

Gaging Stations

06604000	Spirit Lake near Orleans, IA	408
06604200	West Okoboji Lake at Lakeside Lab near Milford, IA	410
06605000	Ocheyedan River near Spencer, IA	412
06605850	Little Sioux River at Linn Grove, IA	414
06606600	Little Sioux River at Correctionville, IA	416
06607200	Maple River at Mapleton, IA	418
06607500	Little Sioux River near Turin, IA	420
06608500	Soldier River at Pisgah, IA	425

Crest Stage Gaging Stations

06604510	Ocheyedan River near Ocheyedan, IA	493
06604584	Dry Run Creek near Harris, IA	493
06605340	Prairie Creek near Spencer, IA	493
06605750	Willow Creek near Cornell, IA	493
06605868	Little Sioux River Tributary near Peterson, IA	493
06606231	Willow Creek near Calumet, IA	493
0660683710	Halfway Creek at Schaller, IA	493

06604000 SPIRIT LAKE NEAR ORLEANS, IA

LOCATION.--Lat 43°28'11", long 95°07'25", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.20, T.100N., R.36W., Dickinson County, Hydrologic Unit 10230003, 2.3 mi upstream from lake outlet, and 2.3 mi northwest of Orleans.

DRAINAGE AREA.--75.6 mi².

PERIOD OF RECORD.--May 1933 to September 1975 (fragmentary prior to 1951), April 1990 to current year. Prior to October 1949, published as "at Orleans".

GAGE.--Water-stage recorder. Datum of gage is 1,387.25 ft above NGVD of 1929, 90.0 ft above Iowa Lake Survey datum, and 14.2 ft below crest of spillway. Prior to July 6, 1950, non-recording gage or water-stage recorder at various sites near outlet, all at present datum.

REMARKS.--A reliable record of stage was obtained for the year. Lake formed by concrete dam with ungated spillway at elevation 1,401.4 ft. above sea level. Dam constructed in 1969. A previous outlet works had been constructed in 1944. Lake is used for conservation and recreation. U.S. Geological Survey data collection platform with satellite telemetry at station.

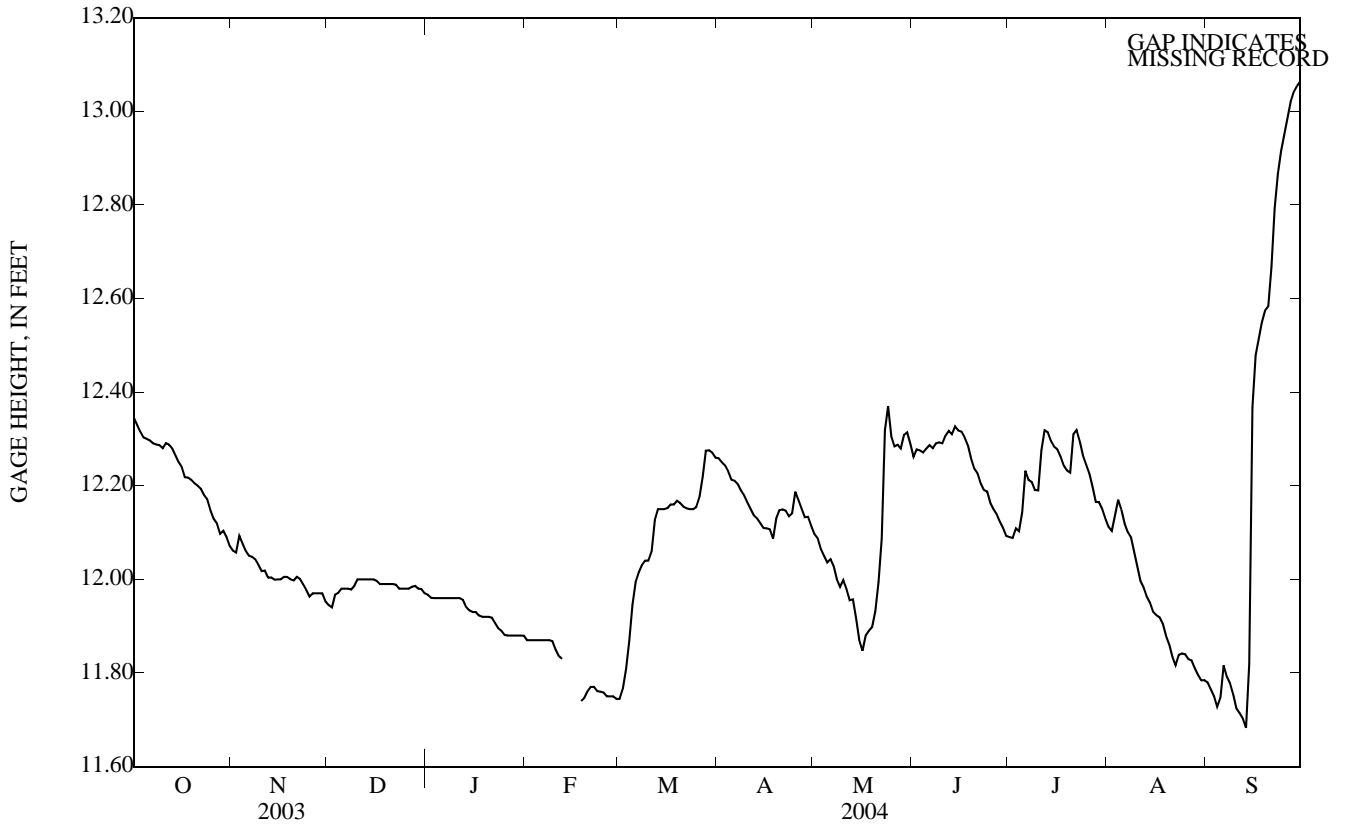
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 18.79 ft. July 17-20, 1993; minimum observed, 6.75 ft. Oct. 20, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 13.07 ft. Sept. 30; minimum, 11.67 ft. Sept. 13.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.35	12.06	11.94	11.97	11.87	11.74	12.26	12.10	12.26	12.09	12.11	11.78
2	12.33	12.06	11.94	11.96	11.87	11.77	12.25	12.09	12.28	12.09	12.10	11.77
3	12.32	12.09	11.97	11.96	11.87	11.81	12.24	12.06	12.28	12.11	12.14	11.75
4	12.30	12.08	11.97	11.96	11.87	11.87	12.23	12.05	12.27	12.10	12.17	11.73
5	12.30	12.06	11.98	11.96	11.87	11.94	12.21	12.04	12.28	12.14	12.15	11.75
6	12.30	12.05	11.98	11.96	11.87	11.99	12.21	12.04	12.29	12.23	12.12	11.82
7	12.29	12.05	11.98	11.96	11.87	12.01	12.20	12.03	12.28	12.21	12.10	11.79
8	12.29	12.04	11.98	11.96	11.87	12.03	12.19	12.00	12.29	12.21	12.09	11.78
9	12.29	12.03	11.99	11.96	11.87	12.04	12.18	11.98	12.29	12.19	12.06	11.75
10	12.28	12.02	12.00	11.96	11.85	12.04	12.16	12.00	12.29	12.19	12.03	11.72
11	12.29	12.02	12.00	11.96	11.84	12.06	12.15	11.98	12.31	12.28	12.00	11.71
12	12.29	12.00	12.00	11.96	11.83	12.13	12.14	11.96	12.32	12.32	11.98	11.70
13	12.28	12.00	12.00	11.94	---	12.15	12.13	11.96	12.31	12.31	11.96	11.68
14	12.27	12.00	12.00	11.93	---	12.15	12.12	11.92	12.33	12.30	11.95	11.82
15	12.25	12.00	12.00	11.93	---	12.15	12.11	11.87	12.32	12.28	11.93	12.37
16	12.24	12.00	12.00	11.93	---	12.15	12.11	11.85	12.32	12.28	11.92	12.48
17	12.22	12.01	11.99	11.92	---	12.16	12.11	11.88	12.30	12.26	11.92	12.52
18	12.22	12.00	11.99	11.92	11.74	12.16	12.09	11.89	12.29	12.24	11.90	12.55
19	12.21	12.00	11.99	11.92	11.75	12.17	12.13	11.90	12.26	12.23	11.88	12.57
20	12.21	12.00	11.99	11.92	11.76	12.16	12.15	11.93	12.24	12.23	11.86	12.58
21	12.20	12.01	11.99	11.92	11.77	12.16	12.15	11.99	12.23	12.31	11.83	12.67
22	12.19	12.00	11.99	11.91	11.77	12.15	12.15	12.09	12.20	12.32	11.82	12.79
23	12.18	11.99	11.98	11.90	11.76	12.15	12.13	12.32	12.19	12.29	11.84	12.87
24	12.17	11.98	11.98	11.89	11.76	12.15	12.14	12.37	12.19	12.26	11.84	12.92
25	12.15	11.96	11.98	11.88	11.76	12.15	12.19	12.31	12.16	12.24	11.84	12.95
26	12.13	11.97	11.98	11.88	11.75	12.18	12.17	12.28	12.15	12.23	11.83	12.98
27	12.12	11.97	11.98	11.88	11.75	12.22	12.15	12.29	12.14	12.20	11.83	13.02
28	12.10	11.97	11.99	11.88	11.75	12.27	12.13	12.28	12.12	12.17	11.81	13.04
29	12.10	11.97	11.98	11.88	11.74	12.28	12.13	12.31	12.11	12.16	11.80	13.05
30	12.09	11.95	11.98	11.88	---	12.27	12.11	12.31	12.09	12.15	11.78	13.06
31	12.07	---	11.97	11.88	---	12.26	---	12.29	---	12.13	11.78	---
MEAN	12.23	12.01	11.98	11.93	---	12.09	12.16	12.08	12.25	12.22	11.95	12.30
MAX	12.35	12.09	12.00	11.97	---	12.28	12.26	12.37	12.33	12.32	12.17	13.06
MIN	12.07	11.95	11.94	11.88	---	11.74	12.09	11.85	12.09	12.09	11.78	11.68

06604000 SPIRIT LAKE NEAR ORLEANS, IA—Continued



06604200 WEST OKOBOJI LAKE AT LAKESIDE LABORATORY NEAR MILFORD, IA

LOCATION.--Lat 43°22'43", long 95°10'52", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.23, T.99 N., R.37 W., Dickinson County, Hydrologic Unit 10230003, at pumping station of Lakeside Laboratory on west shore, 2.3 mi upstream from lake outlet, and 3.8 mi northwest of Milford.

DRAINAGE AREA.--125 mi².

PERIOD OF RECORD.--May 1933 to current year. Published as "Okoboji Lake at Arnold's Park" 1933-37 and as "Okoboji Lake at Lakeside Laboratory near Milford" 1937-66.

GAGE.--Water-stage recorder. Datum of gage is 1,391.76 ft above NGVD of 1929, 94.51 ft above Iowa Lake Survey datum. Prior to June 17, 1938, nonrecording gage at State Pier at Arnolds Park at same datum.

REMARKS.--A reliable record of stage was obtained for the year. Lake formed by concrete dam with ungated spillway at elevation 1,395.8 ft above sea level. Lake is used for conservation and recreation. Area of lake is approximately 3,900 acres. U.S. Geological Survey data collection platform with satellite telemetry at station.

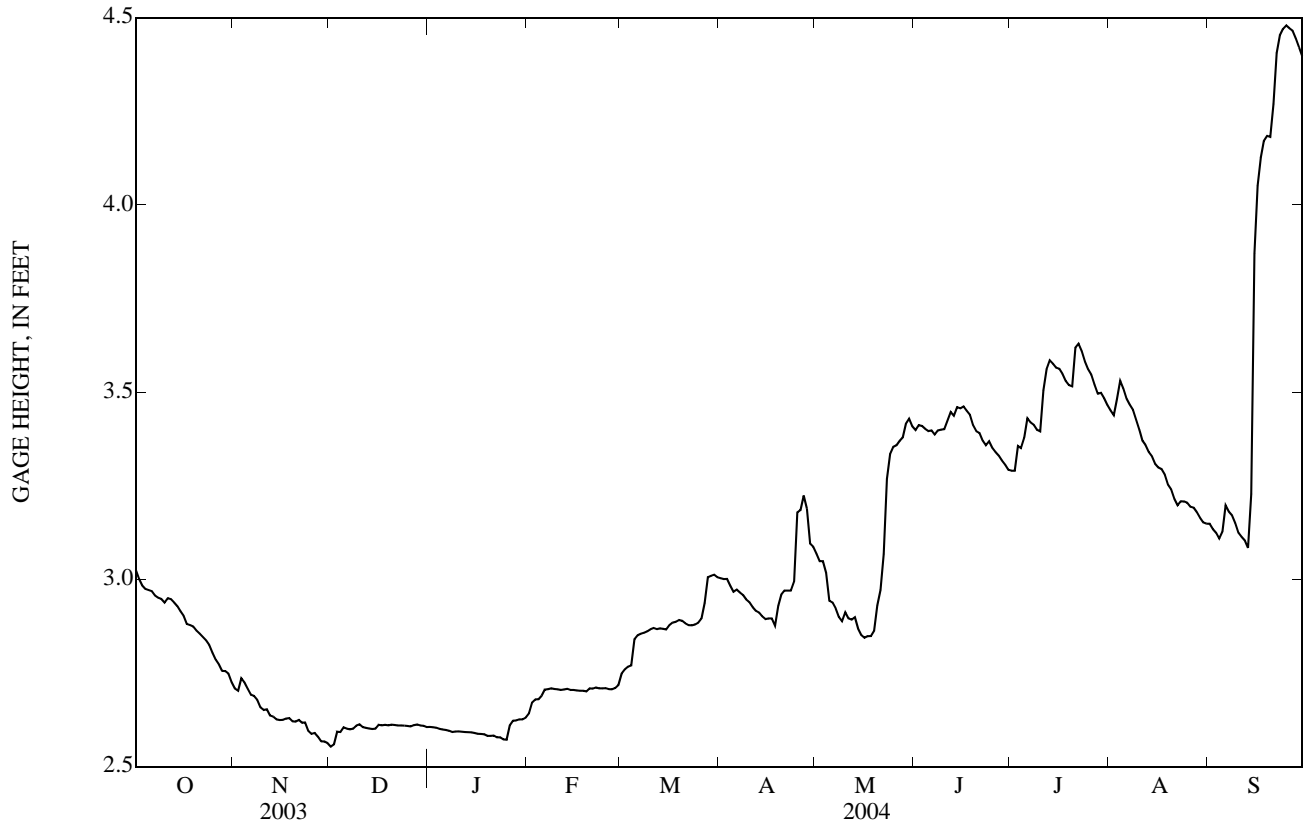
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 8.70 ft July 17, 1993; minimum observed, 0.20 ft Sept. 20, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 4.48 ft on Sept. 23,24,25,26; minimum, 2.53 ft on Dec. 1.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.03	2.71	2.55	2.61	2.64	2.75	3.00	3.07	3.40	3.29	3.45	3.15
2	3.00	2.70	2.56	2.60	2.67	2.76	3.00	3.05	3.41	3.29	3.44	3.13
3	2.98	2.74	2.59	2.60	2.68	2.77	3.00	3.05	3.41	3.36	3.48	3.12
4	2.97	2.72	2.59	2.60	2.68	2.77	2.98	3.02	3.40	3.35	3.53	3.11
5	2.97	2.71	2.60	2.60	2.69	2.84	2.97	2.94	3.40	3.38	3.51	3.13
6	2.97	2.69	2.60	2.60	2.71	2.85	2.97	2.94	3.40	3.43	3.48	3.20
7	2.96	2.69	2.60	2.60	2.71	2.85	2.96	2.92	3.39	3.42	3.47	3.18
8	2.95	2.68	2.60	2.59	2.71	2.86	2.96	2.90	3.40	3.41	3.45	3.17
9	2.95	2.66	2.61	2.59	2.71	2.86	2.95	2.89	3.40	3.40	3.43	3.15
10	2.94	2.65	2.61	2.59	2.71	2.87	2.94	2.91	3.40	3.40	3.40	3.12
11	2.95	2.65	2.61	2.59	2.70	2.87	2.93	2.90	3.42	3.50	3.37	3.11
12	2.95	2.64	2.60	2.59	2.71	2.87	2.92	2.89	3.45	3.56	3.36	3.10
13	2.94	2.63	2.60	2.59	2.71	2.87	2.91	2.90	3.44	3.58	3.34	3.08
14	2.93	2.63	2.60	2.59	2.70	2.87	2.90	2.87	3.46	3.58	3.33	3.23
15	2.91	2.62	2.60	2.59	2.70	2.87	2.89	2.85	3.46	3.57	3.31	3.87
16	2.90	2.62	2.61	2.59	2.70	2.88	2.90	2.84	3.46	3.56	3.30	4.05
17	2.88	2.63	2.61	2.59	2.70	2.88	2.90	2.85	3.45	3.55	3.29	4.13
18	2.88	2.63	2.61	2.59	2.70	2.89	2.88	2.85	3.44	3.53	3.28	4.17
19	2.87	2.62	2.61	2.58	2.70	2.89	2.93	2.86	3.41	3.52	3.25	4.18
20	2.86	2.62	2.61	2.58	2.71	2.89	2.96	2.93	3.40	3.52	3.24	4.18
21	2.85	2.62	2.61	2.58	2.71	2.88	2.97	2.97	3.39	3.62	3.21	4.27
22	2.85	2.62	2.61	2.58	2.71	2.88	2.97	3.07	3.37	3.63	3.20	4.41
23	2.84	2.62	2.61	2.58	2.71	2.88	2.97	3.27	3.36	3.61	3.21	4.45
24	2.82	2.60	2.61	2.57	2.71	2.88	2.99	3.33	3.37	3.58	3.21	4.47
25	2.80	2.59	2.61	2.57	2.71	2.88	3.18	3.35	3.35	3.56	3.20	4.48
26	2.79	2.59	2.61	2.61	2.71	2.90	3.18	3.36	3.34	3.55	3.19	4.47
27	2.77	2.58	2.61	2.62	2.71	2.94	3.22	3.37	3.33	3.52	3.19	4.47
28	2.76	2.57	2.61	2.62	2.71	3.01	3.19	3.38	3.32	3.50	3.18	4.44
29	2.75	2.57	2.61	2.63	2.72	3.01	3.10	3.42	3.31	3.50	3.16	4.42
30	2.75	2.56	2.61	2.63	---	3.01	3.09	3.43	3.29	3.48	3.15	4.40
31	2.72	---	2.61	2.63	---	3.01	---	3.41	---	3.47	3.15	---
MEAN	2.89	2.64	2.60	2.60	2.70	2.88	2.99	3.06	3.39	3.49	3.31	3.76
MAX	3.03	2.74	2.61	2.63	2.72	3.01	3.22	3.43	3.46	3.63	3.53	4.48
MIN	2.72	2.56	2.55	2.57	2.64	2.75	2.88	2.84	3.29	3.29	3.15	3.08

06604200 WEST OKOBOJI LAKE AT LAKESIDE LABORATORY NEAR MILFORD, IA—Continued



LITTLE SIOUX RIVER BASIN

06605000 OCHEYEDAN RIVER NEAR SPENCER, IA

LOCATION.--(revised) Lat 43°07'41", long 95°12'38", in SW¹/₄ SW¹/₄ sec.15, T.96N., R.37W., Clay County, Hydrologic Unit 10230003, on right bank 5 ft downstream from bridge on county highway M38, 3.4 mi west by southwest of Spencer, and at mile 4.1.

DRAINAGE AREA.--426 mi².

PERIOD OF RECORD.--October 1977 to current year. Occasional low-flow measurements, water years 1957-61, 1964, 1966-68, 1970, 1971, 1974-77.

GAGE.--Water-stage recorder. Datum of gage is 1,311.66 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Geological Survey data collection platform with satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 8, 1953 reached a stage of 12.89 ft, discharge, 26,000 ft³/s on basis of contracted-opening measurement of peak flow.

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	7.6	8.1	e7.2	e13	e13	e97	83	69	299	61	134	26
2	7.7	8.4	e8.7	e12	e11	e230	75	65	267	58	139	24
3	8.1	9.7	e5.0	e8.8	e9.1	e212	69	61	239	71	130	23
4	8.2	10	e5.0	e5.4	e11	e317	63	59	226	82	148	22
5	7.9	8.9	e7.4	e2.5	e13	e295	62	55	221	103	164	24
6	8.0	8.8	e8.3	e3.3	e9.9	e340	60	55	216	566	149	27
7	8.1	e8.3	e9.6	e4.1	e7.9	397	57	52	209	882	134	23
8	8.3	e8.1	e13	e7.4	e7.0	271	54	53	193	586	119	22
9	8.4	e9.6	e9.5	e7.0	e7.9	218	52	50	181	415	104	22
10	8.5	10	e8.0	e5.3	e7.9	192	51	50	172	331	91	21
11	9.5	9.4	e4.7	e5.9	e7.9	139	49	46	181	348	80	21
12	9.5	8.7	e5.3	e6.4	e5.3	120	48	44	238	486	72	20
13	8.9	9.4	e4.0	e6.2	e4.4	142	46	44	227	382	67	20
14	9.0	8.4	e5.3	e4.5	e4.8	103	44	43	209	311	61	37
15	8.6	8.2	e5.7	e3.2	e3.0	94	43	41	198	278	56	1,040
16	8.6	8.2	e7.0	e8.0	e5.6	88	43	40	183	264	52	2,020
17	8.5	8.5	e4.3	e6.7	e4.0	80	42	41	169	254	48	1,630
18	8.7	8.5	e6.7	e3.4	e5.8	75	40	41	155	245	45	2,210
19	8.3	8.4	e4.7	e2.8	e5.2	70	46	39	143	230	40	1,790
20	8.2	8.4	e5.7	e4.7	e5.8	72	48	42	135	218	38	1,090
21	8.1	8.4	e7.6	e4.3	e2.7	67	58	68	134	220	35	928
22	8.1	8.4	e8.1	e3.8	e5.5	64	61	398	123	210	32	1,770
23	7.9	7.8	e6.5	e6.9	e4.8	60	58	580	108	196	32	2,430
24	8.1	e6.9	e4.3	e5.8	e5.1	58	57	1,120	101	186	30	2,010
25	7.9	e7.2	e6.0	e6.5	e4.8	57	103	790	93	176	30	1,460
26	7.8	e7.6	e11	e5.3	e5.3	61	156	584	85	169	29	1,110
27	8.1	e8.9	e16	e3.3	e12	66	133	462	80	162	29	898
28	9.0	e7.4	e13	e2.4	e24	118	112	370	74	156	28	743
29	8.6	e7.4	e9.6	e3.0	e49	141	93	329	69	149	26	635
30	8.6	e8.6	e9.1	e4.7	---	117	77	305	65	141	25	568
31	8.7	---	e7.0	e8.2	---	96	---	306	---	134	26	---
TOTAL	259.5	254.6	233.3	174.8	262.7	4,457	1,983	6,302	4,993	8,070	2,193	22,664
MEAN	8.37	8.49	7.53	5.64	9.06	144	66.1	203	166	260	70.7	755
MAX	9.5	10	16	13	49	397	156	1,120	299	882	164	2,430
MIN	7.6	6.9	4.0	2.4	2.7	57	40	39	65	58	25	20
AC-FT	515	505	463	347	521	8,840	3,930	12,500	9,900	16,010	4,350	44,950
CFSM	0.02	0.02	0.02	0.01	0.02	0.34	0.16	0.48	0.39	0.61	0.17	1.77
IN.	0.02	0.02	0.02	0.02	0.02	0.39	0.17	0.55	0.44	0.70	0.19	1.98

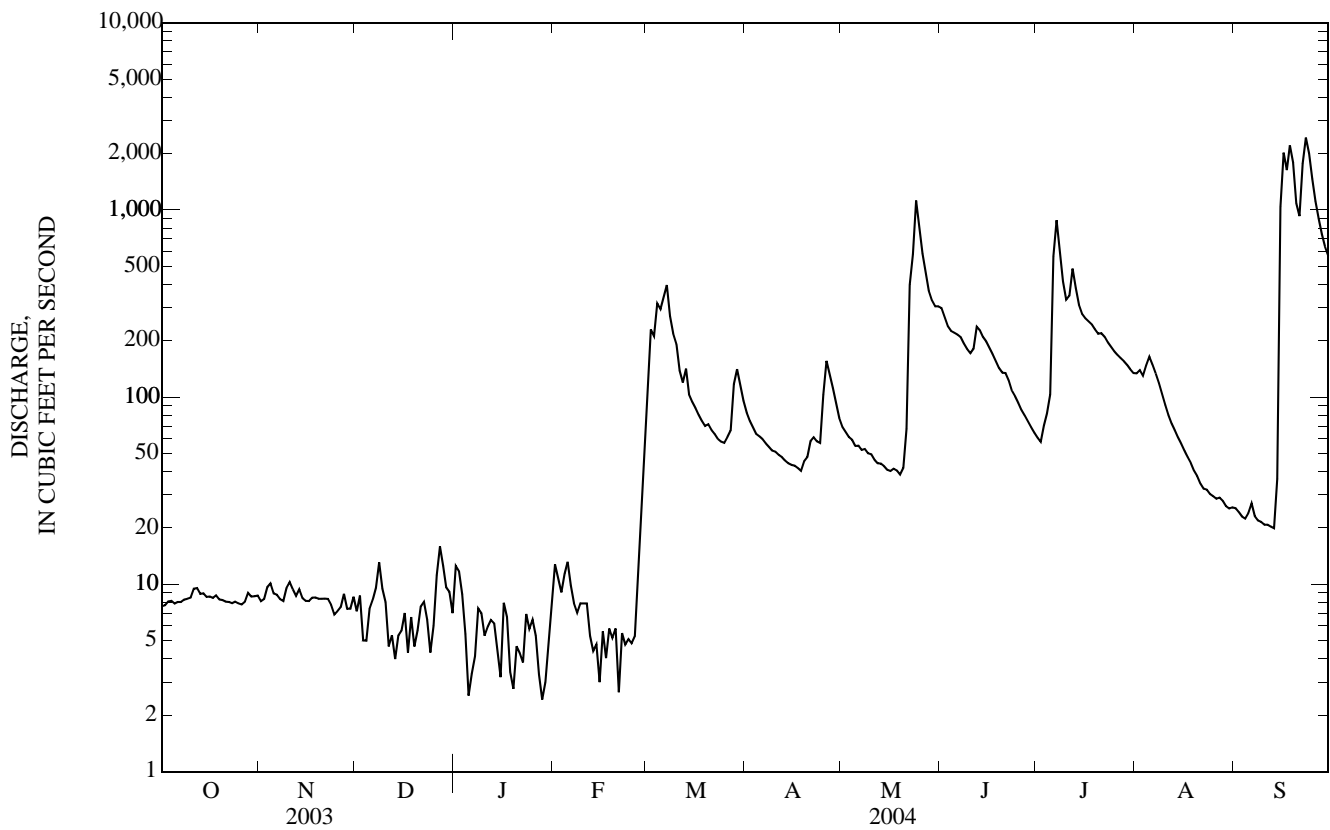
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2004, BY WATER YEAR (WY)

MEAN	110	124	70.2	39.9	74.0	309	455	366	464	298	128	141
MAX	492	796	305	180	402	1,019	1,462	912	1,973	2,243	706	755
(WY)	(1983)	(1980)	(1983)	(1983)	(1983)	(1983)	(1983)	(1993)	(1993)	(1993)	(1993)	(2004)
MIN	8.12	8.11	1.91	0.51	0.00	14.0	19.7	54.9	33.8	33.4	15.3	9.85
(WY)	(2001)	(1990)	(1990)	(1979)	(1979)	(1990)	(2000)	(1981)	(1989)	(1989)	(1989)	(2000)

06605000 OCHEYEDAN RIVER NEAR SPENCER, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1978 - 2004	
ANNUAL TOTAL	27,195.5		51,846.9		215	
ANNUAL MEAN	74.5		142		763	
HIGHEST ANNUAL MEAN					33.4	
LOWEST ANNUAL MEAN					1989	
HIGHEST DAILY MEAN	679	Jun 26	2,430	Sep 23	5,620	Jul 1, 1993
LOWEST DAILY MEAN	3.0	Mar 5	2.4	Jan 28 a	0.00	Jan 24, 1979 b
ANNUAL SEVEN-DAY MINIMUM	4.0	Jan 23	4.4	Jan 24	0.00	Jan 24, 1979
MAXIMUM PEAK FLOW			2,560	Sep 23	6,450	Jun 21, 1983
MAXIMUM PEAK STAGE			10.07	Sep 18 c	11.28	Jul 1, 1993
ANNUAL RUNOFF (AC-FT)	53,940		102,800		155,900	
ANNUAL RUNOFF (CFSM)	0.175		0.333		0.505	
ANNUAL RUNOFF (INCHES)	2.37		4.53		6.86	
10 PERCENT EXCEEDS	227		308		529	
50 PERCENT EXCEEDS	18		41		80	
90 PERCENT EXCEEDS	7.0		5.4		11	

a Ice affected.
 b Also Jan. 25 to Mar. 9, 1979, Dec. 22, 1989 to Jan. 5, 1990.
 c Peak affected by backwater.
 e Estimated.



LITTLE SIOUX RIVER BASIN

06605850 LITTLE SIOUX RIVER AT LINN GROVE, IA

LOCATION.--Lat 42°53'45", long 95°14'35", in SW¹/₄ SE¹/₄ SW¹/₄ sec.5, T.93 N., R.37 W., Buena Vista County, Hydrologic Unit 10230003, on right bank 500 ft upstream of concrete dam, 1300 ft upstream of bridge on County Highway M36, in Linn Grove, and at mile 122.5.

DRAINAGE AREA.--1,548 mi².

PERIOD OF RECORD.--October 1972 to current year.

REVISED RECORDS.--WDR IA-80-1: 1978-79.

GAGE.--Water-stage recorder. Datum of gage is 1,223.60 ft above NGVD of 1929. Oct. 1, 1972 to Nov. 17, 1999, water-stage recorder, 0.25 mi downstream, below concrete dam, at current 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1953, gage height 20.96 ft; discharge, 22,500 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	36	41	43	54	23	184	460	394	1,230	202	243	82
2	36	40	50	52	23	349	392	363	1,110	190	222	78
3	36	46	33	e52	e16	333	351	336	984	203	217	73
4	38	50	34	e47	22	542	312	314	864	214	221	67
5	37	56	40	e25	19	625	279	292	783	221	243	67
6	38	52	e43	e26	18	574	257	274	726	410	263	72
7	38	44	e46	e28	e12	572	234	250	674	712	252	84
8	40	30	e49	31	e11	662	219	234	620	1,190	242	88
9	41	e15	53	27	21	801	202	244	704	1,200	244	77
10	38	42	32	26	20	862	185	234	757	1,050	239	70
11	40	49	30	28	20	678	175	217	738	1,050	224	66
12	40	48	e19	30	e12	375	172	203	822	1,240	209	63
13	44	44	30	33	e12	432	167	194	824	1,430	192	60
14	48	38	26	36	e12	500	161	189	770	1,410	179	195
15	48	35	27	39	e8.2	423	152	188	692	1,240	164	2,230
16	48	37	29	40	e15	363	145	181	638	1,100	159	2,910
17	48	38	e19	41	e14	326	139	182	615	1,020	174	4,020
18	46	39	30	e42	22	306	141	185	579	941	165	5,170
19	45	39	32	e31	22	286	159	183	517	852	137	8,820
20	42	38	32	30	23	275	171	165	471	762	124	8,610
21	41	37	33	27	22	259	198	213	446	693	117	7,230
22	39	36	36	26	23	236	222	1,340	423	658	110	6,120
23	39	e27	39	24	25	236	221	2,400	385	600	114	5,690
24	38	e22	40	24	26	229	221	3,000	349	542	116	5,820
25	38	37	37	24	27	226	336	3,020	326	466	113	6,140
26	39	37	36	e17	29	223	610	2,940	303	409	108	5,970
27	41	40	41	e11	34	263	648	2,880	279	366	101	5,310
28	44	e29	50	e10	42	451	586	2,550	260	330	95	4,540
29	44	38	54	e12	69	628	518	1,910	241	306	89	3,900
30	42	47	56	e15	---	592	444	1,530	220	279	86	3,370
31	42	---	57	e18	---	525	---	1,400	---	259	85	---
TOTAL	1,274	1,171	1,176	926	642.2	13,336	8,477	28,005	18,350	21,545	5,247	86,992
MEAN	41.1	39.0	37.9	29.9	22.1	430	283	903	612	695	169	2,900
MAX	48	56	57	54	69	862	648	3,020	1,230	1,430	263	8,820
MIN	36	15	19	10	8.2	184	139	165	220	190	85	60
AC-FT	2,530	2,320	2,330	1,840	1,270	26,450	16,810	55,550	36,400	42,730	10,410	172,500
CFSM	0.03	0.03	0.02	0.02	0.01	0.28	0.18	0.58	0.40	0.45	0.11	1.87
IN.	0.03	0.03	0.03	0.02	0.02	0.32	0.20	0.67	0.44	0.52	0.13	2.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2004, BY WATER YEAR (WY)

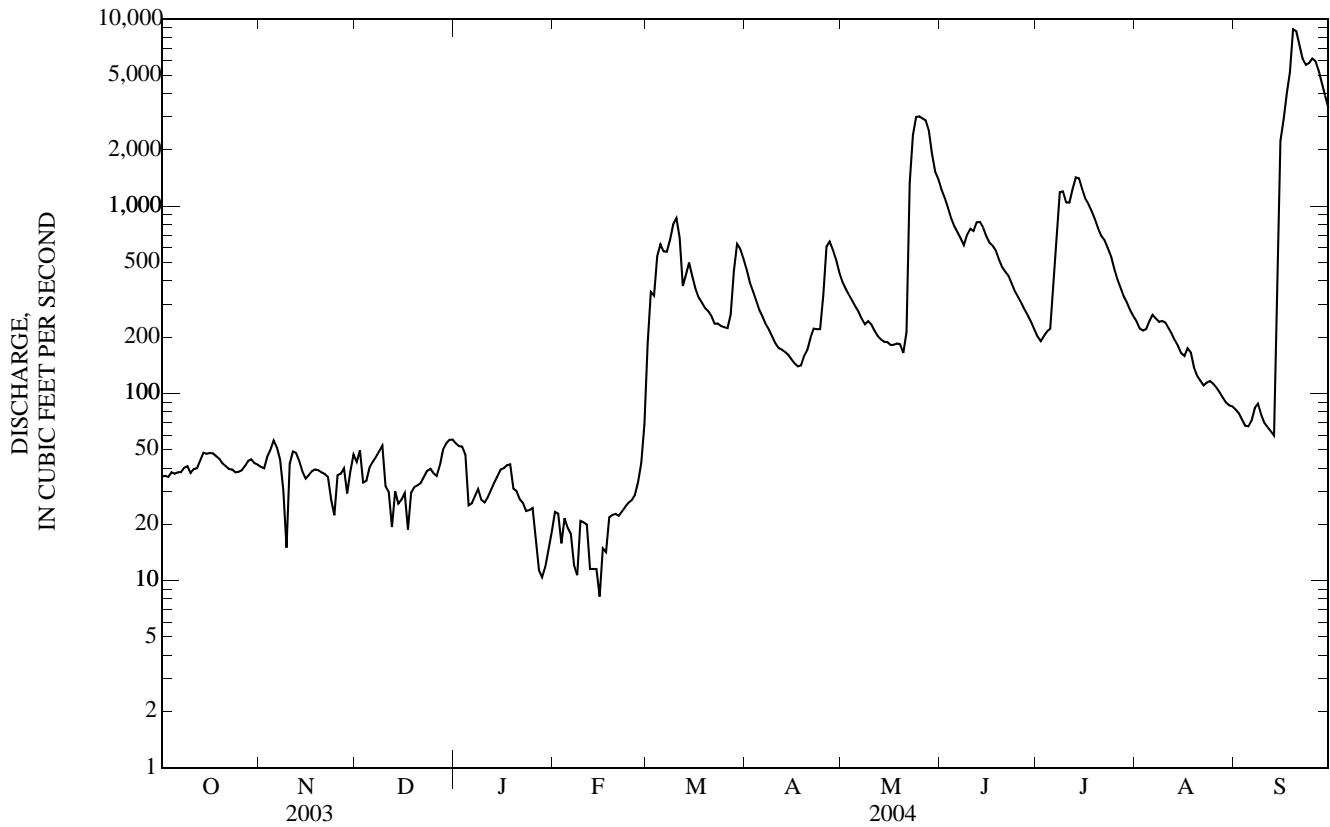
MEAN	373	406	253	165	265	1,015	1,561	1,279	1,481	1,015	445	451
MAX	2,070	2,050	1,122	859	1,161	3,894	4,952	3,233	6,898	7,905	2,906	2,900
(WY)	(1983)	(1980)	(1983)	(1983)	(1983)	(1983)	(1983)	(1993)	(1993)	(1993)	(1993)	(2004)
MIN	21.3	22.0	6.08	3.12	5.92	75.9	74.9	69.4	60.3	36.3	26.4	22.7
(WY)	(1977)	(1977)	(1990)	(1977)	(1977)	(1990)	(2000)	(1977)	(1977)	(1977)	(1976)	(1976)

06605850 LITTLE SIOUX RIVER AT LINN GROVE, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1973 - 2004	
ANNUAL TOTAL	120,987		187,141.2			
ANNUAL MEAN	331		511		727	
HIGHEST ANNUAL MEAN					2,763	1993
LOWEST ANNUAL MEAN					56.3	1977
HIGHEST DAILY MEAN	3,180	Jun 27	8,820	Sep 19	15,000	Jul 2, 1993
LOWEST DAILY MEAN	12	Jan 26	8.2	Feb 15 a	0.70	Feb 4, 1977
ANNUAL SEVEN-DAY MINIMUM	15	Jan 25	13	Feb 11	1.1	Jan 31, 1977
MAXIMUM PEAK FLOW			9,570	Sep 19	16,100	Jul 2, 1993
MAXIMUM PEAK STAGE			20.94	Sep 19	20.63	Jul 2, 1993
ANNUAL RUNOFF (AC-FT)	240,000		371,200		526,400	
ANNUAL RUNOFF (CFSM)	0.214		0.330		0.469	
ANNUAL RUNOFF (INCHES)	2.91		4.50		6.38	
10 PERCENT EXCEEDS	1,030		1,050		1,930	
50 PERCENT EXCEEDS	56		159		288	
90 PERCENT EXCEEDS	30		25		40	

a Ice affected.

e Estimated.



06606600 LITTLE SIOUX RIVER AT CORRECTIONVILLE, IA

LOCATION.--(revised) Lat 42°28'14", long 95°47'50", in NE¹/₄ NW¹/₄ sec.1, T.88 N., R.43 W., Woodbury County, Hydrologic Unit 10230003 on right bank 50 ft upstream from bridge on State Highway 31, 0.3 mi upstream from Bacon Creek, 0.5 mi west of Correctionville, 0.8 mi downstream from Pierson Creek, and at mile 56.0.

DRAINAGE AREA.--2,500 mi².

PERIOD OF RECORD.--May 1918 to July 1925, October 1928 to July 1932, June 1936 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 856: 1919. WSP 1240: 1924-25, 1931, 1932 (M), 1937, 1945 (M), 1947 (M), 1949 (M). WSP 1440: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,096.49 ft above NGVD of 1929. May 28, 1918, to July 1, 1925 and Oct. 29, 1928 to July 15, 1929, nonrecording gage 0.2 mi downstream at datum 1.25 ft lower. July 16, 1929, to July 2, 1932, and June 15, 1936, to Nov. 7, 1938, nonrecording gage at present 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23 or 24, 1891, reached a stage of 29.34 ft, present datum, from levels to floodmark by U.S. Soil Conservation Service (discharge not determined).

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	117	138	121	143	e75	e1,400	853	916	2,480	739	639	227
2	119	139	136	140	e76	e1,250	776	843	2,220	822	755	217
3	120	158	131	115	e67	e1,200	700	790	2,020	1,020	670	202
4	120	178	107	e108	e68	1,060	627	747	1,840	878	591	187
5	120	174	e119	e80	e67	1,120	581	707	1,690	858	568	184
6	117	164	e124	e83	e70	1,350	540	675	1,570	1,090	554	191
7	117	155	130	e84	e68	1,670	502	629	1,480	1,540	544	190
8	116	144	146	e95	e67	1,200	474	584	1,390	1,610	531	184
9	118	135	126	e90	e73	1,070	442	654	1,340	1,720	504	173
10	116	142	e103	e87	e79	1,150	422	605	1,720	1,820	482	174
11	123	153	e98	e100	e82	1,100	402	563	2,160	1,740	464	169
12	131	142	e95	e95	e80	873	383	524	1,730	1,650	450	160
13	130	133	e99	e93	e80	831	375	502	1,590	1,720	429	150
14	131	137	e104	e92	e79	764	373	492	1,530	3,510	411	188
15	129	140	e108	e91	e77	711	366	472	1,470	2,830	390	1,680
16	127	140	e102	97	e82	716	362	463	2,610	2,240	373	5,870
17	129	138	e100	e95	e82	638	347	465	2,360	1,920	356	7,000
18	132	137	108	e88	e86	592	339	472	1,610	1,730	365	6,050
19	133	134	e106	e90	e93	584	390	470	1,460	1,610	357	6,940
20	134	134	e108	96	e93	574	468	465	1,350	1,490	340	7,410
21	132	130	113	94	e91	533	579	470	1,410	1,380	309	7,700
22	131	129	117	e87	e104	500	548	1,290	1,240	e1,270	288	8,840
23	130	e126	116	91	e128	471	559	3,720	1,130	e1,180	534	10,000
24	130	e105	112	92	e120	451	570	5,060	1,100	e1,070	384	10,900
25	126	117	110	e84	e119	442	731	5,430	1,040	e979	303	10,600
26	125	118	110	e79	e116	431	842	4,700	959	e929	282	9,300
27	128	127	138	e69	203	463	1,060	4,340	910	845	271	8,460
28	133	112	154	e68	409	693	1,170	4,040	868	778	254	8,170
29	138	e124	149	e67	642	769	1,100	3,980	822	731	244	7,730
30	139	133	146	e67	---	906	1,000	3,330	777	682	236	6,850
31	138	---	133	e69	---	922	---	2,780	---	643	228	---
TOTAL	3,929	4,136	3,669	2,829	3,476	26,434	17,881	51,178	45,876	43,024	13,106	126,096
MEAN	127	138	118	91.3	120	853	596	1,651	1,529	1,388	423	4,203
MAX	139	178	154	143	642	1,670	1,170	5,430	2,610	3,510	755	10,900
MIN	116	105	95	67	67	431	339	463	777	643	228	150
AC-FT	7,790	8,200	7,280	5,610	6,890	52,430	35,470	101,500	91,000	85,340	26,000	250,100
CFSM	0.05	0.06	0.05	0.04	0.05	0.34	0.24	0.66	0.61	0.56	0.17	1.68
IN.	0.06	0.06	0.05	0.04	0.05	0.39	0.27	0.76	0.68	0.64	0.20	1.88

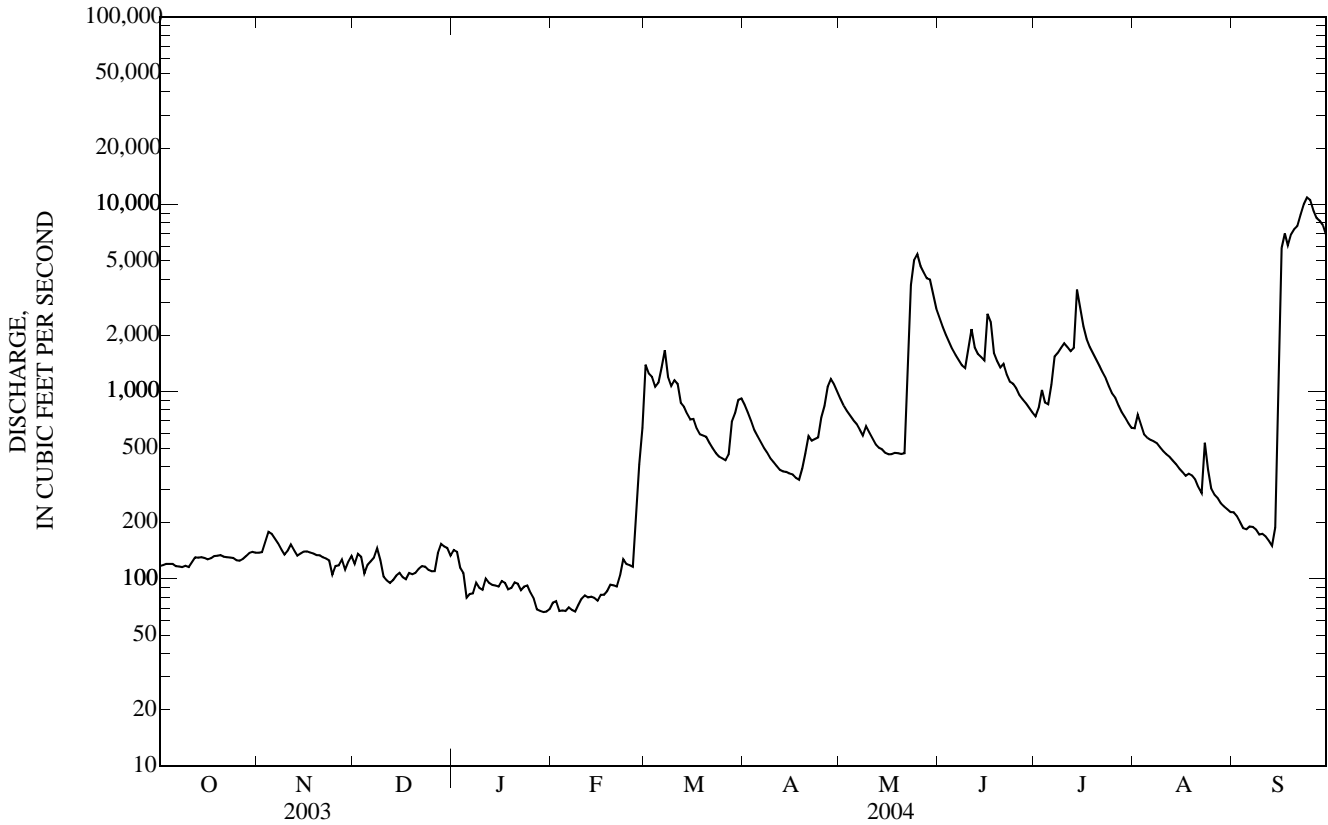
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2004, BY WATER YEAR (WY)

MEAN	423	422	293	212	451	1,430	1,883	1,432	1,805	1,241	597	542
MAX	2,994	3,079	1,698	1,323	2,708	7,328	8,677	5,002	10,110	11,600	4,469	4,203
(WY)	(1983)	(1980)	(1983)	(1983)	(1971)	(1983)	(1983)	(1993)	(1993)	(1993)	(1993)	(2004)
MIN	8.33	25.3	15.1	8.31	7.08	53.5	61.9	57.3	58.1	43.4	15.0	14.4
(WY)	(1957)	(1959)	(1959)	(1959)	(1959)	(1931)	(1931)	(1931)	(1956)	(1956)	(1931)	(1958)

06606600 LITTLE SIOUX RIVER AT CORRECTIONVILLE, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1919 - 2004	
ANNUAL TOTAL	279,870		341,634			
ANNUAL MEAN	767		933		906	
HIGHEST ANNUAL MEAN					4,304	1993
LOWEST ANNUAL MEAN					53.7	1931
HIGHEST DAILY MEAN	7,770	Jul 10	10,900	Sep 24	27,900	Apr 7, 1965
LOWEST DAILY MEAN	73	Jan 26	67	Jan 29 a	2.6	Jul 17, 1936 b
ANNUAL SEVEN-DAY MINIMUM	78	Jan 23	69	Feb 3	4.6	Oct 4, 1956
MAXIMUM PEAK FLOW			11,100	Sep 24	29,800	Apr 7, 1965
MAXIMUM PEAK STAGE			17.94	Sep 24	25.86	Apr 7, 1965
ANNUAL RUNOFF (AC-FT)	555,100		677,600		656,200	
ANNUAL RUNOFF (CFSM)	0.307		0.373		0.362	
ANNUAL RUNOFF (INCHES)	4.16		5.08		4.92	
10 PERCENT EXCEEDS	1,770		1,760		2,240	
50 PERCENT EXCEEDS	198		374		376	
90 PERCENT EXCEEDS	108		92		56	

a Ice affected.
 b Also July 25, 1956, caused by construction of dam upstream.
 e Estimated.



LITTLE SIOUX RIVER BASIN

06607200 MAPLE RIVER AT MAPLETON, IA

LOCATION.--Lat 42°09'25", long 95°48'35", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.23, T.85 N., R.43 W., Monona County, Hydrologic Unit 10230005, on right bank at downstream side of bridge on State Highway 175, 1.0 mi downstream from Simmons Creek, 1.1 mi southwest of intersection of State Highways 175 and 141 in Mapleton, 2.1 mi upstream from McCleery Creek, and 16.0 mi upstream from mouth.

DRAINAGE AREA.--669 mi².

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1310: 1942 (M), 1946 (M), 1948 (M). WSP 1440: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,080.86 ft above NGVD of 1929. See WSP 1730 for history of changes prior to Sept. 20, 1956; Prior to Apr. 27, 2000, at datum 5.0 ft higher.

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	88	75	78	87	e61	1,300	425	363	716	724	261	126
2	88	77	82	89	e58	924	380	343	629	705	273	122
3	89	100	78	72	e51	601	348	327	577	920	253	118
4	87	119	74	53	e52	453	319	308	535	782	251	114
5	86	103	e68	e38	e54	484	303	284	514	704	239	119
6	85	93	e63	e39	e55	776	289	265	499	666	226	140
7	85	90	e74	e43	e51	688	275	253	475	663	219	126
8	84	87	e84	e53	e50	543	259	239	448	625	212	117
9	83	86	e72	e45	e58	436	242	246	427	549	206	115
10	85	91	e40	e44	e70	391	229	284	459	529	197	113
11	94	94	e34	e55	e73	336	215	255	972	493	192	110
12	98	87	e31	e51	e65	279	209	240	1,110	539	186	108
13	96	84	e40	e52	e65	269	203	234	709	495	184	105
14	94	81	e56	e50	e61	268	202	234	613	458	181	111
15	90	77	e64	e47	e55	251	199	225	552	440	179	170
16	89	76	e58	e55	e79	237	190	220	1,730	423	177	260
17	90	77	e56	e53	e79	226	184	231	8,370	402	175	418
18	90	78	e70	e46	e89	225	180	239	2,120	386	169	417
19	89	77	e62	e44	e99	231	189	e233	1,550	376	189	312
20	86	74	e68	e54	e98	243	231	225	1,330	362	169	279
21	82	71	e82	e61	e96	242	284	223	1,460	349	158	272
22	81	71	e80	e48	e125	212	302	463	1,330	340	153	296
23	80	e66	e72	e67	e240	202	286	2,000	1,080	326	151	315
24	79	e43	e65	e64	e225	196	277	1,560	981	315	153	414
25	77	e67	e68	e63	e178	191	319	2,020	957	302	157	372
26	77	e66	77	e58	e147	195	433	1,220	894	288	147	320
27	80	e70	96	e53	313	304	532	962	851	281	143	283
28	82	e60	102	e50	844	700	482	812	818	276	136	256
29	82	e68	100	e50	1,430	778	434	823	781	278	131	235
30	79	e76	85	e53	---	601	394	949	749	264	161	218
31	76	---	84	e56	---	491	---	802	---	256	133	---
TOTAL	2,651	2,384	2,163	1,693	4,921	13,273	8,814	17,082	34,236	14,516	5,761	6,481
MEAN	85.5	79.5	69.8	54.6	170	428	294	551	1,141	468	186	216
MAX	98	119	102	89	1,430	1,300	532	2,020	8,370	920	273	418
MIN	76	43	31	38	50	191	180	220	427	256	131	105
AC-FT	5,260	4,730	4,290	3,360	9,760	26,330	17,480	33,880	67,910	28,790	11,430	12,860
CFSM	0.13	0.12	0.10	0.08	0.25	0.64	0.44	0.82	1.71	0.70	0.28	0.32
IN.	0.15	0.13	0.12	0.09	0.27	0.74	0.49	0.95	1.90	0.81	0.32	0.36

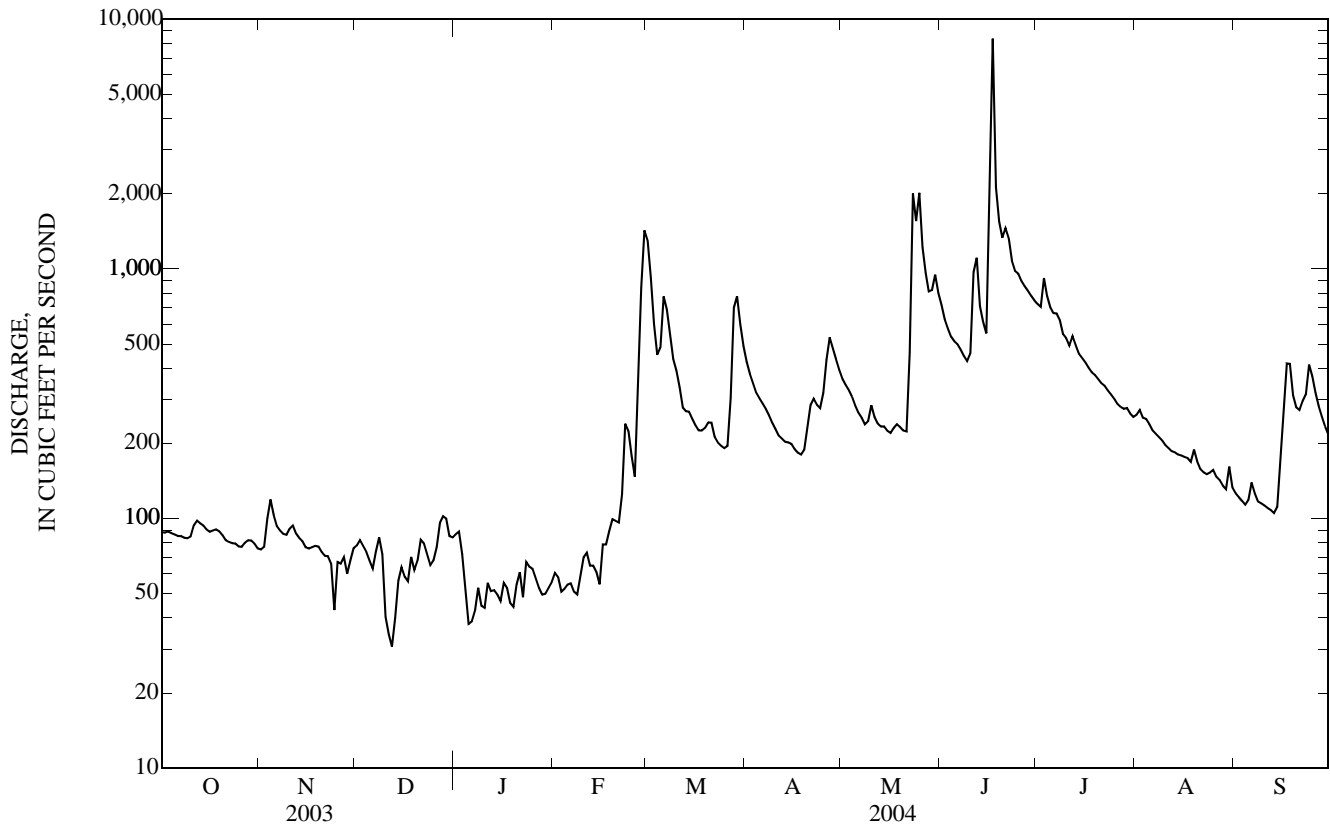
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2004, BY WATER YEAR (WY)

MEAN	156	144	115	95.4	222	476	404	405	640	379	253	178
MAX	634	506	548	330	1,016	1,588	1,889	1,345	2,856	1,588	1,230	1,034
(WY)	(1983)	(1993)	(1985)	(1983)	(1971)	(1983)	(1983)	(1984)	(1984)	(1993)	(1951)	(1951)
MIN	9.36	14.6	5.74	3.25	3.64	25.6	19.9	35.9	48.5	33.3	12.6	5.48
(WY)	(1957)	(1959)	(1959)	(1959)	(1959)	(1957)	(1957)	(1968)	(1955)	(1956)	(1956)	(1956)

06607200 MAPLE RIVER AT MAPLETON, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1942 - 2004	
ANNUAL TOTAL	118,429		113,975			
ANNUAL MEAN	324		311		289	
HIGHEST ANNUAL MEAN					983 1983	
LOWEST ANNUAL MEAN					24.5 1956	
HIGHEST DAILY MEAN	6,740	Jul 10	8,370	Jun 17	14,400	Jun 21, 1983
LOWEST DAILY MEAN	31	Dec 12	31	Dec 12 a	0.00	Sep 21, 1945 b
ANNUAL SEVEN-DAY MINIMUM	46	Dec 10	45	Jan 4	2.6	Feb 14, 1959
MAXIMUM PEAK FLOW			11,100	Jun 17	20,800	Sep 12, 1978
MAXIMUM PEAK STAGE			17.91	Jun 17	22.10	Jun 12, 1950
ANNUAL RUNOFF (AC-FT)	234,900		226,100		209,400	
ANNUAL RUNOFF (CFSM)	0.485		0.465		0.432	
ANNUAL RUNOFF (INCHES)	6.59		6.34		5.87	
10 PERCENT EXCEEDS	734		711		613	
50 PERCENT EXCEEDS	125		188		140	
90 PERCENT EXCEEDS	72		56		30	

a Ice affected.
 b Also Sept. 22, 1945, caused by temporary dam upstream.
 e Estimated.



06607500 LITTLE SIOUX RIVER NEAR TURIN, IA

LOCATION.--Lat 41°57'52", long 95°58'21", in NW¹/₄ NE¹/₄ sec.33, T.83 N., R.44 W., Monona County, Hydrologic Unit 10230003, on left bank on downstream side of bridge on county highway E54, 1.0 mi east of gaging station on Monona-Harrison Ditch near Turin, 2.5 mi downstream from Maple River, 3.8 mi south of Turin, 6.2 mi northeast of Blencoe, and at mile 13.5.

DRAINAGE AREA.--3,526 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1942 to September 1957, January 1958 to current year. June 1942 to January 1958 at site 1,200 ft east on old river channel; records not equivalent owing to diversion into Monona-Harrison Ditch through equalizer ditch 1.5 mi upstream 1923 to 1958, and diversion with Monona-Harrison Ditch through diversion ditch 8.3 miles upstream since 1958.

REVISED RECORDS: WSP 1440: Drainage area. WSP 1560: Drainage area. WDR IA-95-1: Period of record.

GAGE.--Water-stage recorder. Datum of gage is 1,019.85 ft above NGVD of 1929 (U.S. Army Corps of Engineers bench mark). Prior to July 15, 1958, nonrecording gages near present site at different datums. July 15 to Sept. 3, 1958, nonrecording gage at present 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	246	242	e266	e230	e173	2,130	1,670	1,520	3,590	1,830	979	429
2	240	249	e287	e235	e180	2,050	1,480	1,420	3,230	1,790	1,020	421
3	247	286	e286	e235	e190	1,970	1,300	1,350	2,970	2,080	1,190	417
4	257	330	e218	e226	e179	1,960	1,170	1,270	2,760	2,230	1,050	399
5	257	326	224	e211	e177	1,800	1,090	1,210	2,580	1,980	895	386
6	248	311	261	e197	e178	2,070	994	1,120	2,450	1,970	830	369
7	251	300	312	e201	e173	2,360	903	1,040	2,300	2,160	804	373
8	248	287	345	e206	e170	2,350	839	1,000	2,190	2,470	794	366
9	243	290	316	e201	e173	1,900	795	951	2,130	2,530	788	366
10	243	292	e242	e197	e179	1,800	747	1,110	2,160	2,620	748	374
11	253	293	e212	e211	e185	1,750	726	1,080	3,020	2,640	719	359
12	248	286	e201	e204	e181	1,620	700	997	3,910	2,560	709	336
13	260	285	e205	e202	e178	1,370	675	892	2,790	2,500	682	345
14	263	289	e222	e202	e176	1,230	666	874	2,560	2,820	650	334
15	256	286	e227	e198	e169	1,190	648	845	2,430	3,970	659	402
16	253	284	e219	e203	e172	1,120	610	826	2,520	3,240	654	2,780
17	253	298	e213	e202	e187	1,080	588	813	11,400	2,810	608	6,410
18	258	288	e216	e197	e192	979	630	793	5,440	2,540	595	6,820
19	255	282	e213	e198	e206	1,110	623	781	3,550	2,360	640	6,230
20	253	280	e214	e203	e205	986	662	768	3,110	2,240	629	7,210
21	245	268	e222	e203	e203	997	811	798	3,010	2,120	577	7,390
22	246	259	e229	e190	e230	964	916	940	3,310	2,000	554	7,970
23	240	247	e224	e200	e397	907	884	4,290	2,640	1,860	516	8,980
24	231	e216	e219	e193	e647	856	877	6,370	2,430	1,700	719	10,300
25	227	e257	e219	e197	e527	816	986	8,070	2,350	1,580	644	11,100
26	227	e255	e227	e190	e407	772	1,190	6,790	2,230	1,460	538	10,100
27	233	e270	e243	e180	e506	862	1,490	5,720	2,110	1,350	495	8,860
28	237	e258	e250	e160	e1,140	1,380	1,800	5,120	2,040	1,270	474	8,260
29	242	e263	e243	e159	e1,920	1,950	1,800	4,750	1,960	1,220	464	8,020
30	242	e278	e236	e160	---	1,810	1,650	4,960	1,890	1,160	495	7,430
31	241	---	e230	e170	---	1,800	---	4,060	---	1,040	465	---
TOTAL	7,643	8,355	7,441	6,161	9,600	45,939	29,920	72,528	91,060	66,100	21,584	123,536
MEAN	247	278	240	199	331	1,482	997	2,340	3,035	2,132	696	4,118
MAX	263	330	345	235	1,920	2,360	1,800	8,070	11,400	3,970	1,190	11,100
MIN	227	216	201	159	169	772	588	768	1,890	1,040	464	334
AC-FT	15,160	16,570	14,760	12,220	19,040	91,120	59,350	143,900	180,600	131,100	42,810	245,000
CFSM	0.07	0.08	0.07	0.06	0.09	0.42	0.28	0.66	0.86	0.60	0.20	1.17
IN.	0.08	0.09	0.08	0.06	0.10	0.48	0.32	0.77	0.96	0.70	0.23	1.30

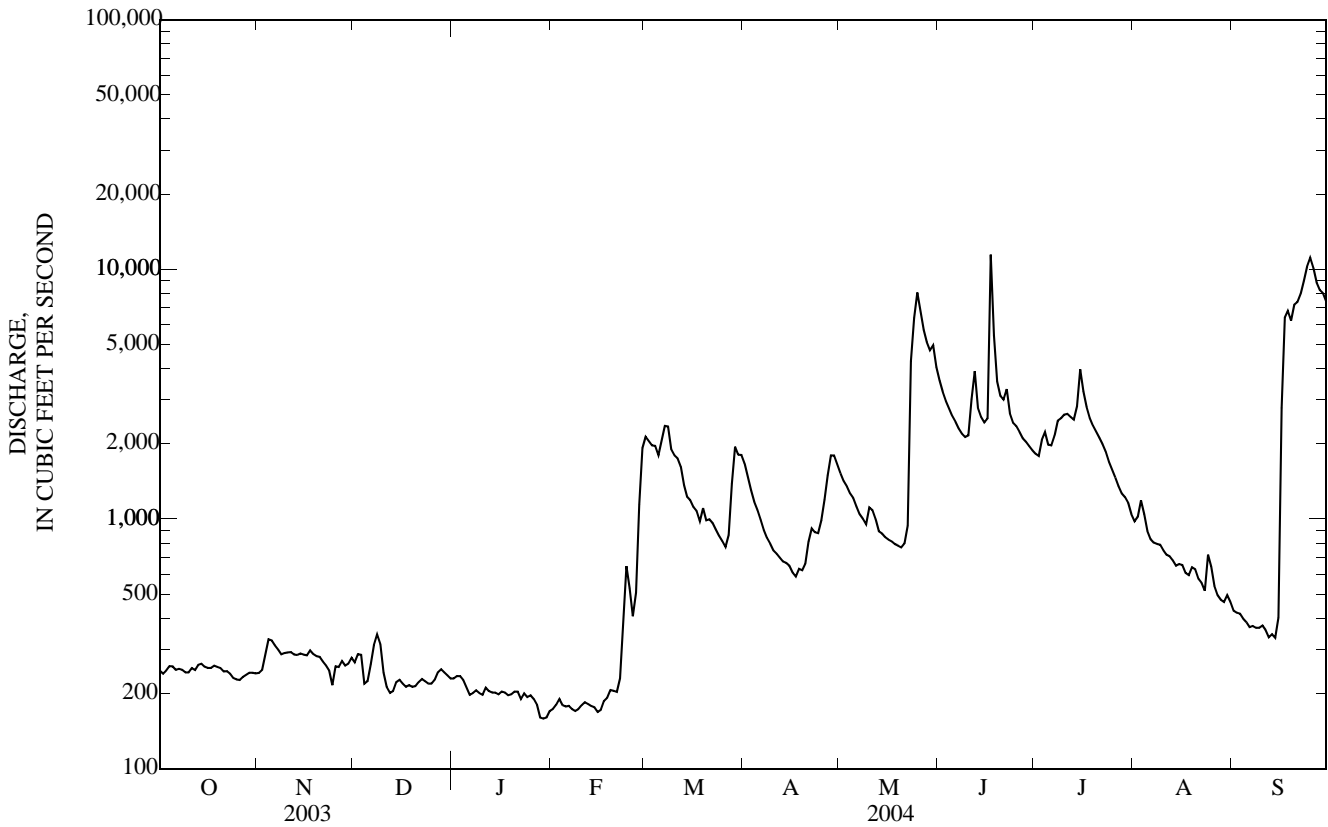
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2004, BY WATER YEAR (WY)

MEAN	779	788	632	464	808	2,264	3,056	2,416	2,958	2,071	1,035	897
MAX	3,625	3,612	2,424	2,250	3,353	9,054	10,790	7,938	15,080	13,110	5,181	4,118
(WY)	(1983)	(1980)	(1983)	(1992)	(1971)	(1983)	(1965)	(1986)	(1984)	(1993)	(1993)	(2004)
MIN	37.5	48.0	31.2	18.5	25.1	171	157	118	315	181	140	90.2
(WY)	(1959)	(1959)	(1959)	(1977)	(1959)	(1964)	(1968)	(1968)	(1968)	(1968)	(1976)	(1976)

06607500 LITTLE SIOUX RIVER NEAR TURIN, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1959 - 2004 a	
ANNUAL TOTAL	422,555		489,867			
ANNUAL MEAN	1,158		1,338		1,515	
HIGHEST ANNUAL MEAN					5,261	1993
LOWEST ANNUAL MEAN					167	1968
HIGHEST DAILY MEAN	13,200	Jul 11	11,400	Jun 17	28,700	Jun 22, 1996
LOWEST DAILY MEAN	201	Dec 12	159	Jan 29 b	17	Jan 18, 1977 c
ANNUAL SEVEN-DAY MINIMUM	214	Dec 11	169	Jan 27	17	Jan 27, 1977
MAXIMUM PEAK FLOW			13,900	Jun 17	32,000	Jun 22, 1996
MAXIMUM PEAK STAGE			20.57	Jun 17	27.44	Feb 19, 1971 b
ANNUAL RUNOFF (AC-FT)	838,100		971,700		1,097,000	
ANNUAL RUNOFF (CFSM)	0.328		0.380		0.430	
ANNUAL RUNOFF (INCHES)	4.46		5.17		5.84	
10 PERCENT EXCEEDS	2,680		2,860		3,650	
50 PERCENT EXCEEDS	419		648		754	
90 PERCENT EXCEEDS	243		202		155	

- a Post closure of diversion to Monona-Harrison Ditch.
- b Ice affected.
- c Also Jan. 19, 20, Jan. 28 to Feb. 1, 1977.
- e Estimated.



06607500 LITTLE SIOUX RIVER NEAR TURIN, IA—Continued

(Large river mass contaminants station)

WATER QUALITY RECORDS

PERIOD OF RECORD.--October 2003 to September 30, 2004.

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

Date	Time	Instantaneous discharge, cfs (00061)	Stream width, feet (00004)	Turbidity, wat unflab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incm. titr., field, mg/L (00453)	Carbonate, wat flt incm. titr., field, mg/L (00452)
MAR 10...	0830	1,810	150	160	726	11.7	95	8.1	495	4.3	168	205	--
APR 13...	1400	679	140	28	--	16.5	--	8.7	610	11.7	182	223	--
MAY 11...	1020	1,020	145	190	730	7.6	89	8.2	590	20.7	181	221	--
MAY 24...	1100	6,280	200	2,200	732	--	--	7.6	340	17.5	106	129	--
JUN 08...	0850	2,220	145	140	730	7.5	92	8.2	730	23.4	224	273	--
JUN 17...	1230	13,200	220	--	737	5.9	66	7.7	257	19.0	76	93	--
JUL 13...	1000	2,510	145	200	734	7.5	97	8.0	718	26.7	219	267	--
AUG 10...	0900	766	147	78	--	11.2	--	8.3	168	21.1	176	205	5
SEP 08...	1100	369	150	28	758	11.9	129	8.5	565	19.1	--	200	5
SEP 20...	1145	7,260	205	330	733	7.5	83	7.2	363	18.5	131	160	--

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

Date	Chloride, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, wat flt by analysis, mg/L (62854)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Total carbon, suspnd sedimnt total, mg/L (00694)
MAR 10...	16.3	13.6	45.6	.42	6.80	.050	1.54	.210	.24	1.05	7.66	9.51	19.0
APR 13...	25.1	2.9	84.0	<.04	4.74	.012	1.02	<.006	<.04	.174	5.04	6.05	7.5
MAY 11...	21.8	5.7	67.9	E.02	6.38	.043	1.57	.051	.064	.58	6.73	8.21	14.3
MAY 24...	9.50	8.8	26.1	.27	4.86	.097	10.4	.091	.115	5.16	5.71	8.61	113
JUN 08...	25.5	15.6	67.1	.01	11.7	.014	1.20	.117	.130	.598	12.3	6.83	12.6
JUN 17...	5.17	6.7	13.6	.09	2.98	.042	9.11	.087	.112	.199	3.46	11.2	87.6
JUL 13...	24.6	18.1	64.6	<.04	12.3	.024	1.40	.138	.151	.63	12.0	12.7	15.9
AUG 10...	22.5	9.2	79.9	<.04	3.73	.017	1.64	<.006	.008	.28	4.03	5.72	11.0
SEP 08...	26.3	6.3	89.2	<.04	1.47	.014	1.13	<.006	.013	.150	1.73	2.78	7.5
SEP 20...	--	--	--	E.04	4.15	.027	1.56	.186	.19	1.10	4.65	5.85	19.4

06607500 LITTLE SIOUX RIVER NEAR TURIN, IA—Continued

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

Date	Inorganic carbon, suspdnt sedimnt total, mg/L (00688)	Organic carbon, suspdnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Pheophytin a, phytoplankton, ug/L (62360)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	2,6-Diethyl-aniline water fltrd, 0.7u GF, ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd, 0.7u GF, ug/L (82686)	Benfluralin, water, fltrd, 0.7u GF, ug/L (82673)
MAR 10...	2.4	16.7	8.4	20.7	20.4	<.006	E.032	.020	<.005	<.005	.109	<.050	<.010
APR 13...	<.1	7.5	3.1	21.2	62.3	<.006	E.017	.019	<.005	<.005	.048	<.050	<.010
MAY 11...	.4	13.8	4.0	112	303	<.006	E.093	.493	.031	<.005	2.25	<.050	<.010
MAY 24...	4.9	108	5.9	52.0	48.2	<.006	E.229	1.46	.016	<.005	4.78	<.050	<.010
JUN 08...	.4	12.2	3.2	10.8	28.0	<.006	E.048	.086	.005	<.005	.370	<.050	<.010
JUN 17...	2.9	84.7	4.2	14.5	7.7	<.006	E.245	.118	E.005	<.005	10.2	<.050	<.010
JUL 13...	.7	15.2	3.5	13.5	13.3	<.006	E.042	.026	<.005	<.005	.568	<.050	<.010
AUG 10...	1.0	10.0	2.8	44.4	85.8	<.006	E.027	.009	<.005	<.005	.180	<.050	<.010
SEP 08...	<.1	7.4	2.9	53.8	55.7	<.006	E.016	<.006	<.005	<.005	.094	<.050	<.010
SEP 20...	<.1	19.3	5.0	7.0	2.9	<.006	E.057	.035	<.005	<.005	.182	<.050	<.010

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

Date	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd, 0.7u GF, ug/L (82680)	Carbofuran, water, fltrd, 0.7u GF, ug/L (82674)	Chlorpyrifos, water, fltrd, ug/L (38933)	cis-Permethrin, water, fltrd, 0.7u GF, ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water, fltrd, 0.7u GF, ug/L (82682)	Desulf-inyl fipronil, water, fltrd, ug/L (62170)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd, 0.7u GF, ug/L (82677)	EPTC, water, fltrd, 0.7u GF, ug/L (82668)	Ethalfurfluralin, water, fltrd, 0.7u GF, ug/L (82663)
MAR 10...	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009
APR 13...	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009
MAY 11...	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009
MAY 24...	<.004	<.041	<.020	.011	<.006	E.012	<.003	<.012	<.005	<.009	<.02	E.003	<.009
JUN 08...	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009
JUN 17...	<.004	<.041	E.049	.007	<.006	.026	<.003	E.003	<.005	<.009	<.02	<.004	<.009
JUL 13...	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009
AUG 10...	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.008	<.009
SEP 08...	<.004	<.041	<.020	E.004	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009
SEP 20...	<.004	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009

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

Date	Ethoprop, water, fltrd, 0.7u GF, ug/L (82672)	Desulf-inyl fipronil amide, wat flt, ug/L (62169)	Fipronil sulfide, water, fltrd, ug/L (62167)	Fipronil sulfone, water, fltrd, ug/L (62168)	Fipronil, water, fltrd, ug/L (62166)	Fonofos, water, fltrd, ug/L (04095)	Lindane, water, fltrd, ug/L (39341)	Linuron, water, fltrd, 0.7u GF, ug/L (82666)	Malathion, water, fltrd, ug/L (39532)	Methyl parathion, water, fltrd, 0.7u GF, ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd, 0.7u GF, ug/L (82671)
MAR 10...	<.005	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.472	<.006	<.003
APR 13...	<.005	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.071	<.006	<.003
MAY 11...	<.005	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.451	.015	<.003
MAY 24...	<.005	<.029	<.013	<.024	E.009	<.003	<.004	<.035	<.027	<.015	1.20	.019	<.003
JUN 08...	<.005	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.113	E.005	<.003
JUN 17...	<.005	<.029	E.003	E.006	E.014	<.003	<.004	<.035	<.027	<.015	.470	.007	<.003
JUL 13...	<.005	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.070	<.006	<.003
AUG 10...	<.005	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.023	<.006	<.003
SEP 08...	<.005	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.020	<.006	<.003
SEP 20...	<.005	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.081	<.006	<.003

06607500 LITTLE SIOUX RIVER NEAR TURIN, IA—Continued

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

Date	Naprop- amide, water, fltrd 0.7u GF (82684)	p,p'- DDE, water, fltrd, ug/L (34653)	Para- thion, water, fltrd, ug/L (39542)	Peb- ulate, water, fltrd 0.7u GF (82669)	Pendi- meth- alin, water, fltrd 0.7u GF (82683)	Phorate water fltrd 0.7u GF (82664)	Prome- ton, water, fltrd, ug/L (04037)	Propy- zamide, water, fltrd 0.7u GF (82676)	Propa- chlor, water, fltrd, ug/L (04024)	Pro- panil, water, fltrd 0.7u GF (82679)	Propar- gite, water, fltrd 0.7u GF (82685)	Sima- zine, water, fltrd, ug/L (04035)	Tebu- thiuron water fltrd 0.7u GF (82670)
MAR 10...	<.007	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02
APR 13...	<.007	<.003	<.010	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	<.005	<.02
MAY 11...	<.007	<.003	<.010	<.004	E.013	<.011	<.01	<.004	<.025	<.011	<.02	.015	<.02
MAY 24...	<.007	<.003	<.010	<.004	.032	<.011	.01	<.004	<.025	<.011	<.02	.067	<.02
JUN 08...	<.007	<.003	<.010	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.018	E.01
JUN 17...	<.007	<.015	<.010	<.004	.030	<.011	.01	<.004	E.004	<.011	<.02	.040	<.02
JUL 13...	<.007	<.003	<.010	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.007	<.02
AUG 10...	<.007	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02
SEP 08...	<.007	<.003	<.010	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	<.005	<.02
SEP 20...	<.007	<.003	<.010	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	<.005	<.02

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

Date	Terba- cil, water, fltrd 0.7u GF (82665)	Terbu- fos, water, fltrd 0.7u GF (82675)	Thio- bencarb water fltrd 0.7u GF (82681)	Tri- allate, water, fltrd 0.7u GF (82678)	Tri- flur- alin, water, fltrd 0.7u GF (82661)	Sus- pended sedi- ment concen- tration mg/L (80154)	Number of sam- pling points, count (00063)
MAR 10...	<.034	<.02	<.010	<.002	<.009	--	10
APR 13...	<.034	<.02	<.010	<.002	<.009	80	10
MAY 11...	<.034	<.02	<.010	<.002	<.009	358	12
MAY 24...	<.034	<.02	<.010	<.002	.021	4,900	8
JUN 08...	<.034	<.02	<.010	<.002	<.009	527	10
JUN 17...	<.034	<.02	<.010	<.002	.020	3,300	9
JUL 13...	<.034	<.02	<.010	<.002	<.009	697	10
AUG 10...	<.034	<.02	<.010	<.002	<.009	176	13
SEP 08...	<.034	<.02	<.010	<.002	<.009	62	10
SEP 20...	<.034	<.02	<.010	<.002	<.009	1,580	9

06608500 SOLDIER RIVER AT PISGAH, IA

LOCATION.--Lat 41°49'50", long 95°55'52", in NW¼ NE¼ sec. 14, T.81 N., R.44 W., Harrison County, Hydrologic Unit 10230001, on right bank at upstream side of bridge on county highway F20, at west edge of Pisgah, 0.4 mi downstream from Cobb Creek, 0.5 mi upstream from Mogger Ditch, and 13.1 mi upstream from mouth.

DRAINAGE AREA.--407 mi².

PERIOD OF RECORD.--March 1940 to current year.

REVISED RECORDS.--WSP 956: 1940 (M). WSP 1240: 1940, 1941 (M), 1947. WSP 1440: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,036.53 ft above NGVD of 1929. Prior to Oct. 11, 1954, nonrecording gage at same site and datum with supplementary water-stage recorder operating above 8.2 ft gage height Mar. 2, 1946 to Sept. 24, 1953. Prior to Feb. 1954, on left bank at downstream side of bridge. Prior to June 21, 1989, at site 100 ft downstream at same 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	40	39	44	56	e46	972	163	87	163	131	83	46
2	41	42	47	56	e45	458	150	86	123	140	114	40
3	42	59	46	e50	e35	256	137	87	113	222	106	39
4	42	84	46	e39	e36	204	127	84	106	330	138	38
5	40	72	e43	e26	e37	349	124	81	100	173	99	44
6	39	55	e42	e27	e39	501	117	76	100	154	83	84
7	38	51	46	e30	e35	409	111	71	96	144	77	64
8	36	49	45	e41	e34	237	102	72	88	138	73	45
9	34	49	e38	e35	e44	197	100	107	83	366	67	43
10	33	52	e27	e34	e54	173	92	80	87	204	61	41
11	37	52	e24	e44	e57	154	92	79	110	179	59	39
12	42	48	e21	e42	e49	129	92	71	118	152	61	37
13	42	44	e30	e42	e50	128	89	70	127	143	62	36
14	42	46	e45	e40	e47	117	88	75	120	132	61	57
15	40	47	e49	e37	e43	121	86	73	157	123	60	521
16	40	46	e44	e46	e58	117	87	70	99	122	59	137
17	40	47	e42	e42	e60	119	95	80	548	114	58	76
18	39	50	e61	e34	e68	124	92	105	228	110	58	63
19	37	48	e54	e31	e75	143	91	83	188	108	63	58
20	35	43	e55	e39	e73	154	102	77	175	106	63	48
21	34	36	e71	e49	e73	128	115	202	634	99	56	59
22	35	36	e69	e34	e108	116	98	246	453	94	55	103
23	34	e33	e63	e57	e219	113	88	521	236	91	53	72
24	35	e28	e60	e49	e203	112	95	309	196	94	51	58
25	36	e41	e69	e49	e153	110	155	593	180	89	51	51
26	37	e38	e79	e45	e125	108	140	244	167	86	51	46
27	39	e40	91	e40	e269	167	108	188	160	84	49	44
28	40	e36	80	e35	e573	496	100	164	157	88	49	42
29	40	e37	e67	e35	e1,500	292	91	147	151	101	49	42
30	40	e45	60	e37	---	211	85	152	141	92	47	39
31	40	---	e52	e41	---	180	---	152	---	85	73	---
TOTAL	1,189	1,393	1,610	1,262	4,208	7,095	3,212	4,532	5,404	4,294	2,089	2,112
MEAN	38.4	46.4	51.9	40.7	145	229	107	146	180	139	67.4	70.4
MAX	42	84	91	57	1,500	972	163	593	634	366	138	521
MIN	33	28	21	26	34	108	85	70	83	84	47	36
AC-FT	2,360	2,760	3,190	2,500	8,350	14,070	6,370	8,990	10,720	8,520	4,140	4,190
CFSM	0.09	0.11	0.13	0.10	0.36	0.56	0.26	0.36	0.44	0.34	0.17	0.17
IN.	0.11	0.13	0.15	0.12	0.38	0.65	0.29	0.41	0.49	0.39	0.19	0.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2004, BY WATER YEAR (WY)

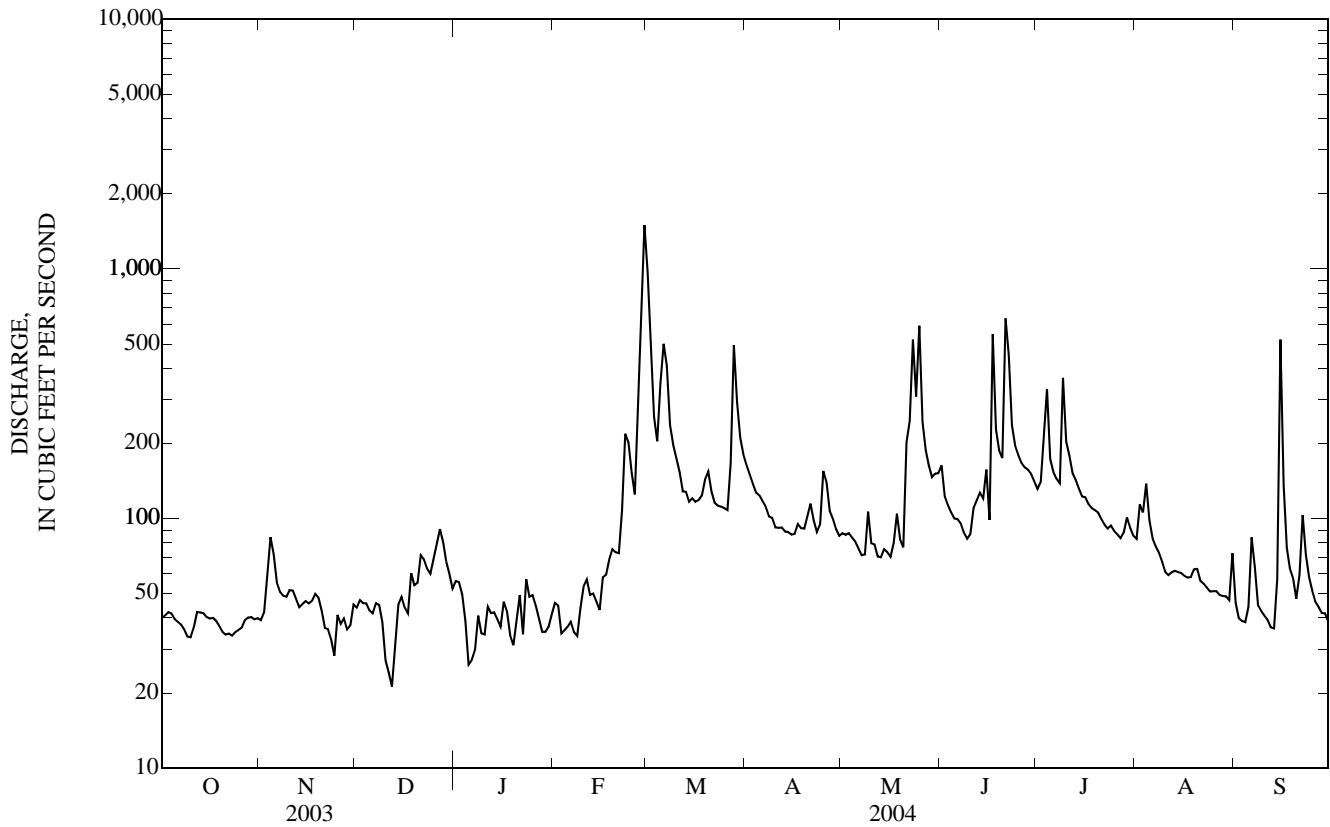
	80.8	75.1	66.9	65.9	154	262	165	199	306	200	141	109
MEAN	80.8	75.1	66.9	65.9	154	262	165	199	306	200	141	109
MAX	330	274	281	431	653	897	623	555	1,233	1,607	632	482
(WY)	(1994)	(1994)	(1985)	(1952)	(1971)	(1993)	(1983)	(1984)	(1991)	(1993)	(1993)	(1978)
MIN	9.61	12.8	6.05	3.29	9.43	27.8	12.5	13.6	22.1	22.8	14.4	6.70
(WY)	(1957)	(1959)	(1959)	(1959)	(1956)	(1957)	(1957)	(1957)	(1956)	(1970)	(1971)	(1956)

SOLDIER RIVER BASIN

06608500 SOLDIER RIVER AT PISGAH, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1941 - 2004	
ANNUAL TOTAL	37,718		38,400			
ANNUAL MEAN	103		105		152	
HIGHEST ANNUAL MEAN					487	1993
LOWEST ANNUAL MEAN					27.3	1956
HIGHEST DAILY MEAN	1,730	Jul 6	1,500	Feb 29 a	20,700	Jul 17, 1996
LOWEST DAILY MEAN	18	Jan 11	21	Dec 12 a	2.0	Jan 2, 1945 b
ANNUAL SEVEN-DAY MINIMUM	30	Feb 6	33	Dec 8	2.0	Jan 2, 1945
MAXIMUM PEAK FLOW			2,500	Feb 29	34,700	Jul 17, 1996
MAXIMUM PEAK STAGE			9.87	Feb 29	28.87	Jul 17, 1996
ANNUAL RUNOFF (AC-FT)	74,810		76,170		110,000	
ANNUAL RUNOFF (CFSM)	0.254		0.258		0.373	
ANNUAL RUNOFF (INCHES)	3.45		3.51		5.07	
10 PERCENT EXCEEDS	187		182		280	
50 PERCENT EXCEEDS	63		70		73	
90 PERCENT EXCEEDS	36		37		17	

a Ice affected.
 b Also Jan. 3-10, 1945.
 e Estimated.



06608500 SOLDIER RIVER AT PISGAH, IA—Continued