589	634	656	612
17	621	---	647	692	---	533	614	---	614	619	649	611
18	---	626	---	---	713	510	629	---	619	---	651	---
19	---	---	697	---	698	---	629	---	622	604	662	---
20	614	629	657	---	748	505	606	---	619	617	637	---
21	629	628	652	692	831	517	---	---	613	618	650	536
22	652	634	661	---	---	---	613	---	591	662	651	539
23	629	---	641	724	768	524	616	573	581	629	652	225
24	---	625	---	668	804	---	614	587	594	---	634	504
25	---	650	631	---	768	569	618	552	584	---	641	515
26	---	---	684	---	774	554	608	527	594	644	637	---
27	---	---	---	---	659	578	608	437	592	606	634	---
28	620	641	---	---	774	569	606	436	611	604	631	505
29	640	654	---	---	722	581	601	414	608	667	---	505
30	636	632	675	---	---	590	612	434	---	684	629	522
31	629	---	671	---	---	---	---	447	---	---	627	---

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY INSTANTANEOUS VALUES

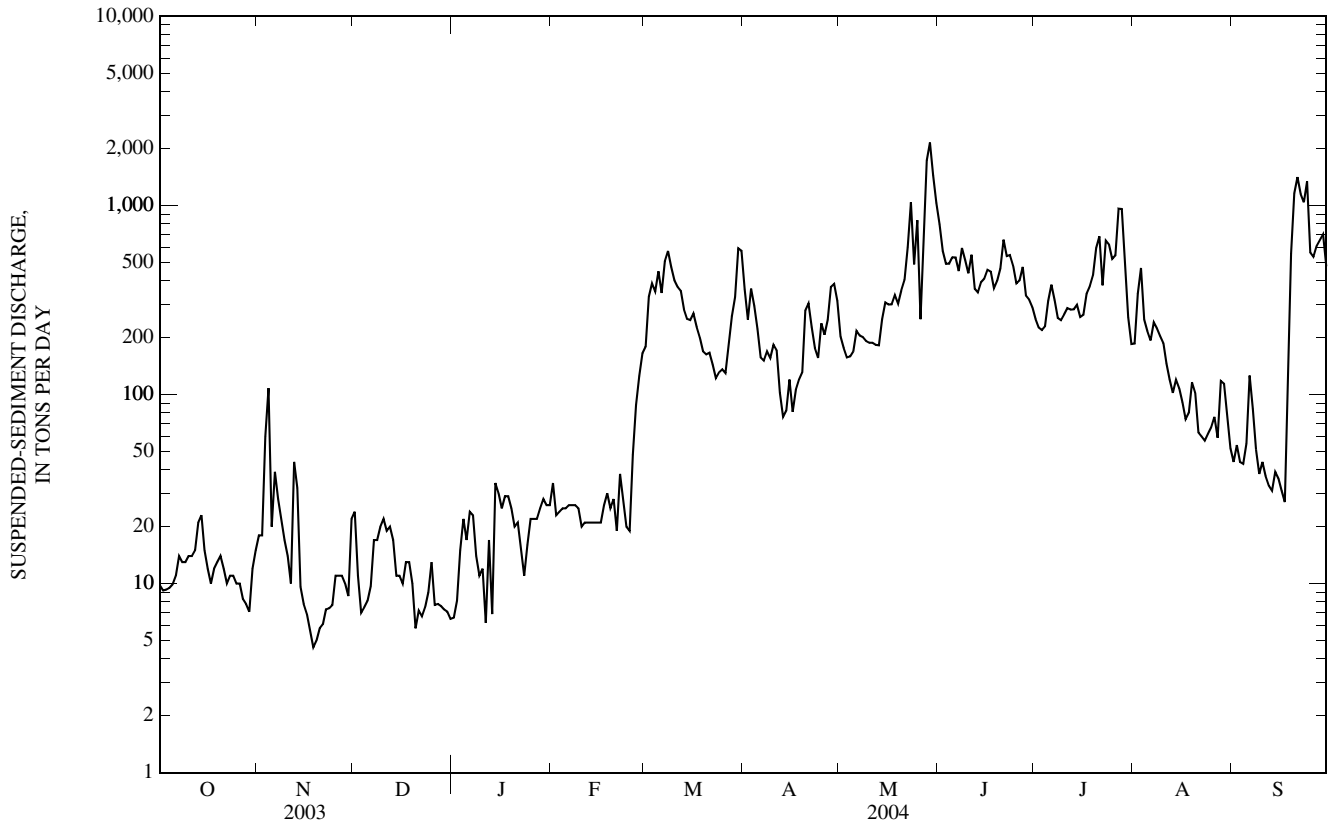
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.5	---	---	0.0	---	9.5	10.0	12.0	18.0	---	---	23.0
2	12.0	---	---	4.0	---	3.0	11.0	13.0	17.0	---	23.0	24.0
3	---	---	---	0.0	---	3.0	9.0	11.5	18.0	---	28.0	24.0
4	---	---	---	---	---	3.0	9.0	13.5	19.0	22.0	---	---
5	19.0	---	---	---	---	2.0	10.0	12.0	18.0	21.5	---	---
6	17.0	---	---	---	---	3.0	14.0	17.0	20.0	22.0	23.0	19.5
7	17.0	---	---	---	---	3.0	11.0	---	20.0	20.0	23.0	19.5
8	16.0	---	---	0.0	---	2.5	14.0	---	19.5	20.5	---	19.0
9	---	---	---	---	0.0	4.0	11.0	---	20.0	21.5	---	23.0
10	---	---	---	0.0	---	5.0	11.0	---	19.0	22.0	20.0	25.0
11	18.5	---	---	3.0	---	0.0	10.0	---	21.5	---	20.5	---
12	---	---	---	0.0	---	1.0	10.5	---	20.5	---	20.0	---
13	15.5	---	---	0.0	---	---	9.0	---	21.0	22.5	19.5	22.0
14	15.0	---	---	0.0	---	---	10.0	---	23.0	23.0	19.0	20.0
15	14.5	---	---	1.5	---	---	11.0	---	21.0	24.5	---	21.0
16	13.5	---	1.0	0.0	---	---	13.0	---	21.0	25.0	20.0	21.0
17	13.0	---	---	0.0	---	2.0	18.0	---	22.5	23.5	23.0	22.0
18	---	9.0	---	---	1.5	3.0	15.5	---	21.0	---	20.5	---
19	---	---	---	---	2.5	---	12.0	---	20.5	23.0	19.0	---
20	16.5	---	---	---	1.0	5.0	14.0	---	20.0	25.0	18.0	---
21	14.5	---	---	3.0	2.0	5.0	---	---	20.0	25.0	19.0	---
22	14.0	---	---	---	---	---	12.0	---	22.0	25.0	24.0	---
23	13.5	---	0.5	0.0	0.5	6.0	12.0	18.0	20.5	25.0	21.0	---
24	---	---	---	0.0	0.0	---	12.0	15.5	20.0	---	22.0	---
25	---	---	0.0	---	0.5	8.0	10.5	17.0	20.5	---	22.5	---
26	---	---	0.0	---	0.0	10.0	14.0	15.0	21.0	23.0	23.0	---
27	---	---	---	---	3.5	8.0	10.0	17.0	21.5	23.5	23.0	---
28	---	---	---	---	4.0	8.0	14.0	17.0	21.0	23.0	20.5	---
29	---	---	---	---	6.0	7.5	14.0	17.0	19.0	23.0	---	---
30	---	---	1.0	---	---	7.0	12.0	18.0	---	25.0	25.0	---
31	---	---	2.0	---	---	---	---	18.0	---	---	22.0	---

05481650 DES MOINES RIVER NEAR SAYLORVILLE, IA—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Day	Mean concentration (mg/l)		Mean concentration (mg/l)		Mean concentration (mg/l)		Mean concentration (mg/l)		Mean concentration (mg/l)		Mean concentration (mg/l)	
	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18	9.8	33	18	46	24	9	6.6	44	34	24	179
2	17	9.2	34	18	20	11	11	8.1	31	23	33	329
3	17	9.3	74	60	13	7.0	20	15	34	24	32	388
4	18	9.5	123	108	14	7.5	31	22	41	25	29	351
5	18	9.9	36	20	15	8.1	23	17	45	25	39	448
6	20	11	72	39	16	9.7	31	24	45	26	30	344
7	25	14	52	28	17	17	31	23	46	26	37	505
8	23	13	42	22	16	17	21	14	46	26	40	574
9	24	13	32	17	17	20	18	11	45	25	35	472
10	25	14	27	14	17	22	20	12	35	20	40	402
11	26	14	19	10	17	19	10	6.2	38	21	45	371
12	27	15	83	44	18	20	28	17	38	21	56	353
13	38	21	61	32	18	17	11	6.9	38	21	56	281
14	41	23	18	9.6	17	11	51	34	38	21	56	251
15	28	15	15	7.8	17	11	46	30	38	21	55	247
16	22	12	13	6.9	16	10	38	25	38	21	49	268
17	19	10	11	5.6	21	13	44	29	46	26	37	228
18	21	12	9	4.6	21	13	44	29	54	30	36	200
19	24	13	10	5.0	16	10	38	25	44	25	34	169
20	25	14	11	5.8	9	5.8	33	20	45	28	34	163
21	22	12	11	6.1	13	7.2	34	21	30	19	35	166
22	19	10	14	7.3	12	6.7	23	15	49	38	30	144
23	20	11	14	7.4	13	7.5	17	11	36	28	26	122
24	19	11	15	7.7	14	9.0	26	16	19	20	28	131
25	19	10	20	11	19	13	34	22	11	19	30	136
26	18	10	20	11	11	7.7	34	22	20	48	30	130
27	15	8.3	21	11	11	7.8	35	22	27	88	42	184
28	13	7.8	19	10	10	7.6	36	25	29	125	45	259
29	12	7.1	16	8.6	10	7.3	40	28	30	165	37	327
30	23	12	40	22	10	7.1	37	26	---	---	44	593
31	28	15	---	---	9	6.5	36	26	---	---	44	576
TOTAL	---	375.9	---	577.4	---	360.5	---	608.8	---	1,039	---	9,291

05481650 DES MOINES RIVER NEAR SAYLORVILLE, IA—Continued



05481950 BEAVER CREEK NEAR GRIMES, IA

LOCATION.--Lat 41°41'18", long 93°44'06", in SW¹/₄ SW¹/₄ sec.35, T.80 N., R.25 W., Polk County, Hydrologic Unit 07100004, on left bank 10 ft upstream from bridge on Northwest 70th Avenue, 0.5 mi downstream from Little Beaver Creek, 2.5 mi east of Grimes, and 6 mi upstream from mouth.

DRAINAGE AREA.--358 mi².

PERIOD OF RECORD.--April 1960 to current year.

REVISED RECORDS.--WDR IA-77-1: 1974 (P), WDR IA-95-1:location.

GAGE.--Water stage recorder. Datum of gage is 806.98 ft above NGVD of 1929. Prior to Aug. 31, 1966, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. 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.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	0.85	21	e42	e22	1,210	433	247	1,130	e288	58	85
2	0.86	3.0	18	e46	e24	e819	373	233	869	e289	54	74
3	0.78	38	13	e45	e22	e635	332	222	705	e454	119	65
4	1.2	113	e16	e36	e23	e499	302	214	607	e403	163	57
5	0.68	80	e13	e28	e24	e594	280	206	548	e380	183	55
6	0.67	65	e10	e26	e22	e846	267	198	513	e438	233	132
7	0.60	52	e10	e23	e21	e776	253	189	465	e370	171	79
8	0.51	41	e11	e28	e23	e561	239	180	414	e320	135	63
9	0.51	35	e13	e27	e24	e440	227	200	373	381	114	56
10	0.57	33	e10	e31	e23	e384	210	218	376	e447	97	50
11	0.94	32	e4.2	e36	e26	e338	199	232	370	e396	89	42
12	1.1	29	e6.1	e38	e24	e298	192	220	355	323	79	36
13	1.1	22	e10	e37	e27	e273	186	231	423	285	71	31
14	3.7	19	e11	e36	e25	e256	180	298	548	262	64	27
15	1.4	17	14	e30	e24	e242	176	356	521	211	58	27
16	0.97	15	e19	e42	e30	e232	173	333	459	184	53	23
17	0.74	15	e18	e38	e43	218	192	327	434	162	49	21
18	0.77	18	e10	e18	e40	231	184	531	500	144	62	20
19	0.69	24	e16	e9.7	e43	321	181	483	513	130	135	18
20	0.83	27	e25	e12	e61	417	201	407	441	125	125	16
21	2.8	38	e30	e22	e87	378	436	351	426	120	99	15
22	2.2	34	e31	e8.2	e181	321	320	389	680	111	83	14
23	1.1	33	e30	e26	e472	293	282	3,580	732	103	73	14
24	0.89	24	e25	e22	e675	274	267	6,410	594	95	69	14
25	0.87	34	e25	e28	e755	256	305	4,770	487	89	65	13
26	0.70	26	e30	e29	e446	239	333	3,950	e430	82	64	13
27	0.73	e22	e38	e20	e331	237	329	3,080	e389	e75	66	12
28	1.00	e19	e42	e19	e425	516	317	2,220	e359	e69	142	11
29	1.1	22	e40	e18	e602	850	293	1,480	e326	e63	173	11
30	1.2	29	e38	e19	---	704	265	1,240	e304	e56	122	10
31	1.3	---	e39	e21	---	529	---	1,290	---	54	100	---
TOTAL	33.61	959.85	636.3	860.9	4,545	14,187	7,927	34,285	15,291	6,909	3,168	1,104
MEAN	1.08	32.0	20.5	27.8	157	458	264	1,106	510	223	102	36.8
MAX	3.7	113	42	46	755	1,210	436	6,410	1,130	454	233	132
MIN	0.51	0.85	4.2	8.2	21	218	173	180	304	54	49	10
AC-FT	67	1,900	1,260	1,710	9,020	28,140	15,720	68,000	30,330	13,700	6,280	2,190
CFSM	0.00	0.09	0.06	0.08	0.44	1.28	0.74	3.09	1.42	0.62	0.29	0.10
IN.	0.00	0.10	0.07	0.09	0.47	1.47	0.82	3.56	1.59	0.72	0.33	0.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2004, BY WATER YEAR (WY)

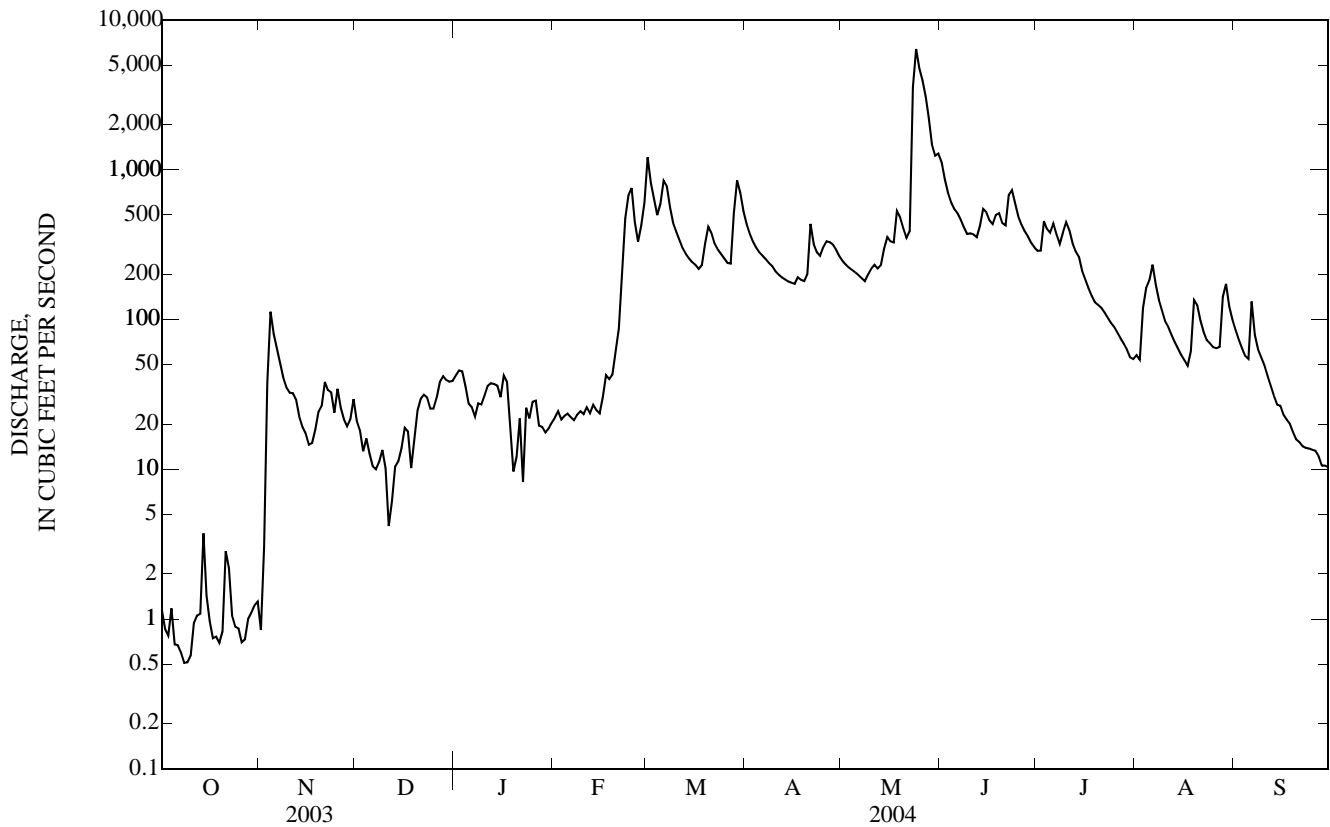
MEAN	92.7	111	92.4	57.5	118	340	366	446	464	281	104	67.6
MAX	724	655	486	305	526	1,171	1,275	1,419	1,434	2,160	695	654
(WY)	(1974)	(1973)	(1983)	(1974)	(1973)	(1979)	(1965)	(1974)	(1998)	(1993)	(1993)	(1993)
MIN	0.06	0.63	0.77	0.00	0.35	3.98	3.26	1.11	1.41	0.24	0.73	0.26
(WY)	(1989)	(1967)	(1977)	(1977)	(1977)	(1981)	(1981)	(1981)	(1977)	(1977)	(1988)	(1988)

DES MOINES RIVER BASIN

05481950 BEAVER CREEK NEAR GRIMES, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1961 - 2004	
ANNUAL TOTAL	57,835.87		89,906.66		212	
ANNUAL MEAN	158		246		575	
HIGHEST ANNUAL MEAN					1993	
LOWEST ANNUAL MEAN					1981	
HIGHEST DAILY MEAN	2,780	May 6	6,410	May 24	11,500	Jul 10, 1993
LOWEST DAILY MEAN	0.49	Sep 10	0.51	Oct 8 a	0.00	Sep 8, 1970 b
ANNUAL SEVEN-DAY MINIMUM	0.64	Oct 5	0.64	Oct 5	0.00	Oct 7, 1971
MAXIMUM PEAK FLOW			7,300	May 24	14,300	Jul 10, 1993
MAXIMUM PEAK STAGE			14.59	May 24	16.58	Jul 10, 1993
INSTANTANEOUS LOW FLOW			0.45	Oct 6 c		
ANNUAL RUNOFF (AC-FT)	114,700		178,300		153,500	
ANNUAL RUNOFF (CFSM)	0.443		0.686		0.592	
ANNUAL RUNOFF (INCHES)	6.01		9.34		8.04	
10 PERCENT EXCEEDS	386		504		542	
50 PERCENT EXCEEDS	27		72		67	
90 PERCENT EXCEEDS	1.6		9.2		2.2	

- a Also Oct. 9.
- b Also Oct. 8, 9 and 20.
- c Also Sept. 11-13, 1970, Sept. 17, 18, Oct. 7-17, 1971, and many days during 1977.
- e Estimated.



05482000 DES MOINES RIVER AT SECOND AVENUE AT DES MOINES, IA

LOCATION.--Lat 41°36'45", long 93°37'15", in NE¼ NE¼ sec.34, T.79 N., R.24 W., Polk County, Hydrologic Unit 07100004, on right bank 5 ft upstream from 2nd Avenue or State Highway 60 bridge in Des Moines, 1.8 miles upstream from Des Moines Electric Company dam, 2.8 miles upstream from Raccoon River, and 4.5 miles downstream from Beaver Creek.

DRAINAGE AREA.--6,245 mi².

PERIOD OF RECORD.--October 1902 to August 1903, October 1914 to February 1915 (gage heights and discharge measurements only); March 1915 to September 1961, October 1996 to current year.

REVISED RECORDS-- WSP 1308: 1915-19, 1921, 1923, 1933, 1943(M). WSP 1438: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 773.68 ft above NGVD of 1929 and at city datum. Prior to August 21, 1941, staff, chain, or recording gages at several sites within 3 mi of present site at various datums.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Saylorville Dam 6.8 mi. upstream, since Apr. 12, 1977. U.S. Army Corps of Engineers rain gage, U.S. Geological Survey data collection platform with satellite telemetry, and U.S. Weather Service Limited Automated Remote Collector (LARC) at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 60,200 ft³/sec on June 24, 1954, gage height 30.16; minimum unregulated daily discharge 24 ft³/sec Jan. 29, 30, 1940.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212	e204	203	e275	e313	3,700	e4,480	e3,950	17,000	10,100	2,690	1,160
2	212	234	218	e282	e299	4,390	4,080	3,430	13,800	9,410	2,270	1,120
3	211	543	223	294	285	e5,310	3,510	2,970	12,800	9,710	2,420	1,100
4	209	765	218	278	277	5,380	3,290	2,560	12,600	9,360	2,670	1,090
5	e209	296	212	281	256	5,300	2,740	2,430	12,400	8,810	3,060	1,230
6	e210	253	235	299	243	5,370	2,210	2,200	12,500	8,230	2,640	1,640
7	e210	237	369	288	228	5,830	2,180	2,110	12,700	8,030	2,000	1,750
8	e210	237	e395	261	224	6,270	2,140	2,050	12,600	8,280	e1,940	1,470
9	e211	229	e447	247	224	5,990	2,000	2,100	12,400	8,840	e1,870	1,110
10	e212	226	e491	246	224	4,820	1,790	1,930	12,500	8,870	e1,870	1,060
11	e211	225	e422	252	225	3,870	1,780	1,970	12,600	9,210	e1,900	946
12	210	217	413	258	223	2,930	1,630	1,950	12,600	8,560	e1,660	941
13	e210	212	353	265	222	2,180	1,420	2,000	12,700	7,790	e1,500	933
14	e211	221	243	265	233	1,850	1,420	2,140	12,800	7,720	e1,550	935
15	209	222	242	e255	234	1,830	1,420	2,450	12,700	7,610	e1,400	954
16	214	212	246	e257	229	2,240	1,400	2,550	12,900	7,520	e1,240	929
17	217	225	234	e258	225	2,770	1,480	2,770	12,700	7,430	e1,340	931
18	217	227	242	258	235	2,500	1,460	3,410	12,700	7,350	e1,800	1,860
19	217	215	238	260	260	2,200	1,430	3,400	12,900	7,260	2,270	4,870
20	214	220	232	258	357	2,230	1,580	3,080	12,900	7,150	2,210	6,460
21	210	218	211	253	307	2,210	1,810	2,620	12,900	7,110	1,860	7,260
22	e210	224	211	249	386	2,170	1,960	2,910	13,100	7,030	1,640	7,260
23	e209	234	219	252	553	2,130	2,090	5,790	13,100	6,890	1,630	7,330
24	e208	210	244	254	713	2,110	2,100	e9,540	12,800	6,820	1,780	7,000
25	e207	223	258	254	1,010	1,980	2,470	e8,380	12,600	6,740	1,660	6,370
26	e205	224	262	253	948	1,830	2,780	7,140	12,400	6,660	1,640	6,260
27	e210	221	265	252	1,280	1,860	3,150	6,330	12,300	6,580	1,700	5,980
28	e219	213	272	273	1,760	2,760	e4,120	10,500	12,200	6,190	2,460	5,530
29	e222	210	265	e285	2,470	e4,140	e4,660	16,500	12,000	5,440	2,670	5,030
30	e208	205	270	e290	---	e5,560	e4,430	16,800	11,300	4,570	1,790	4,480
31	e206	---	e275	e299	---	e5,390	---	17,300	---	3,340	1,510	---
TOTAL	6,550	7,602	8,628	8,251	14,443	109,100	73,010	155,260	383,500	234,610	60,640	94,989
MEAN	211	253	278	266	498	3,519	2,434	5,008	12,780	7,568	1,956	3,166
MAX	222	765	491	299	2,470	6,270	4,660	17,300	17,000	10,100	3,060	7,330
MIN	205	204	203	246	222	1,830	1,400	1,930	11,300	3,340	1,240	929
AC-FT	12,990	15,080	17,110	16,370	28,650	216,400	144,800	308,000	760,700	465,300	120,300	188,400
CFSM	0.03	0.04	0.04	0.04	0.08	0.56	0.39	0.80	2.05	1.21	0.31	0.51
IN.	0.04	0.05	0.05	0.05	0.09	0.65	0.43	0.92	2.28	1.40	0.36	0.57

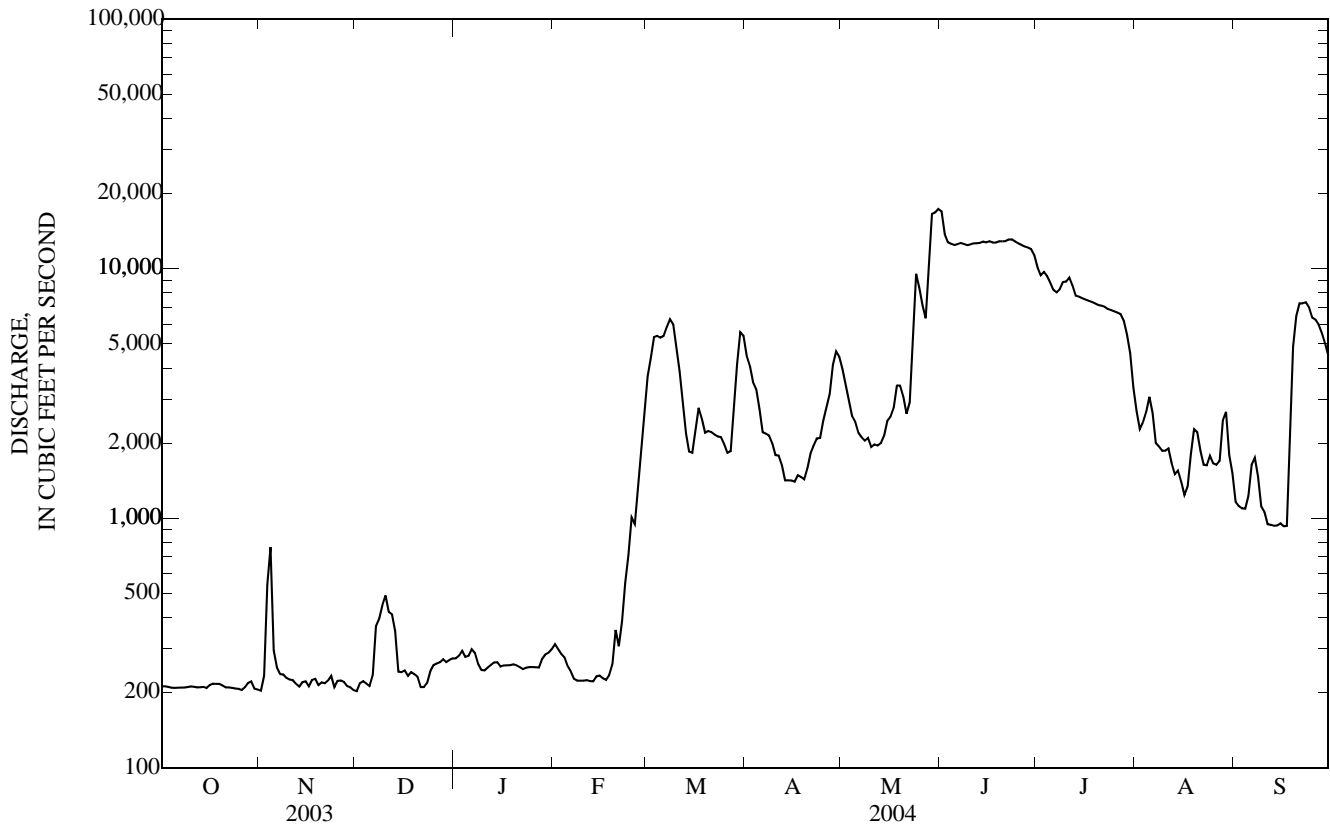
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2004, BY WATER YEAR (WY)

MEAN	701	1,078	1,077	532	1,228	3,489	6,847	7,712	8,131	6,545	2,019	780
MAX	2,613	2,871	2,696	1,231	2,775	9,385	15,940	15,050	13,760	9,524	3,549	3,166
(WY)	(2003)	(1997)	(1997)	(1997)	(1997)	(1997)	(2001)	(2001)	(2001)	(2003)	(2002)	(2004)
MIN	208	212	226	245	217	492	413	797	3,142	922	685	213
(WY)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2002)	(2002)	(2003)	(2003)

05482000 DES MOINES RIVER AT SECOND AVENUE AT DES MOINES, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1997 - 2004	
ANNUAL TOTAL	973,538		1,156,583		3,351	
ANNUAL MEAN	2,667		3,160		948	
HIGHEST ANNUAL MEAN					5,301	2001
LOWEST ANNUAL MEAN					160	2000
HIGHEST DAILY MEAN	15,300	May 12	17,300	May 31	18,300	Apr 16, 2001
LOWEST DAILY MEAN	196	Sep 10	203	Dec 1	160	Sep 18, 2000
ANNUAL SEVEN-DAY MINIMUM	205	Sep 24	208	Oct 21	190	Dec 17, 1999
MAXIMUM PEAK FLOW			17,400	May 31	18,500	Apr 17, 2001
MAXIMUM PEAK STAGE			20.06	May 31	20.41	Apr 17, 2001
INSTANTANEOUS LOW FLOW					160	Sep 18, 2000
ANNUAL RUNOFF (AC-FT)	1,931,000		2,294,000		2,428,000	
ANNUAL RUNOFF (CFSM)	0.427		0.506		0.537	
ANNUAL RUNOFF (INCHES)	5.80		6.89		7.29	
10 PERCENT EXCEEDS	9,450		9,590		11,600	
50 PERCENT EXCEEDS	419		1,640		1,230	
90 PERCENT EXCEEDS	210		214		220	

e Estimated



05482000 DES MOINES RIVER AT SECOND AVENUE AT DES MOINES, IA—Continued