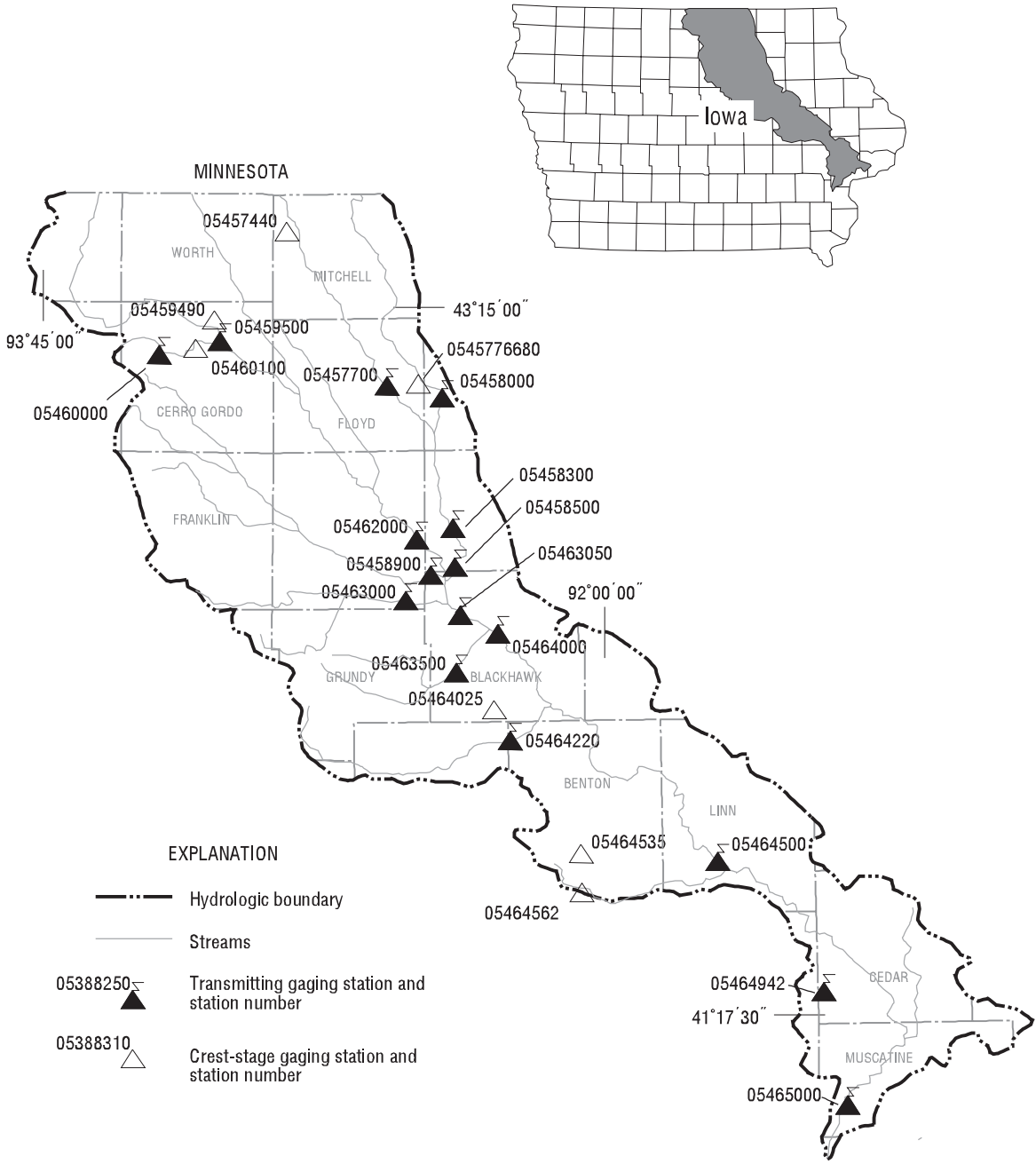




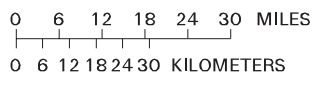


IOWA RIVER BASIN
(CEDAR RIVER BASIN)



EXPLANATION

-  Hydrologic boundary
-  Streams
-  05388250 Transmitting gaging station and station number
-  05388310 Crest-stage gaging station and station number



Base from U.S. Geological Survey hydrologic unit map State of Iowa, 1974

Gaging Stations

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05460000	Clear Lake at Clear Lake, IA	190
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Crest Stage Gaging Stations

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05464562	Thunder Creek at Blairstown, IA	489

05457700 CEDAR RIVER AT CHARLES CITY, IA

LOCATION.--Lat 43°03'45", long 92°40'23", in SE $\frac{1}{4}$ NE $\frac{1}{4}$, sec.12, T.95 N., R.16 W., Floyd County, Hydrologic Unit 07080201, on right bank 800 ft downstream from bridge on U.S. Highway 18 (Brantingham Street) in Charles City, 10.6 mi upstream from Gizzard Creek, and at mile 252.9 upstream from mouth of Iowa River.

DRAINAGE AREA.--1,054 mi².

PERIOD OF RECORD.--Discharge records from October 1964 to September 1995; October 1, 2000 to current year. Stage-only records from October 1995 to September 2000.

GAGE.--Water-stage recorder. Datum of gage is 973.02 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Geological Survey rain gage and data collection platform with satellite and telephone modem telemetry at station. Precipitation records are not published, but are available. Occasional minor regulation by dam 0.2 mi upstream from gage. Daily wire-weight gage readings available in district office for period Sept. 13, 1945 to June 30, 1954, at same site and datum. Discharge not published for this period because of extreme regulation of streamflow by power dam 0.2 mi upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 27, 1961, reached a stage of 21.6 ft, from flood marks, discharge, 29,200 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	178	195	201	158	e161	408	449	376	3,510	558	639	447
2	179	197	167	e163	e165	740	395	351	2,570	509	773	425
3	182	209	185	e173	e161	1,790	357	323	2,030	567	791	393
4	183	250	189	124	e164	1,350	335	313	1,740	643	958	370
5	180	237	202	e120	e170	1,150	312	301	1,530	1,160	1,450	357
6	182	215	196	116	e168	2,150	294	297	1,400	10,500	1,310	389
7	182	205	191	131	e164	2,700	285	284	1,270	12,300	1,020	347
8	184	189	190	157	e161	1,710	279	284	1,160	5,380	836	323
9	185	179	191	147	e170	1,040	259	300	2,170	3,610	1,100	316
10	185	190	174	144	e175	899	259	306	3,860	3,090	1,200	303
11	193	205	112	145	e184	791	249	321	4,130	2,850	1,060	296
12	200	199	141	153	e183	648	249	330	4,540	4,490	841	282
13	196	194	165	152	e181	561	244	473	3,530	3,860	723	272
14	204	192	185	149	e181	594	241	1,350	3,430	2,890	636	330
15	193	193	178	142	e175	476	236	1,600	2,440	2,100	562	2,420
16	188	201	177	143	e184	434	240	1,080	1,860	1,700	518	15,000
17	185	209	162	e127	e178	361	243	813	2,160	1,480	556	18,600
18	194	227	167	e120	e188	362	241	683	2,320	1,320	675	14,000
19	203	234	171	106	e189	340	279	585	1,810	1,260	795	6,250
20	201	226	161	122	209	352	287	522	1,510	1,280	1,070	4,850
21	200	210	167	e119	188	348	314	811	1,380	1,330	1,000	4,040
22	190	196	175	e121	174	354	316	8,650	1,240	1,430	806	3,430
23	195	208	172	126	178	324	318	12,800	1,090	1,540	770	2,950
24	194	167	162	122	171	352	308	7,910	990	1,440	856	2,590
25	193	149	157	124	175	427	358	5,530	882	1,300	790	2,270
26	190	197	166	123	171	552	510	3,480	788	1,190	750	2,010
27	190	226	182	e121	169	456	565	2,700	734	1,110	698	1,880
28	191	197	195	e116	208	566	518	2,120	692	1,030	608	1,550
29	193	145	199	e118	265	622	465	3,080	643	972	547	1,540
30	194	214	186	e129	---	627	416	5,640	596	959	503	1,370
31	202	---	182	e146	---	527	---	5,230	---	671	472	---
TOTAL	5,909	6,055	5,448	4,157	5,210	24,011	9,821	68,843	58,005	74,519	25,313	89,600
MEAN	191	202	176	134	180	775	327	2,221	1,934	2,404	817	2,987
MAX	204	250	202	173	265	2,700	565	12,800	4,540	12,300	1,450	18,600
MIN	178	145	112	106	161	324	236	284	596	509	472	272
AC-FT	11,720	12,010	10,810	8,250	10,330	47,630	19,480	136,600	115,100	147,800	50,210	177,700
CFSM	0.18	0.19	0.17	0.13	0.17	0.73	0.31	2.11	1.83	2.28	0.77	2.83
IN.	0.21	0.21	0.19	0.15	0.18	0.85	0.35	2.43	2.05	2.63	0.89	3.16

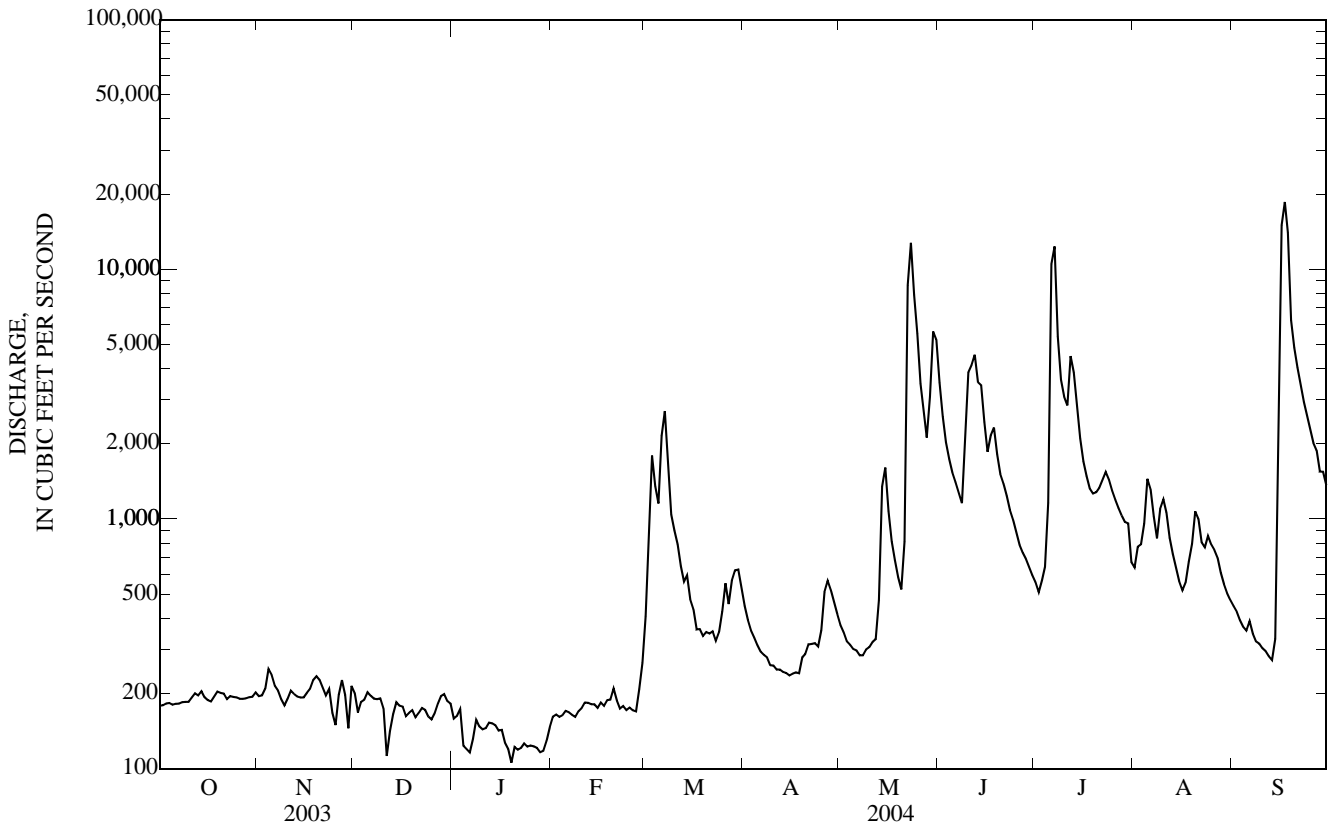
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

MEAN	554	484	352	274	367	1,230	1,540	1,107	1,049	855	669	575
MAX	2,339	1,639	1,396	888	1,707	3,388	6,010	3,434	4,071	3,009	4,704	2,987
(WY)	(1987)	(1983)	(1983)	(1973)	(1984)	(1997)	(2001)	(1991)	(1993)	(1993)	(1993)	(2004)
MIN	126	97.7	85.4	86.3	127	176	251	197	130	159	114	116
(WY)	(1977)	(1977)	(1990)	(1990)	(1990)	(1968)	(1968)	(1977)	(1977)	(1988)	(1988)	(1976)

05457700 CEDAR RIVER AT CHARLES CITY, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1965 - 2004	
ANNUAL TOTAL	187,318		376,891			
ANNUAL MEAN	513		1,030		762	
HIGHEST ANNUAL MEAN					2,048	1993
LOWEST ANNUAL MEAN					159	1977
HIGHEST DAILY MEAN	4,800	May 13	18,600	Sep 17	22,100	Aug 17, 1993
LOWEST DAILY MEAN	112	Dec 11	106	Jan 19	60	Nov 23, 1976 a
ANNUAL SEVEN-DAY MINIMUM	160	Dec 11	119	Jan 18	65	Dec 17, 1989
MAXIMUM PEAK FLOW			19,200	Sep 17	31,200	Jul 21, 1999
MAXIMUM PEAK STAGE			20.58	Sep 17	22.81	Jul 21, 1999
INSTANTANEOUS LOW FLOW			86	Nov 29 b	45	Nov 17, 1989
ANNUAL RUNOFF (AC-FT)	371,500		747,600		552,000	
ANNUAL RUNOFF (CFSM)	0.487		0.977		0.723	
ANNUAL RUNOFF (INCHES)	6.61		13.30		9.82	
10 PERCENT EXCEEDS	1,160		2,430		1,620	
50 PERCENT EXCEEDS	213		317		375	
90 PERCENT EXCEEDS	171		161		160	

a Also Jan. 7, 1978.
 b Also Dec. 10, 11.
 e Estimated.



05458000 LITTLE CEDAR RIVER NEAR IONIA, IA

LOCATION.--(revised)Lat 43°02'00", long 92°30'12", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.21, T.95 N., R.14 W., Chickasaw County, Hydrologic Unit 07080201, on left bank 12 ft downstream from bridge on county highway B57, 2.4 mi west of Ionia, 6.4 mi upstream from mouth, and 7.6 mi downstream from Beaver Creek.

DRAINAGE AREA.--306 mi².

PERIOD OF RECORD.--October 1954 to current year.

REVISED RECORDS.--WSP 1438: Drainage area. WSP 1708: 1959.

GAGE.--Water-stage recorder. Datum of gage is 973.35 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 and telephone modem telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1954, reached a stage of 11.37 ft, discharge, 4,600 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	25	29	21	28	18	221	136	95	937	300	224	108
2	26	29	19	27	18	404	119	87	699	286	217	98
3	24	33	32	26	17	538	107	80	594	303	198	89
4	24	40	27	23	17	475	96	75	525	578	193	82
5	24	41	32	19	17	e453	89	70	483	530	224	78
6	25	41	33	17	e16	e679	83	67	456	2,830	219	90
7	25	35	30	15	e16	e834	78	62	429	2,150	182	85
8	25	22	32	14	e14	446	74	63	399	1,350	159	79
9	25	25	32	13	e16	308	69	62	396	1,230	242	75
10	25	37	19	13	e16	224	65	62	703	1,270	476	70
11	26	38	14	17	17	173	61	60	803	1,710	388	66
12	28	33	18	20	17	e113	59	61	739	2,540	321	62
13	29	30	18	22	17	e121	57	175	622	1,890	253	58
14	32	32	19	24	17	137	55	428	553	1,220	202	71
15	30	32	20	25	17	113	54	340	501	894	165	96
16	29	32	21	e25	17	97	54	254	464	760	141	826
17	30	33	20	e24	17	91	55	197	578	675	125	4,840
18	30	39	20	e20	17	87	55	166	802	611	122	1,780
19	30	37	21	e15	18	82	60	141	738	562	116	606
20	31	36	20	e18	19	82	62	138	597	515	109	472
21	32	35	21	e16	20	80	73	470	553	484	105	404
22	30	32	21	e14	21	78	77	2,530	511	490	104	356
23	29	33	22	23	23	74	71	6,690	468	465	108	307
24	29	19	22	23	26	79	67	3,970	433	418	111	270
25	29	23	21	23	27	113	79	2,650	410	379	116	240
26	e29	27	20	23	26	320	131	1,540	384	350	126	209
27	28	34	23	e20	32	204	155	948	364	319	150	187
28	29	28	27	e18	55	304	140	706	353	283	163	173
29	29	22	28	e18	123	245	123	1,140	337	255	171	159
30	29	33	28	19	---	195	106	2,880	318	238	140	144
31	30	---	28	19	---	160	---	1,720	---	232	121	---
TOTAL	866	960	729	621	691	7,530	2,510	27,927	16,149	26,117	5,691	12,180
MEAN	27.9	32.0	23.5	20.0	23.8	243	83.7	901	538	842	184	406
MAX	32	41	33	28	123	834	155	6,690	937	2,830	476	4,840
MIN	24	19	14	13	14	74	54	60	318	232	104	58
AC-FT	1,720	1,900	1,450	1,230	1,370	14,940	4,980	55,390	32,030	51,800	11,290	24,160
CFSM	0.09	0.10	0.08	0.07	0.08	0.79	0.27	2.94	1.76	2.75	0.60	1.33
IN.	0.11	0.12	0.09	0.08	0.08	0.92	0.31	3.40	1.96	3.18	0.69	1.48

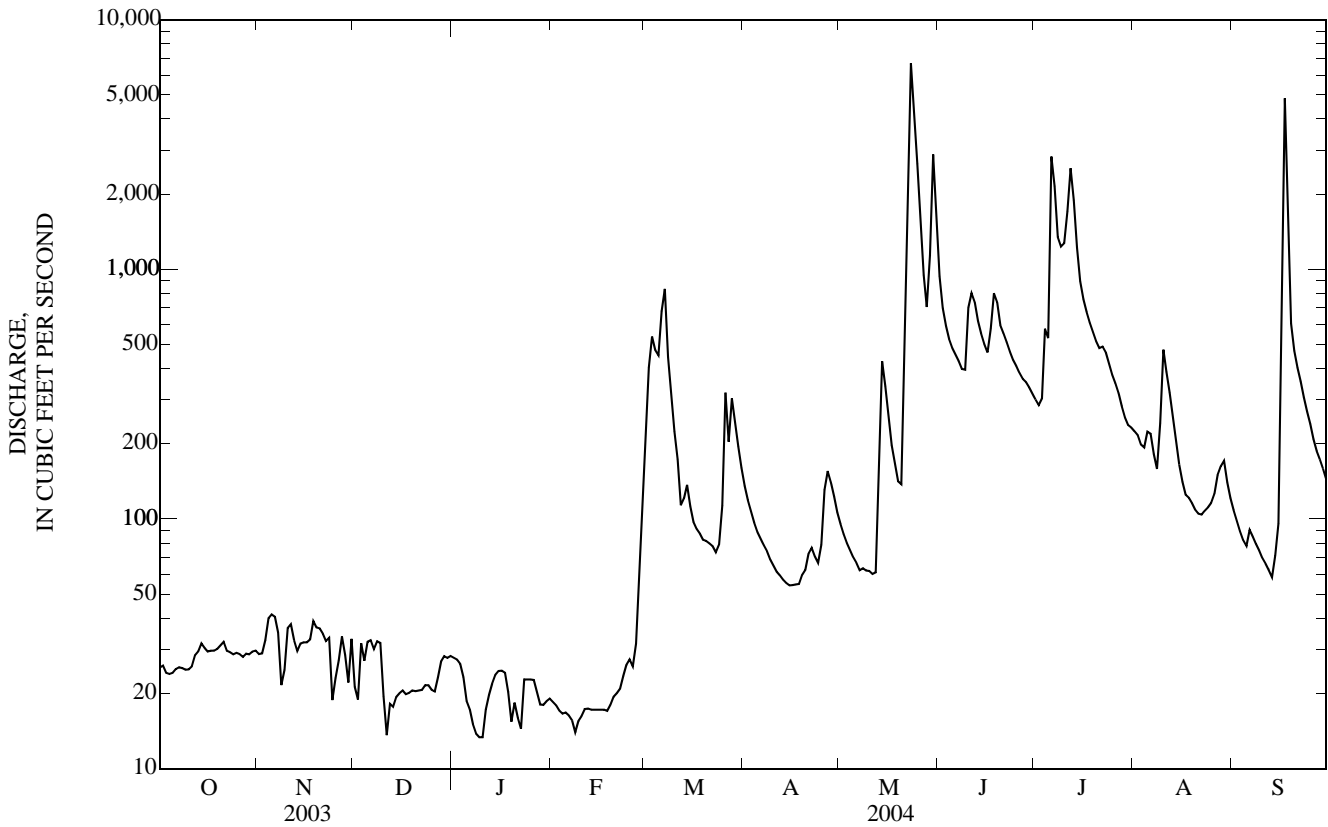
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2004, BY WATER YEAR (WY)

	136	116	74.7	47.1	82.6	351	368	263	296	216	168	135
MEAN	136	116	74.7	47.1	82.6	351	368	263	296	216	168	135
MAX	902	632	503	265	644	1,056	1,636	906	1,199	1,317	1,744	807
(WY)	(1987)	(1983)	(1983)	(1973)	(1984)	(1961)	(2001)	(1991)	(2000)	(1999)	(1993)	(1965)
MIN	9.64	12.4	4.93	4.20	3.40	34.5	47.3	30.5	18.4	14.2	7.23	12.7
(WY)	(1990)	(1990)	(1990)	(1959)	(1959)	(1964)	(1957)	(1958)	(1989)	(1964)	(1989)	(1988)

05458000 LITTLE CEDAR RIVER NEAR IONIA, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1955 - 2004	
ANNUAL TOTAL	43,622		101,971			
ANNUAL MEAN	120		279		188	
HIGHEST ANNUAL MEAN					584 1993	
LOWEST ANNUAL MEAN					32.0 1977	
HIGHEST DAILY MEAN	1,130	Jul 11	6,690	May 23	9,930	Mar 27, 1961
LOWEST DAILY MEAN	12	Jan 26	13	Jan 9 a	3.0	Feb 4, 1959 b
ANNUAL SEVEN-DAY MINIMUM	14	Jan 23	15	Jan 5	3.0	Feb 3, 1959
MAXIMUM PEAK FLOW			7,840	May 23	14,000	Aug 16, 1993
MAXIMUM PEAK STAGE			15.24	May 23	18.99	Aug 16, 1993
INSTANTANEOUS LOW FLOW			7.5	Dec 10	3.0	Feb 4, 1959
ANNUAL RUNOFF (AC-FT)	86,520		202,300		136,200	
ANNUAL RUNOFF (CFSM)	0.391		0.910		0.615	
ANNUAL RUNOFF (INCHES)	5.30		12.40		8.35	
10 PERCENT EXCEEDS	321		608		394	
50 PERCENT EXCEEDS	32		76		72	
90 PERCENT EXCEEDS	18		19		20	

a Also Jan. 10.
 b Also Feb. 5-9, 1959.
 e Estimated.



05458300 CEDAR RIVER AT WAVERLY, IA

LOCATION.--Lat 42°44'14", long 92°28'12", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.35, T.92 N., R.14 W., Butler County, Hydrologic Unit 07080201, in middle of the County Highway V-14 bridge on the north edge of Waverly.

DRAINAGE AREA.--1,547 mi².

PERIOD OF RECORD.--August 30, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 892.64 ft above NGVD of 1929.

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

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	244	e252	e250	e243	e234	e526	719	443	7,130	e989	1,170	960
2	252	e274	e233	e244	e236	609	643	417	4,260	e905	e1,130	903
3	e243	e312	e252	e245	e231	e864	550	e394	2,700	e960	e1,300	937
4	e258	e393	e256	e230	e233	e1,640	468	e290	2,410	e1,120	e1,330	908
5	e246	e375	e282	e226	e238	e2,170	455	e410	2,260	e1,190	e1,380	868
6	255	e316	e279	e222	e235	e1,830	475	e358	2,140	1,550	e1,850	968
7	e245	e309	e271	e234	e233	e2,440	521	e398	2,190	e6,910	1,810	879
8	e254	e289	e303	e244	e233	e3,140	492	e382	2,230	e14,300	e1,520	896
9	249	e261	333	e238	e238	e2,610	473	e470	2,340	7,450	e1,340	771
10	e260	e249	264	e231	e241	e1,630	e450	e406	2,280	4,540	e1,520	735
11	e252	288	238	e223	e254	e1,240	459	e446	3,360	3,850	1,880	762
12	e301	288	e259	239	e251	1,130	437	e398	4,050	4,150	1,690	753
13	e400	332	e276	e230	e249	834	446	e486	4,470	7,110	1,510	725
14	e277	228	e291	217	e249	778	456	e654	3,120	5,310	1,340	730
15	e284	272	e306	e200	e243	745	450	e1,130	2,880	3,150	1,190	e683
16	e224	263	308	e217	e247	606	490	2,070	2,010	2,090	1,070	e1,000
17	e183	277	e281	e214	e240	557	570	e1,270	2,010	2,000	1,010	10,300
18	e194	324	e275	e209	e248	469	581	e1,030	2,330	2,280	959	23,300
19	206	309	e279	e209	e249	463	533	e840	2,650	2,210	1,020	17,400
20	239	332	e282	e223	e266	475	520	e814	2,170	2,030	1,120	6,590
21	212	298	e257	e216	e249	419	553	e840	2,210	1,840	1,300	4,000
22	e221	301	e238	e211	e244	534	561	5,250	e2,120	e1,730	1,260	3,130
23	e228	293	e256	e219	e260	519	567	e12,700	e1,830	e1,970	1,160	2,560
24	e230	297	e252	e206	e255	526	468	e20,600	e1,710	1,950	1,140	2,410
25	e241	238	248	e204	e266	583	500	14,500	e1,550	e1,700	1,170	2,330
26	e236	e203	e262	e206	e258	900	476	9,300	e1,360	e1,500	1,160	2,170
27	e227	e249	e241	e199	e258	1,060	607	5,540	e1,310	e1,380	1,180	1,860
28	e251	e233	e256	e197	e319	929	645	3,440	e1,190	e1,250	1,030	1,660
29	e235	e215	e259	e197	e411	1,040	614	2,590	e1,110	e1,180	977	1,420
30	e248	e256	e248	e207	---	887	525	4,950	e1,030	e1,100	1,030	1,140
31	e243	---	e244	e225	---	825	---	8,750	---	e1,130	994	---
TOTAL	7,638	8,526	8,279	6,825	7,368	32,978	15,704	101,566	74,410	90,824	39,540	93,748
MEAN	246	284	267	220	254	1,064	523	3,276	2,480	2,930	1,275	3,125
MAX	400	393	333	245	411	3,140	719	20,600	7,130	14,300	1,880	23,300
MIN	183	203	233	197	231	419	437	290	1,030	905	959	683
AC-FT	15,150	16,910	16,420	13,540	14,610	65,410	31,150	201,500	147,600	180,100	78,430	185,900
CFSM	0.16	0.18	0.17	0.14	0.16	0.69	0.34	2.12	1.60	1.89	0.82	2.02
IN.	0.18	0.21	0.20	0.16	0.18	0.79	0.38	2.44	1.79	2.18	0.95	2.25

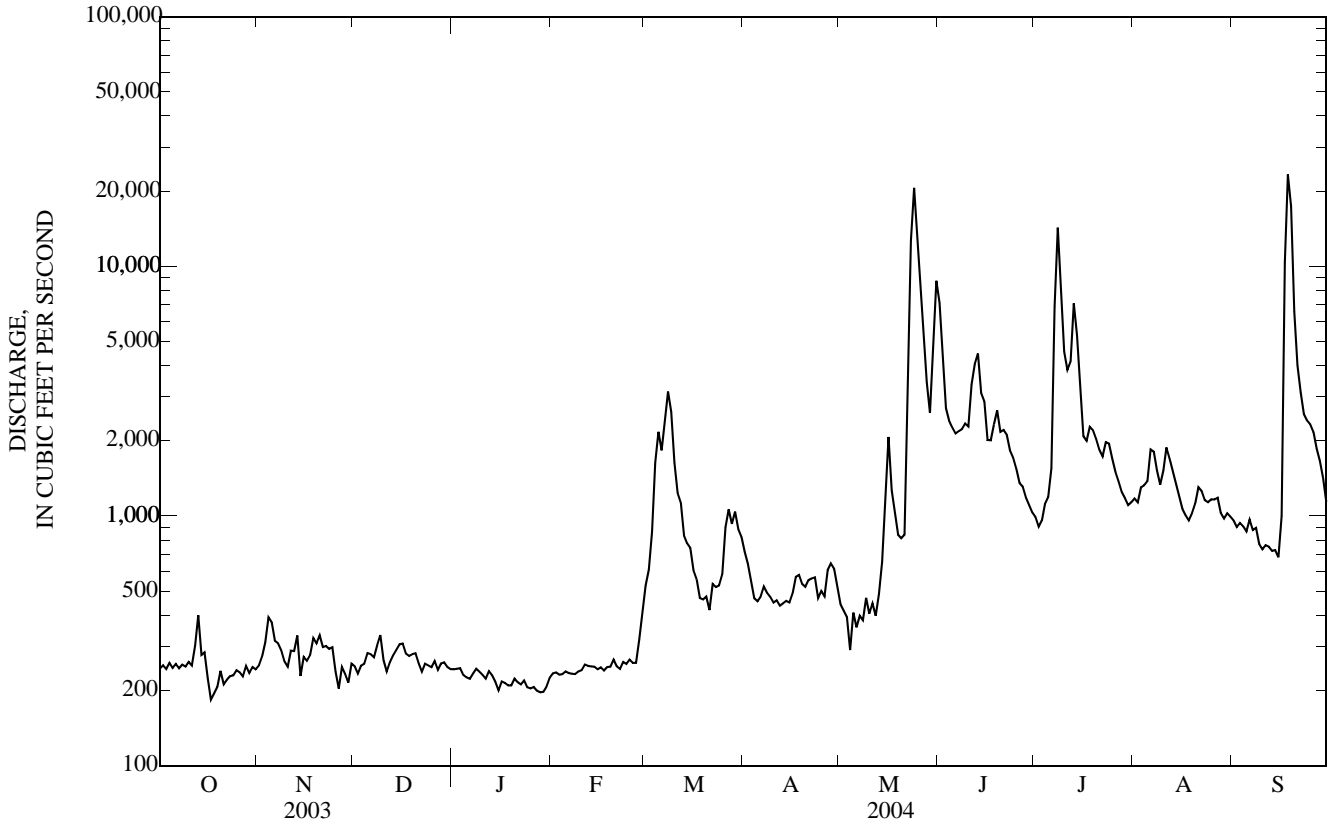
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2004, BY WATER YEAR (WY)

MEAN	409	363	332	293	297	681	2,338	2,724	1,864	1,417	742	935
MAX	619	413	404	422	366	1,064	7,454	4,340	2,634	2,930	1,275	3,125
(WY)	(2003)	(2003)	(2002)	(2001)	(2002)	(2004)	(2001)	(2001)	(2001)	(2004)	(2004)	(2004)
MIN	246	284	267	220	231	364	523	794	1,053	420	407	293
(WY)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2004)	(2002)	(2002)	(2002)	(2003)	(2003)

05458300 CEDAR RIVER AT WAVERLY, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2000 - 2004	
ANNUAL TOTAL	252,047		487,406			
ANNUAL MEAN	691		1,332		1,045	
HIGHEST ANNUAL MEAN					1,584	2001
LOWEST ANNUAL MEAN					527	2002
HIGHEST DAILY MEAN	6,140	May 14	23,300	Sep 18	23,400	Apr 14, 2001
LOWEST DAILY MEAN	181	Jan 11	183	Oct 17	181	Jan 11, 2003
ANNUAL SEVEN-DAY MINIMUM	203	Jan 23	202	Jan 24	202	Jan 24, 2004
MAXIMUM PEAK FLOW			25,200	Sep 18	25,600	Apr 14, 2001
MAXIMUM PEAK STAGE			13.16	Sep 18	13.16	Sep 18, 2004
ANNUAL RUNOFF (AC-FT)	499,900		966,800		757,200	
ANNUAL RUNOFF (CFSM)	0.446		0.861		0.676	
ANNUAL RUNOFF (INCHES)	6.06		11.72		9.18	
10 PERCENT EXCEEDS	1,700		2,570		2,190	
50 PERCENT EXCEEDS	312		496		440	
90 PERCENT EXCEEDS	221		231		249	

e Estimated



05458500 CEDAR RIVER AT JANESVILLE, IA

LOCATION.--Lat 42°38'54", long 92°27'54", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.35, T.91 N., R.14 W., Bremer County, Hydrologic Unit 07080201, on left bank 300 ft downstream from bridge on county highway at Janesville, 3.6 mi upstream from West Fork Cedar River, and at mile 207.7 upstream from mouth of Iowa River.

DRAINAGE AREA.--1,661 mi².

PERIOD OF RECORD.--October 1904 to Sept. 1906, October 1914 to September 1927, October 1932 to September 1942, October 1945 to current year. Monthly discharge only for some periods, published in WSP 1308. Published as "Red Cedar River at Janesville", 1905-06.

REVISED RECORDS.--WSP 1438: Drainage area. WSP 1558: 1906 (M), 1915-16 (M), 1917, 1918-19 (M), 1920-27, 1933-37 (M), 1940-42 (M), WDR IA-97-1:1996.

GAGE.--Water-stage recorder. Datum of gage is 868.26 ft above NGVD of 1929. Prior to July 26, 1919, nonrecording gage at site 1,000 ft downstream at datum 4.0 ft lower. July 26, 1919 to Sept. 30, 1927, Nov. 14, 1932 to Sept 30, 1942, and Apr. 26, 1946 to Nov. 10, 1949, nonrecording gage at county bridge 300 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation during low water caused by powerplant at Waverly, 10 mi upstream. U.S. Geological Survey data collection platform with satellite and telephone modem telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, 1945, reached a stage of 16.2 ft, from floodmark at site 300 ft upstream, discharge, 34,300 ft³/s. Flood of Mar. 16, 1929, reached a stage of about 16 ft, from information by City of Waterloo, 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	278	278	e254	e244	e236	425	888	609	9,200	1,100	1,180	939
2	282	283	e237	e246	e238	537	782	551	6,400	1,000	1,140	878
3	270	316	e254	e248	e234	766	692	518	4,440	1,040	1,300	839
4	287	405	e259	e233	e236	1,620	628	357	3,430	1,280	1,330	806
5	271	394	269	e229	e240	2,200	573	488	2,970	1,340	1,380	755
6	278	329	292	e225	e236	1,820	538	410	2,700	2,150	1,860	840
7	263	321	284	e234	e234	2,450	514	435	2,440	7,020	1,820	834
8	278	313	270	e254	e232	e3,160	492	421	2,180	14,300	1,550	738
9	260	280	296	e242	e238	2,620	467	498	2,040	9,540	1,360	722
10	273	265	337	e238	e241	1,650	445	431	2,540	5,690	1,530	686
11	266	313	e234	e227	e254	1,270	443	466	4,580	4,890	1,860	663
12	305	284	e262	e231	e253	1,090	415	416	4,990	4,400	1,750	648
13	309	332	e282	e227	e249	926	412	520	5,860	6,650	1,470	624
14	455	255	293	e219	e249	831	408	694	4,600	6,240	1,320	631
15	278	296	308	e202	e245	859	399	1,230	4,300	4,580	1,210	828
16	290	280	308	e214	e248	715	381	1,950	3,440	3,400	1,100	1,690
17	e226	284	e284	e205	e243	669	407	1,350	2,880	2,760	1,100	8,090
18	e186	313	276	e201	e249	579	383	1,140	2,900	2,480	1,040	20,600
19	e202	359	e282	e198	e249	569	405	929	3,270	2,210	1,110	20,700
20	282	301	e285	e207	e268	514	511	852	2,850	2,010	1,220	10,200
21	308	308	e261	e204	e251	548	406	796	2,470	1,870	1,410	6,410
22	265	308	243	e205	e245	462	511	5,710	2,360	1,760	1,430	4,950
23	288	293	260	e213	e263	517	473	13,000	2,000	1,990	1,280	4,100
24	280	294	e254	e207	e256	476	461	20,900	1,840	1,950	1,230	3,530
25	279	266	e249	e205	e265	542	496	16,500	1,690	1,720	1,290	3,040
26	287	209	265	e207	e259	761	546	11,800	1,480	1,510	1,270	2,820
27	281	257	244	e200	e258	1,290	614	8,070	1,420	1,370	1,380	2,470
28	267	e239	259	e197	e297	817	703	5,650	1,310	1,250	1,210	2,310
29	296	e218	261	e201	374	1,260	716	4,650	1,220	1,190	1,100	1,960
30	260	e261	e253	e212	---	1,030	677	6,090	1,140	1,120	1,030	1,810
31	287	---	e246	e229	---	994	---	9,520	---	1,150	965	---
TOTAL	8,637	8,854	8,361	6,804	7,340	33,967	15,786	116,951	94,940	100,960	41,225	106,111
MEAN	279	295	270	219	253	1,096	526	3,773	3,165	3,257	1,330	3,537
MAX	455	405	337	254	374	3,160	888	20,900	9,200	14,300	1,860	20,700
MIN	186	209	234	197	232	425	381	357	1,140	1,000	965	624
AC-FT	17,130	17,560	16,580	13,500	14,560	67,370	31,310	232,000	188,300	200,300	81,770	210,500
CFSM	0.17	0.18	0.16	0.13	0.15	0.66	0.32	2.27	1.91	1.96	0.80	2.13
IN.	0.19	0.20	0.19	0.15	0.16	0.76	0.35	2.62	2.13	2.26	0.92	2.38

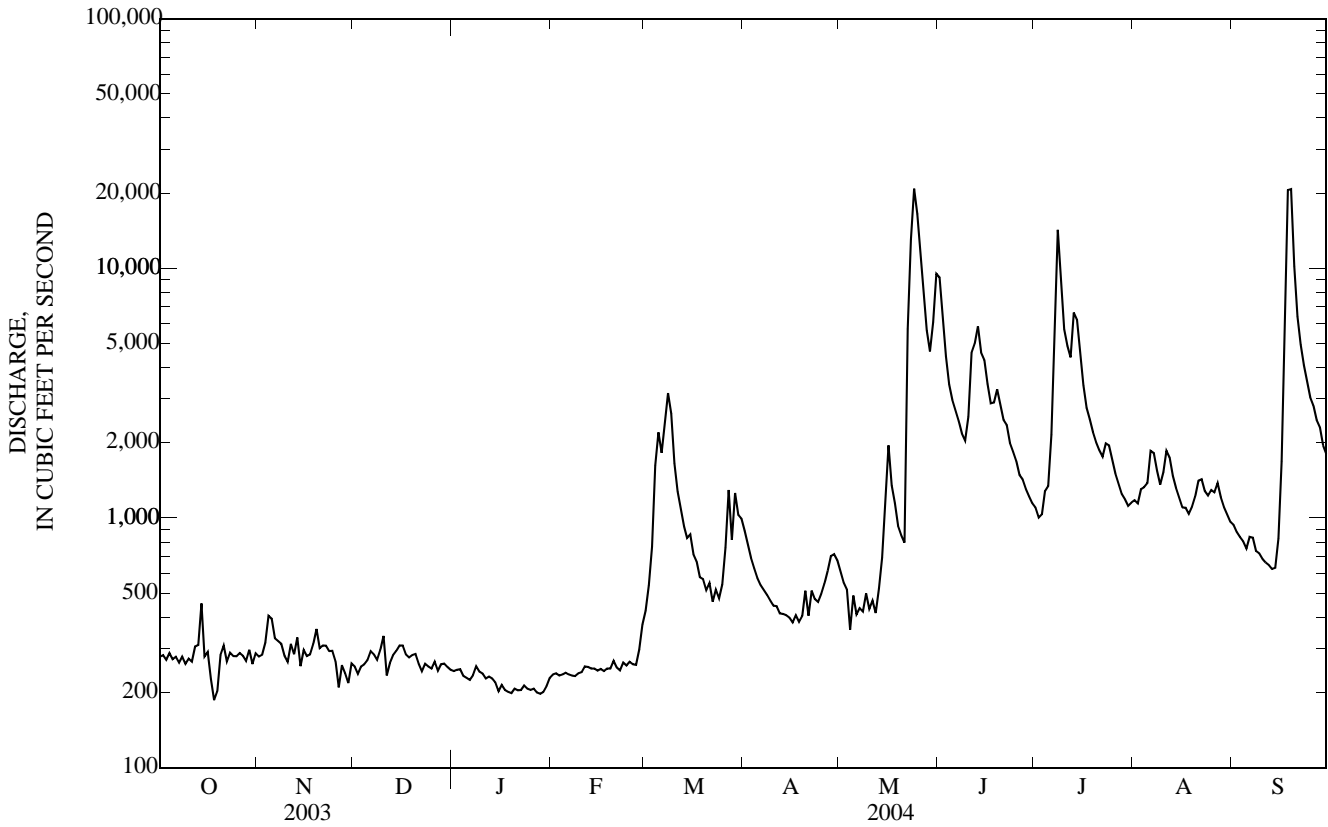
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 2004, BY WATER YEAR (WY)

MEAN	613	581	433	344	541	1,787	1,866	1,342	1,402	1,098	794	655
MAX	3,793	2,672	2,404	1,293	3,393	4,851	8,966	5,668	6,223	6,328	7,762	3,537
(WY)	(1987)	(1983)	(1983)	(1983)	(1984)	(1973)	(1993)	(1991)	(1993)	(1999)	(1993)	(2004)
MIN	101	121	75.2	80.3	61.2	124	247	134	95.2	84.7	83.6	117
(WY)	(1935)	(1934)	(1934)	(1917)	(1959)	(1934)	(1957)	(1934)	(1934)	(1934)	(1934)	(1934)

05458500 CEDAR RIVER AT JANESVILLE, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1905 - 2004	
ANNUAL TOTAL	275,176		549,936		956	
ANNUAL MEAN	754		1,503		3,454	
HIGHEST ANNUAL MEAN					187	1993
LOWEST ANNUAL MEAN					38,800	1934
HIGHEST DAILY MEAN	6,150	May 14	20,900	May 24	50	Jul 22, 1999
LOWEST DAILY MEAN	183	Jan 26	186	Oct 18	28	Oct 21, 1922
ANNUAL SEVEN-DAY MINIMUM	192	Jan 21	204	Jan 24	42,200	Feb 1, 1918
MAXIMUM PEAK FLOW			25,000	Sep 18	17.15	Jul 22, 1999
MAXIMUM PEAK STAGE			13.40	Sep 18	17.15	Jul 22, 1999
ANNUAL RUNOFF (AC-FT)	545,800		1,091,000		692,600	
ANNUAL RUNOFF (CFSM)	0.454		0.905		0.576	
ANNUAL RUNOFF (INCHES)	6.16		12.32		7.82	
10 PERCENT EXCEEDS	1,830		3,430		2,100	
50 PERCENT EXCEEDS	324		514		476	
90 PERCENT EXCEEDS	227		236		165	

e Estimated



05458900 WEST FORK CEDAR RIVER AT FINCHFORD, IA

LOCATION.--(revised)Lat 42°37'46", long 92°32'36", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.90 N., R.14 W., Black Hawk County, Hydrologic Unit 07080204, on left bank 100 ft downstream from bridge on county highway C55 at Finchford, 3.2 mi upstream from Shell Rock River, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--846 mi².

PERIOD OF RECORD.--October 1945 to current year. Prior to October 1955, published as "West Fork Shell Rock River at Finchford."

REVISED RECORDS.--WSP 1438: Drainage area. WSP 1558: 1946 (M), 1947.

GAGE.--Water-stage recorder. Datum of gage is 867.54 ft above NGVD of 1929. Prior to June 10, 1955, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. An authorized diversion of 2,100 acre-ft is made into Big Marsh, 16 mi upstream from gage, each year between September 1 and November 15. Net effect on daily flows at gage is unknown. U.S. Geological Survey data collection platform with satellite and telephone modem telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1929 reached a stage of about 14 ft, from information by local resident, discharge, about 12,800 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	62	73	106	e136	e92	1,320	996	480	4,110	542	195	147
2	62	75	102	e141	e98	1,400	794	440	3,980	505	193	125
3	62	85	102	e142	e93	1,230	665	411	3,640	483	203	114
4	62	115	119	e122	e95	851	571	393	3,090	471	357	103
5	61	132	e135	e110	e99	878	507	e372	2,610	512	398	98
6	60	144	e151	e105	e97	1,480	470	360	2,240	638	371	133
7	60	137	e147	e111	e95	2,010	446	349	1,970	1,090	323	132
8	59	131	e142	e124	e93	2,040	422	342	1,720	1,470	273	126
9	59	121	164	e117	e100	1,230	401	339	1,520	1,630	239	109
10	60	116	170	e112	e103	822	378	359	1,430	1,520	216	99
11	63	124	e130	e98	e115	650	360	372	1,420	1,110	199	96
12	65	121	e145	e103	e113	524	347	365	1,530	1,070	183	95
13	67	118	e159	e99	e110	465	340	370	1,680	910	172	95
14	71	113	e167	e93	e109	460	329	414	1,740	745	162	90
15	73	100	182	e78	e103	432	317	584	1,570	621	156	e87
16	75	90	175	e86	e109	405	311	744	1,320	554	154	e84
17	76	89	159	e77	e102	382	307	653	1,180	489	161	e82
18	75	95	e148	e69	e111	370	295	596	1,190	470	301	250
19	70	108	e155	e61	e112	361	288	565	1,490	441	336	415
20	68	114	163	e68	e129	354	297	531	1,660	409	244	e110
21	68	113	e149	e66	e117	344	329	520	1,620	393	202	e90
22	68	112	e136	e65	e109	331	361	2,170	1,380	379	177	e88
23	68	110	e152	e74	e126	313	403	3,940	1,230	366	160	e85
24	69	e110	e145	e71	e121	319	409	6,880	1,080	346	151	e81
25	68	e117	e140	e68	e163	323	406	11,300	971	322	147	e77
26	69	110	e148	e72	e156	375	432	8,740	870	290	150	e72
27	70	105	e136	e68	e147	574	570	6,850	780	267	202	71
28	71	107	e144	e64	e353	1,220	691	5,670	712	246	195	71
29	73	105	e146	e67	e760	1,530	621	4,990	650	236	212	72
30	74	103	e142	e73	---	1,660	543	4,720	595	218	191	72
31	75	---	e140	e85	---	1,370	---	4,350	---	202	166	---
TOTAL	2,083	3,293	4,499	2,825	4,130	26,023	13,606	69,169	50,978	18,945	6,789	3,369
MEAN	67.2	110	145	91.1	142	839	454	2,231	1,699	611	219	112
MAX	76	144	182	142	760	2,040	996	11,300	4,110	1,630	398	415
MIN	59	73	102	61	92	313	288	339	595	202	147	71
AC-FT	4,130	6,530	8,920	5,600	8,190	51,620	26,990	137,200	101,100	37,580	13,470	6,680
CFSM	0.08	0.13	0.17	0.11	0.17	0.99	0.54	2.64	2.01	0.72	0.26	0.13
IN.	0.09	0.14	0.20	0.12	0.18	1.14	0.60	3.04	2.24	0.83	0.30	0.15

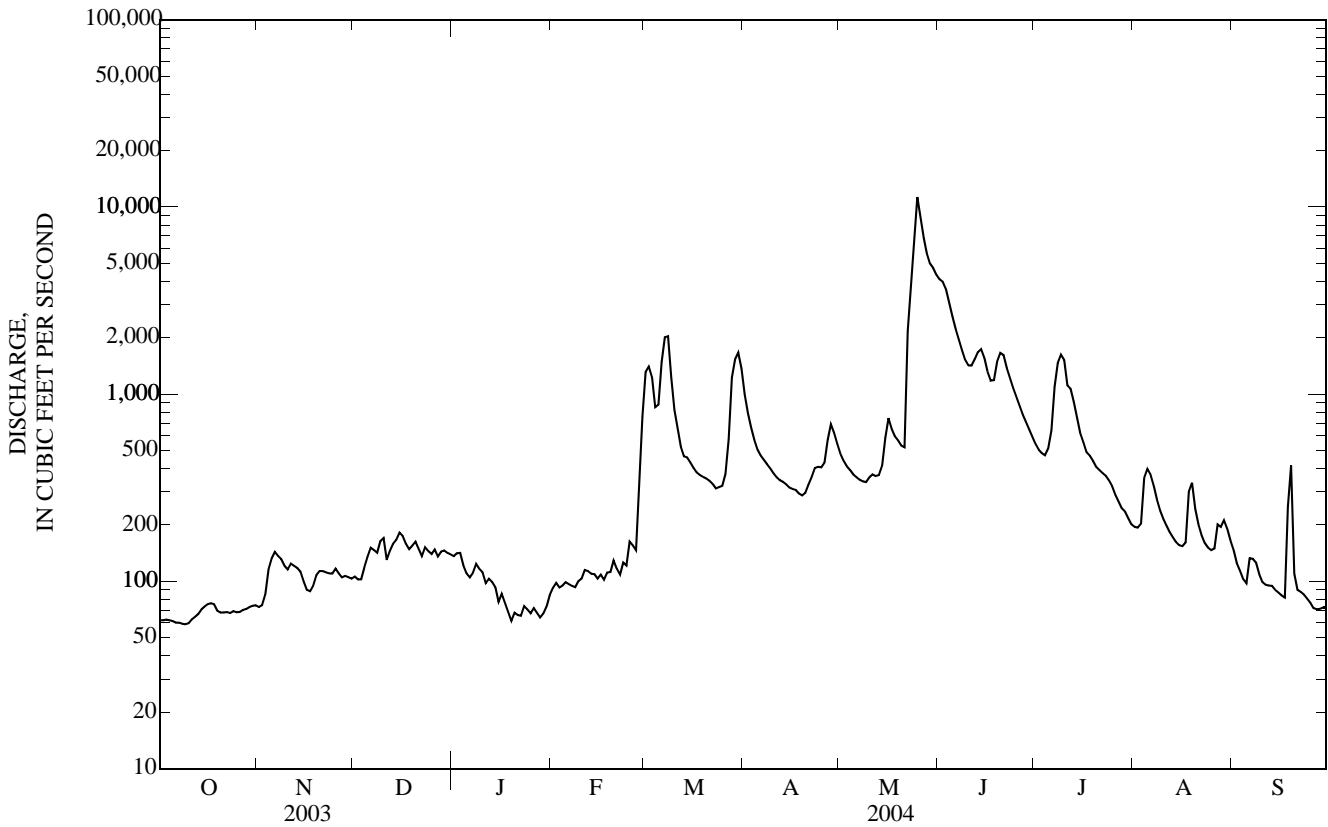
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2004, BY WATER YEAR (WY)

MEAN	312	311	246	168	301	980	1,042	898	1,035	744	382	299
MAX	1,412	1,502	1,165	995	2,303	2,456	4,170	3,472	3,358	3,995	3,023	2,149
(WY)	(1973)	(1973)	(1983)	(1973)	(1984)	(1961)	(1965)	(1999)	(1984)	(1993)	(1993)	(1965)
MIN	14.9	22.3	14.2	9.35	6.37	86.2	81.8	80.1	39.5	26.6	15.2	16.9
(WY)	(1990)	(1959)	(1959)	(1959)	(1959)	(1954)	(1957)	(1957)	(1977)	(1977)	(1989)	(1989)

05458900 WEST FORK CEDAR RIVER AT FINCHFORD, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1946 - 2004	
ANNUAL TOTAL	146,925		205,709			
ANNUAL MEAN	403		562		561	
HIGHEST ANNUAL MEAN					1,800	1993
LOWEST ANNUAL MEAN					65.5	1956
HIGHEST DAILY MEAN	3,330	May 10	11,300	May 25	25,100	Jun 27, 1951
LOWEST DAILY MEAN	58	Sep 11	59	Oct 8 a	5.9	Feb 26, 1959 b
ANNUAL SEVEN-DAY MINIMUM	60	Oct 4	60	Oct 4	6.1	Feb 23, 1959
MAXIMUM PEAK FLOW			12,000	May 25	31,900	Jun 27, 1951
MAXIMUM PEAK STAGE			15.14	May 25	18.45	Jul 29, 1990
INSTANTANEOUS LOW FLOW			58	Oct 8 a	5.9	Feb 26, 1959
ANNUAL RUNOFF (AC-FT)	291,400		408,000		406,100	
ANNUAL RUNOFF (CFSM)	0.476		0.664		0.663	
ANNUAL RUNOFF (INCHES)	6.46		9.05		9.00	
10 PERCENT EXCEEDS	977		1,410		1,370	
50 PERCENT EXCEEDS	148		166		242	
90 PERCENT EXCEEDS	67		72		49	

a Also Oct. 9.
 b Also Feb. 27, 1959.
 e Estimated.



05459500 WINNEBAGO RIVER AT MASON CITY, IA

LOCATION.--Lat 43°09'54", long 93°11'33", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.3, T.96 N., R.20 W., Cerro Gordo County, Hydrologic Unit 07080203, on right bank 650 ft upstream from Thirteenth Street Bridge in Mason City, 0.1 mi downstream from Calmus Creek, 1.0 mi upstream from Willow Creek, and at mile 275.8 upstream from mouth of Iowa River.

DRAINAGE AREA.--526 mi².

PERIOD OF RECORD.--October 1932 to current year. Prior to December 1932, monthly discharge only, published in WSP 1308. Prior to October 1959, published as "Lime Creek at Mason City".

REVISED RECORDS.--WSP 825: 1935-36. WSP 1438: Drainage area. WSP 1558: 1933-37, 1943 (M), 1945, 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,069.59 ft above NGVD of 1929. Prior to Oct. 15, 1934, nonrecording gage at datum 6.47 ft lower. Oct. 15 to Nov. 6, 1934, nonrecording gage at different datum, and Nov. 7, 1934, to Mar. 22, 1935, nonrecording gage at present datum.

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

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	35	40	e29	41	e42	379	197	176	2,700	363	604	139
2	35	40	e31	43	41	525	171	161	2,220	341	1,310	134
3	35	44	38	40	34	375	148	150	1,860	346	1,170	123
4	35	56	32	35	34	278	133	138	1,590	544	1,190	112
5	35	52	39	28	33	468	123	128	1,390	806	1,140	104
6	35	46	42	32	33	1,030	117	118	1,240	3,700	991	106
7	35	42	34	28	31	657	110	113	1,110	2,270	876	104
8	35	30	38	25	e28	390	102	108	981	1,620	777	101
9	37	36	44	26	e32	342	99	112	1,330	1,460	706	100
10	35	40	26	28	e33	324	93	111	1,280	1,410	620	93
11	37	42	e25	27	38	284	90	102	1,190	1,220	540	82
12	39	42	e24	30	33	188	84	106	1,380	1,130	478	74
13	38	43	e27	33	e32	156	89	405	1,420	1,010	418	68
14	40	41	30	31	e30	166	92	654	1,340	931	363	113
15	41	38	32	30	e29	126	83	495	1,180	841	313	3,320
16	42	39	e27	30	e32	101	81	376	1,200	764	284	3,550
17	38	45	e24	30	e35	86	76	303	1,430	673	342	3,590
18	36	67	e28	e25	36	107	77	262	1,220	586	378	3,610
19	36	64	e26	e20	35	130	83	224	1,050	526	397	3,100
20	37	54	e29	25	36	127	102	566	932	478	361	2,750
21	42	46	35	e21	38	119	127	1,250	852	523	319	2,400
22	39	44	36	e18	35	112	144	7,550	773	605	292	2,080
23	38	44	39	26	36	104	139	6,140	700	522	270	1,800
24	37	26	35	25	37	110	129	6,250	640	449	249	1,580
25	36	36	34	26	38	115	265	4,680	595	395	230	1,390
26	34	e33	34	25	38	144	496	3,470	540	356	221	1,230
27	33	37	39	e23	41	166	390	2,720	497	326	216	1,100
28	34	e28	43	e21	47	276	312	2,200	463	301	193	983
29	36	27	54	e21	85	334	248	3,990	427	279	176	895
30	38	e31	47	e23	---	283	203	3,950	392	270	163	823
31	36	---	43	e33	---	233	---	3,070	---	269	147	---
TOTAL	1,139	1,253	1,064	869	1,072	8,235	4,603	50,078	33,922	25,314	15,734	35,654
MEAN	36.7	41.8	34.3	28.0	37.0	266	153	1,615	1,131	817	508	1,188
MAX	42	67	54	43	85	1,030	496	7,550	2,700	3,700	1,310	3,610
MIN	33	26	24	18	28	86	76	102	392	269	147	68
AC-FT	2,260	2,490	2,110	1,720	2,130	16,330	9,130	99,330	67,280	50,210	31,210	70,720
CFSM	0.07	0.08	0.07	0.05	0.07	0.51	0.29	3.07	2.15	1.55	0.96	2.26
IN.	0.08	0.09	0.08	0.06	0.08	0.58	0.33	3.54	2.40	1.79	1.11	2.52

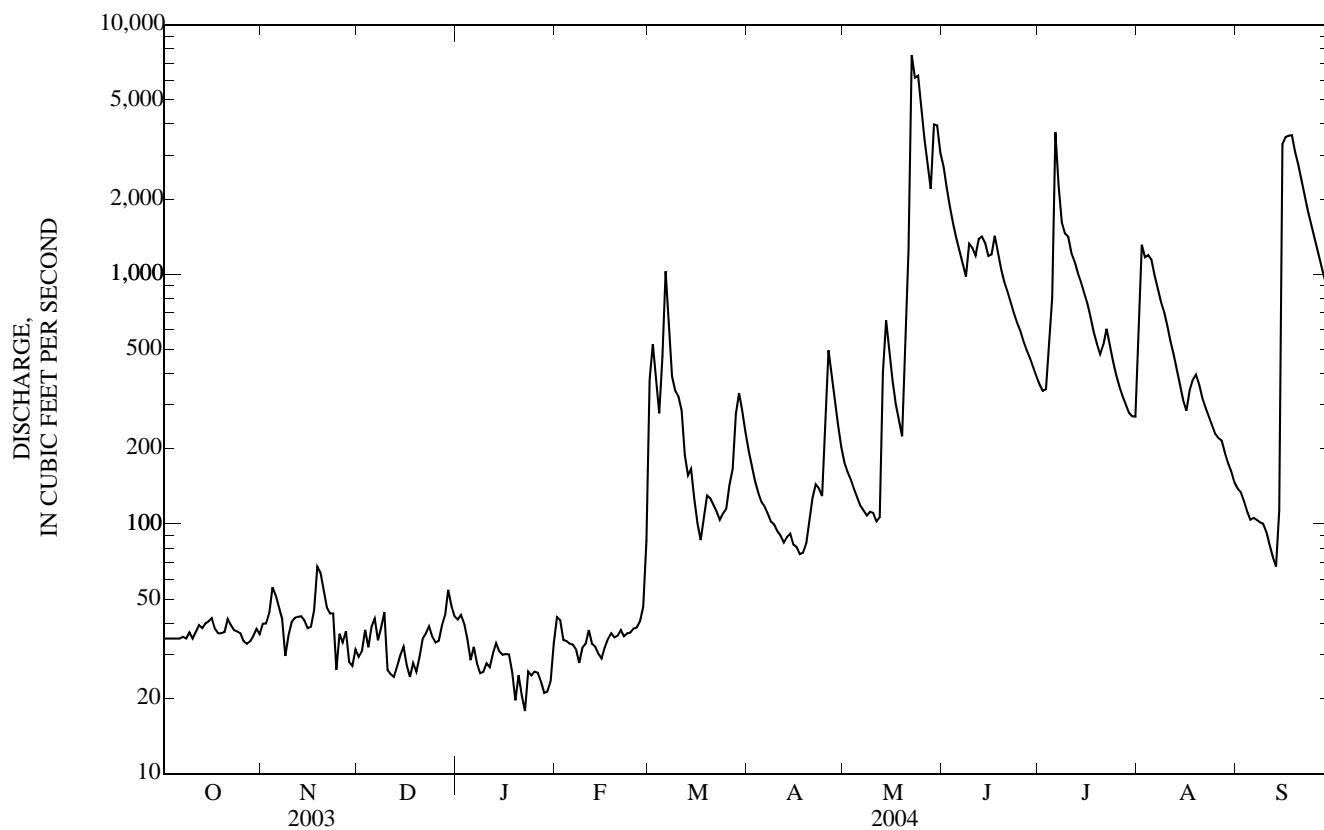
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2004, BY WATER YEAR (WY)

MEAN	173	166	109	73.7	119	504	611	454	508	328	225	190
MAX	840	811	724	378	1,002	1,707	2,880	1,807	2,160	1,915	2,054	1,188
(WY)	(1966)	(1942)	(1983)	(1983)	(1984)	(1973)	(1965)	(1991)	(1993)	(1993)	(1979)	(2004)
MIN	11.3	12.7	7.45	6.61	7.50	17.6	61.0	16.1	21.9	7.29	4.89	12.6
(WY)	(1935)	(1934)	(1934)	(1977)	(1959)	(1934)	(1957)	(1934)	(1934)	(1934)	(1934)	(1933)

05459500 WINNEBAGO RIVER AT MASON CITY, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1933 - 2004	
ANNUAL TOTAL	86,651		178,937		289	
ANNUAL MEAN	237		489		947	
HIGHEST ANNUAL MEAN					1934	
LOWEST ANNUAL MEAN					28.1	
HIGHEST DAILY MEAN	1,840	May 12	7,550	May 22	9,370	Mar 27, 1961
LOWEST DAILY MEAN	22	Jan 26	18	Jan 22 a	1.2	Aug 19, 1933
ANNUAL SEVEN-DAY MINIMUM	27	Dec 11	23	Jan 18	3.1	Dec 29, 1933
MAXIMUM PEAK FLOW			9,990	May 22	10,800	Mar 30, 1933
MAXIMUM PEAK STAGE			14.67	May 22	15.70	Mar 30, 1933
INSTANTANEOUS LOW FLOW					0.86	Aug 18, 1988 b
ANNUAL RUNOFF (AC-FT)	171,900		354,900		209,200	
ANNUAL RUNOFF (CFSM)	0.451		0.929		0.549	
ANNUAL RUNOFF (INCHES)	6.13		12.65		7.46	
10 PERCENT EXCEEDS	623		1,320		734	
50 PERCENT EXCEEDS	54		110		114	
90 PERCENT EXCEEDS	34		30		21	

a Ice affected.
 b Also Aug. 19, 1988.
 e Estimated.



05460000 CLEAR LAKE AT CLEAR LAKE, IA

LOCATION.--(revised)Lat 43°08'05", long 93°23'01", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.13, T.96 N., R.22 W., Cerro Gordo County, Hydrologic Unit 07080203, at the public bathing beach in the town of Clear Lake, near dam across Clear Creek.

DRAINAGE AREA.--22.6 mi².

PERIOD OF RECORD.--May 1933 to current year. No winter records 1933-52. Record fragmentary November 1952 to June 1959.

GAGE.--Water-stage recorder. Datum of gage is 1,222.24 ft above NGVD of 1929, and 4.60 ft below crest of spillway of dam at outlet. See WSP 1708 for history of changes prior to June 25, 1959.

REMARKS.--Lake is formed by concrete dam on Clear Creek with ungated overflow spillway 50 ft long at elevation 1,226.84 ft above sea level. Dam constructed in 1903. A previous outlet works had been constructed in 1887. Lake is used for conservation and recreation. Area of lake is approximately 3,600 acres. U.S. Geological Survey data collection platform with satellite telemetry at station.

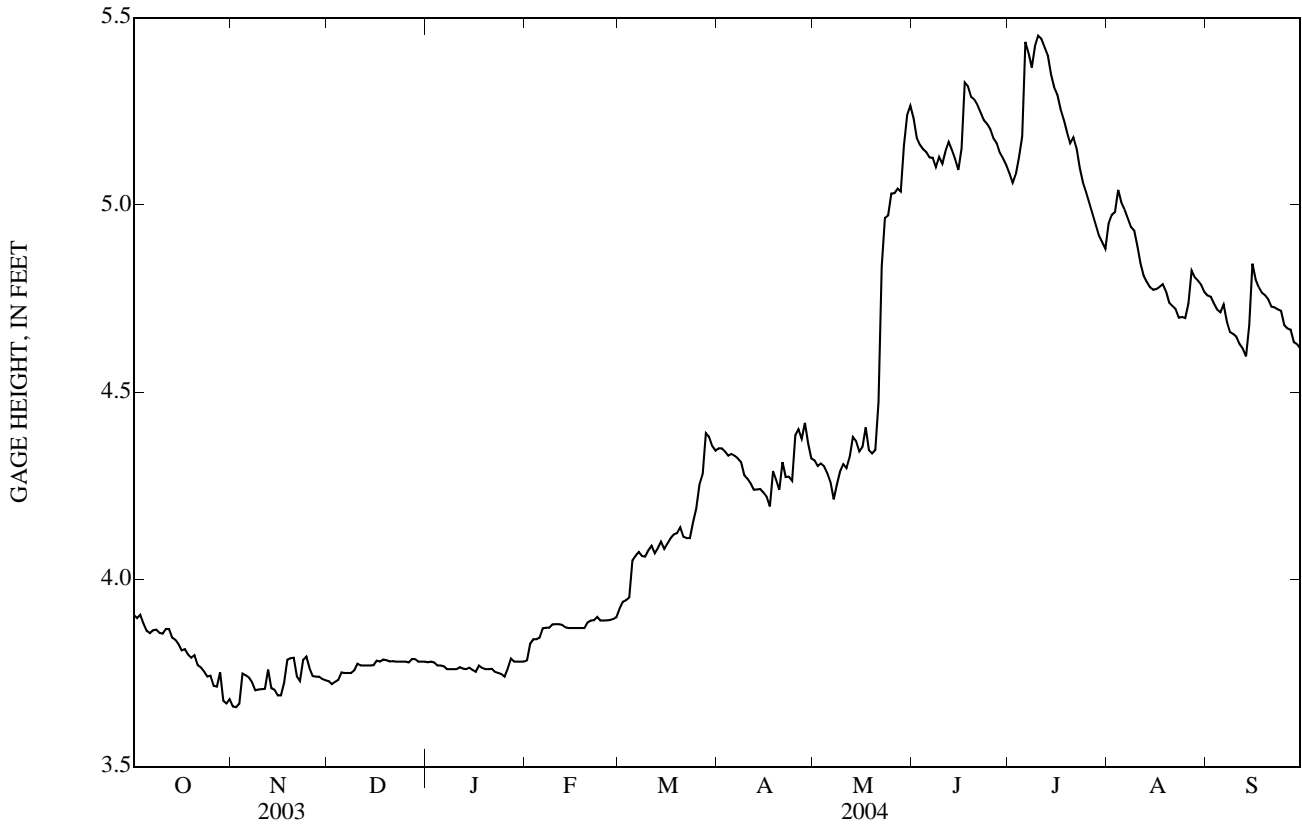
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 5.94 ft July 3, 1951; minimum observed, 0.76 ft Oct. 26, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 5.48 ft on July 6, 9; minimum, 3.62 ft on Nov. 3.

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	3.90	3.66	3.73	3.78	3.78	3.92	4.35	4.32	5.23	5.08	4.95	4.76
2	3.90	3.66	3.72	3.78	3.83	3.94	4.35	4.30	5.18	5.06	4.97	4.75
3	3.91	3.67	3.73	3.78	3.84	3.94	4.34	4.31	5.16	5.08	4.98	4.74
4	3.88	3.75	3.73	3.77	3.84	3.95	4.33	4.30	5.15	5.13	5.04	4.72
5	3.86	3.74	3.75	3.77	3.84	4.05	4.33	4.28	5.14	5.18	5.01	4.71
6	3.86	3.74	3.75	3.77	3.87	4.06	4.33	4.26	5.13	5.44	4.99	4.73
7	3.86	3.73	3.75	3.76	3.87	4.07	4.32	4.21	5.13	5.41	4.96	4.69
8	3.87	3.70	3.75	3.76	3.87	4.06	4.31	4.25	5.10	5.37	4.94	4.66
9	3.86	3.71	3.76	3.76	3.88	4.06	4.28	4.29	5.13	5.42	4.93	4.66
10	3.85	3.71	3.77	3.76	3.88	4.08	4.27	4.31	5.11	5.45	4.89	4.65
11	3.87	3.71	3.77	3.77	3.88	4.09	4.26	4.30	5.14	5.44	4.84	4.63
12	3.87	3.76	3.77	3.76	3.88	4.07	4.24	4.33	5.17	5.42	4.81	4.62
13	3.84	3.71	3.77	3.76	3.87	4.08	4.24	4.38	5.15	5.40	4.79	4.60
14	3.84	3.71	3.77	3.76	3.87	4.10	4.24	4.37	5.12	5.35	4.78	4.68
15	3.83	3.69	3.77	3.76	3.87	4.08	4.23	4.34	5.09	5.31	4.77	4.84
16	3.81	3.69	3.78	3.75	3.87	4.10	4.22	4.35	5.15	5.29	4.78	4.80
17	3.81	3.72	3.78	3.77	3.87	4.11	4.19	4.41	5.33	5.26	4.78	4.78
18	3.80	3.78	3.79	3.76	3.87	4.12	4.29	4.35	5.32	5.23	4.79	4.77
19	3.79	3.79	3.78	3.76	3.87	4.12	4.26	4.34	5.29	5.19	4.77	4.76
20	3.80	3.79	3.78	3.76	3.88	4.14	4.24	4.35	5.28	5.16	4.74	4.75
21	3.77	3.74	3.78	3.76	3.89	4.11	4.31	4.47	5.27	5.18	4.73	4.73
22	3.76	3.73	3.78	3.75	3.89	4.11	4.27	4.84	5.25	5.15	4.72	4.73
23	3.75	3.79	3.78	3.75	3.90	4.11	4.27	4.96	5.23	5.10	4.70	4.72
24	3.74	3.79	3.78	3.75	3.89	4.15	4.26	4.97	5.22	5.06	4.70	4.72
25	3.74	3.76	3.78	3.74	3.89	4.19	4.38	5.03	5.20	5.03	4.70	4.68
26	3.72	3.74	3.78	3.76	3.89	4.25	4.40	5.03	5.18	5.00	4.74	4.67
27	3.71	3.74	3.79	3.79	3.89	4.28	4.38	5.04	5.16	4.98	4.83	4.67
28	3.75	3.74	3.79	3.78	3.89	4.39	4.42	5.04	5.14	4.95	4.81	4.63
29	3.68	3.73	3.78	3.78	3.90	4.38	4.36	5.16	5.12	4.92	4.80	4.63
30	3.67	3.73	3.78	3.78	---	4.36	4.32	5.24	5.11	4.90	4.79	4.62
31	3.68	---	3.78	3.78	---	4.34	---	5.26	---	4.88	4.77	---
MEAN	3.81	3.73	3.77	3.77	3.87	4.12	4.30	4.56	5.18	5.19	4.83	4.70
MAX	3.91	3.79	3.79	3.79	3.90	4.39	4.42	5.26	5.33	5.45	5.04	4.84
MIN	3.67	3.66	3.72	3.74	3.78	3.92	4.19	4.21	5.09	4.88	4.70	4.60

05460000 CLEAR LAKE AT CLEAR LAKE, IA—Continued



05462000 SHELL ROCK RIVER AT SHELL ROCK, IA

LOCATION.--Lat 42°42'43", long 92°34'58", in NW¹/₄ NE¹/₄ sec.11, T.91 N., R.15 W., Butler County, Hydrologic Unit 07080202 on right bank 400 ft upstream from bridge on county highway C45 in Shell Rock, 2.2 mi downstream from Curry Creek, and 10.4 mi upstream from mouth.

DRAINAGE AREA.--1,746 mi².

PERIOD OF RECORD.--June 1953 to current year. Prior to July 1953, monthly discharge only, published in WSP 1728.

REVISED RECORDS.--WSP 1438: Drainage area.

GAGE.--Water-stage recorder. Rockfill dam since Oct. 19, 1957. Datum of gage is 885.34 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 and telephone modem telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1856 reached a stage of 17.7 ft at bridge 400 ft downstream, from information provided by U.S. Army Corps of Engineers, discharge, about 45,000 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	241	238	238	219	148	607	970	752	9,920	1,190	1,070	941
2	236	237	225	224	149	807	856	690	7,660	1,120	1,430	872
3	234	262	228	211	149	1,060	770	641	6,050	1,180	2,240	849
4	234	298	244	162	145	1,060	691	612	5,030	1,180	2,280	812
5	231	308	240	171	142	1,220	642	576	4,340	1,340	2,450	785
6	231	290	240	172	143	1,980	613	555	3,840	3,280	2,490	877
7	231	269	243	184	149	2,550	570	531	3,400	7,950	2,340	783
8	231	252	244	182	151	2,000	551	549	3,040	8,430	2,200	740
9	229	e240	243	178	152	1,690	516	690	2,730	5,690	2,080	724
10	226	228	250	174	155	1,690	505	719	3,230	5,580	2,030	705
11	232	245	170	178	156	1,370	483	645	3,480	5,050	1,910	685
12	238	255	201	187	158	1,040	454	605	3,500	4,500	1,770	659
13	237	252	209	186	e158	867	443	639	3,590	4,160	1,630	627
14	248	248	219	187	157	910	441	1,170	3,460	3,680	1,500	664
15	244	241	212	181	153	841	424	1,650	3,210	3,190	1,390	744
16	240	252	206	191	152	749	421	1,370	2,940	2,850	1,350	5,190
17	237	245	193	197	156	612	424	1,170	3,550	2,610	1,310	7,630
18	236	268	223	150	155	618	405	1,040	4,150	2,390	1,380	7,000
19	236	285	211	157	154	578	431	934	3,480	2,150	1,450	7,050
20	233	291	e200	178	165	576	438	860	2,980	1,940	1,460	6,540
21	232	280	223	175	170	532	502	1,290	2,680	1,800	1,440	6,000
22	229	265	218	149	171	520	559	7,740	2,460	1,870	1,390	5,470
23	230	261	213	166	175	500	587	21,700	2,230	1,960	1,330	4,950
24	229	255	200	165	179	496	578	23,900	2,060	1,750	1,320	4,490
25	230	e228	209	158	185	524	595	17,600	1,890	1,580	1,260	4,100
26	229	226	213	159	197	782	900	14,000	1,730	1,440	1,210	3,750
27	227	241	213	156	236	1,120	1,350	10,500	1,580	1,340	1,250	3,440
28	229	248	227	149	280	1,170	1,170	7,810	1,450	1,260	1,190	3,160
29	234	217	238	146	400	1,400	1,000	6,730	1,350	1,180	1,110	2,910
30	230	228	233	146	---	1,350	849	9,130	1,270	1,110	1,040	2,700
31	238	---	234	148	---	1,130	---	11,400	---	1,090	925	---
TOTAL	7,242	7,653	6,860	5,386	5,040	32,349	19,138	148,198	102,280	85,840	49,225	85,847
MEAN	234	255	221	174	174	1,044	638	4,781	3,409	2,769	1,588	2,862
MAX	248	308	250	224	400	2,550	1,350	23,900	9,920	8,430	2,490	7,630
MIN	226	217	170	146	142	496	405	531	1,270	1,090	925	627
AC-FT	14,360	15,180	13,610	10,680	10,000	64,160	37,960	294,000	202,900	170,300	97,640	170,300
CFSM	0.13	0.15	0.13	0.10	0.10	0.60	0.37	2.74	1.95	1.59	0.91	1.64
IN.	0.15	0.16	0.15	0.11	0.11	0.69	0.41	3.16	2.18	1.83	1.05	1.83

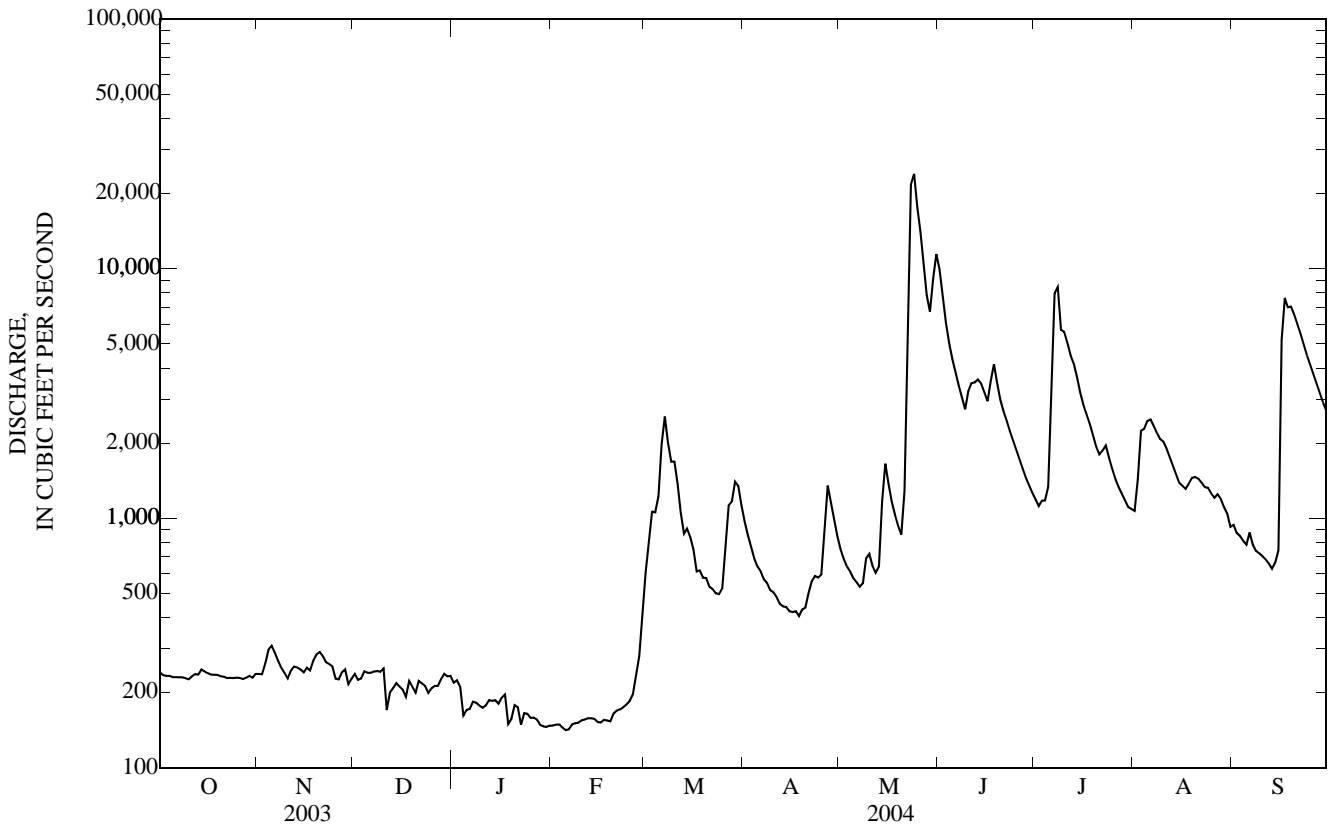
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2004, BY WATER YEAR (WY)

MEAN	727	674	507	342	487	1,593	2,076	1,761	1,837	1,366	914	731
MAX	2,544	2,326	2,381	1,375	2,833	5,426	8,540	5,889	6,239	6,461	5,637	2,862
(WY)	(1987)	(1983)	(1983)	(1983)	(1984)	(1992)	(1965)	(1991)	(1993)	(1993)	(1979)	(2004)
MIN	74.1	77.7	39.8	45.6	44.7	193	226	243	138	114	66.7	96.6
(WY)	(1990)	(1990)	(1990)	(1959)	(1959)	(1968)	(1957)	(1958)	(1977)	(1977)	(1989)	(1989)

05462000 SHELL ROCK RIVER AT SHELL ROCK, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1954 - 2004	
ANNUAL TOTAL	303,401		555,058		1,086	
ANNUAL MEAN	831		1,517		3,231	
HIGHEST ANNUAL MEAN					171	1993
LOWEST ANNUAL MEAN					171	1977
HIGHEST DAILY MEAN	6,120	May 13	23,900	May 24	32,100	Mar 28, 1961
LOWEST DAILY MEAN	170	Dec 11	142	Feb 5	27	Dec 22, 1989
ANNUAL SEVEN-DAY MINIMUM	200	Jan 24	146	Jan 31	29	Dec 16, 1989
MAXIMUM PEAK FLOW			27,400	May 23	33,500	Mar 28, 1961
MAXIMUM PEAK STAGE			15.87	May 23	16.73	Jul 22, 1999
INSTANTANEOUS LOW FLOW			97	Jan 18		
ANNUAL RUNOFF (AC-FT)	601,800		1,101,000		787,000	
ANNUAL RUNOFF (CFSM)	0.476		0.869		0.622	
ANNUAL RUNOFF (INCHES)	6.46		11.83		8.45	
10 PERCENT EXCEEDS	2,130		3,620		2,560	
50 PERCENT EXCEEDS	286		606		535	
90 PERCENT EXCEEDS	213		171		160	

e Estimated



05463000 BEAVER CREEK AT NEW HARTFORD, IA

LOCATION.--Lat 42°34'22", long 92°37'04", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.28, T.90 N., R.15 W., Butler County, Hydrologic Unit 07080205, on right bank 5 ft. from right end of bridge on county highway T55, 0.2 mi north of New Hartford, and 8 mi upstream from mouth.

DRAINAGE AREA.--347 mi².

PERIOD OF RECORD.--October 1945 to current year. Prior to April 1948, monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 1438: Drainage area. WSP 1558: 1948-49. WSP 1708: 1947 (M).

GAGE.--Water-stage recorder. Datum of gage is 882.44 ft. above NGVD of 1929. Prior to July 14, 1959, nonrecording gage at same site and datum.

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

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	29	31	43	e47	e44	777	525	190	1,400	195	94	152
2	29	33	44	e50	e41	598	449	e181	1,080	183	e90	138
3	29	38	45	e46	e35	417	391	170	909	177	102	124
4	28	84	e46	e42	e34	308	348	163	799	177	420	113
5	29	147	e49	e37	e33	747	317	157	723	180	583	106
6	28	89	e48	e40	e31	1,560	297	152	672	227	286	168
7	28	67	e41	e35	e30	1,050	276	145	609	200	189	229
8	28	56	e41	e32	e29	580	256	144	532	176	148	173
9	27	61	e42	e32	e32	432	233	154	483	179	124	147
10	27	56	42	e35	e35	367	217	147	989	195	106	131
11	28	e53	e42	e31	e39	322	203	143	863	177	94	118
12	31	48	e40	e36	e37	252	196	137	872	171	85	108
13	31	44	e41	e38	e36	275	190	157	804	160	78	100
14	34	43	e43	e35	e35	240	187	292	633	143	72	98
15	33	43	e45	e35	e34	220	182	268	537	129	68	100
16	32	42	e42	e31	e38	208	178	237	471	128	65	93
17	31	e42	e39	e31	e42	200	175	221	435	134	235	87
18	32	45	e42	e28	e47	199	170	225	396	143	847	85
19	31	50	e40	e23	e45	204	163	221	361	136	1,020	83
20	31	49	e44	e26	e67	210	164	223	335	130	408	78
21	30	47	e47	e23	e64	192	209	226	324	134	300	74
22	30	46	e48	e20	e89	180	214	1,430	308	136	245	71
23	30	48	e51	e26	e112	177	203	4,780	278	128	211	69
24	31	47	e46	e25	e249	205	194	3,860	271	119	188	68
25	31	48	e43	e26	e323	350	212	2,940	295	114	174	66
26	31	51	e44	e25	e242	554	240	2,560	284	110	169	64
27	31	49	e48	e25	e362	816	249	1,780	260	105	300	63
28	32	44	e54	e23	e700	945	242	1,260	243	101	338	61
29	31	45	e58	e23	1,090	1,210	223	1,380	224	104	250	60
30	31	49	e53	e27	---	870	200	2,380	208	102	202	59
31	31	---	e49	e35	---	652	---	2,200	---	98	171	---
TOTAL	935	1,595	1,400	988	3,995	15,317	7,303	28,523	16,598	4,591	7,662	3,086
MEAN	30.2	53.2	45.2	31.9	138	494	243	920	553	148	247	103
MAX	34	147	58	50	1,090	1,560	525	4,780	1,400	227	1,020	229
MIN	27	31	39	20	29	177	163	137	208	98	65	59
AC-FT	1,850	3,160	2,780	1,960	7,920	30,380	14,490	56,580	32,920	9,110	15,200	6,120
CFSM	0.09	0.15	0.13	0.09	0.40	1.42	0.70	2.65	1.59	0.43	0.71	0.30
IN.	0.10	0.17	0.15	0.11	0.43	1.64	0.78	3.06	1.78	0.49	0.82	0.33

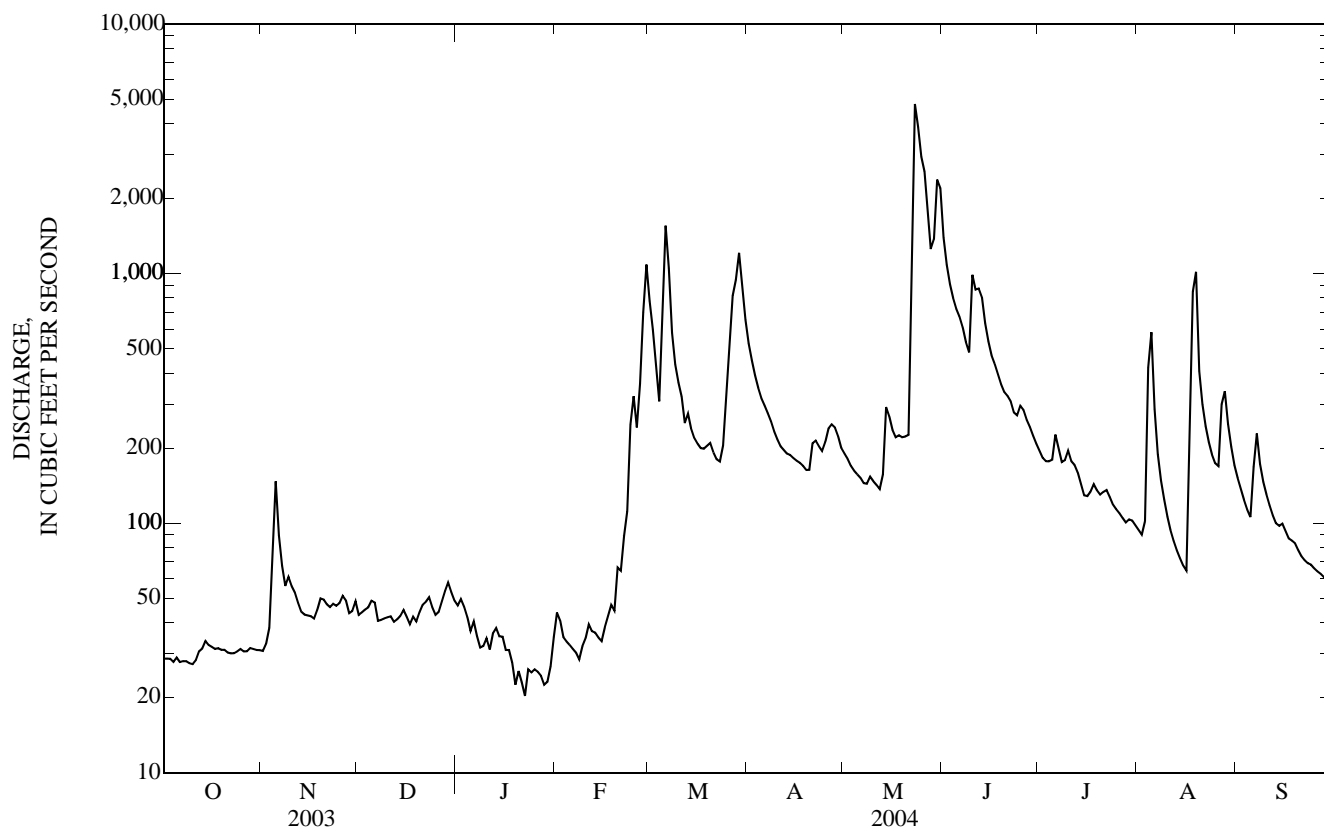
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2004, BY WATER YEAR (WY)

MEAN	116	122	84.2	71.1	150	446	378	357	432	281	144	106
MAX	495	673	514	403	651	1,606	1,578	1,606	2,213	1,686	1,368	1,028
(WY)	(1987)	(1973)	(1983)	(1946)	(1983)	(1993)	(1993)	(1991)	(1947)	(1993)	(1993)	(1965)
MIN	4.98	8.80	7.13	2.88	3.84	28.1	33.8	23.2	12.5	4.47	4.22	6.02
(WY)	(1957)	(1957)	(1990)	(1956)	(1956)	(1954)	(1954)	(1977)	(1956)	(1956)	(1989)	(1988)

05463000 BEAVER CREEK AT NEW HARTFORD, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1946 - 2004	
ANNUAL TOTAL	65,239.2		91,993		224	
ANNUAL MEAN	179		251		874	
HIGHEST ANNUAL MEAN					21.8	
LOWEST ANNUAL MEAN					1956	
HIGHEST DAILY MEAN	2,610	Jul 10	4,780	May 23	16,300	Jun 13, 1947
LOWEST DAILY MEAN	9.2	Jan 12	20	Jan 22 a	2.0	Sep 30, 1989
ANNUAL SEVEN-DAY MINIMUM	13	Jan 11	24	Jan 19	2.3	Jan 19, 1956
MAXIMUM PEAK FLOW			5,420	May 23	18,000	Jun 13, 1947
MAXIMUM PEAK STAGE			11.05	May 23	13.50	Jun 13, 1947
ANNUAL RUNOFF (AC-FT)	129,400		182,500		162,400	
ANNUAL RUNOFF (CFSM)	0.515		0.724		0.646	
ANNUAL RUNOFF (INCHES)	6.99		9.86		8.78	
10 PERCENT EXCEEDS	468		588		490	
50 PERCENT EXCEEDS	48		116		88	
90 PERCENT EXCEEDS	27		31		18	

a Ice affected.
e Estimated.



05463050 CEDAR RIVER AT CEDAR FALLS, IA

LOCATION.--Lat 42°32'20", long 92°26'58", in NW¹/₄ NE¹/₄ sec.12, T.89 N., R.14 W., Black Hawk County, Hydrologic Unit 07080205, at bridge on U.S. Highway 20 at Cedar Falls, 1.1 mi upstream from Dry Run, and at mile 196.0 upstream from mouth of Iowa River.

DRAINAGE AREA.--4,734 mi².

PERIOD OF RECORD.--October 1975 to September 1979, May 1984 to September 1985, October 1986 to September 1995; water quality data. October 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 855.00 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily stages, which are poor. U.S. Geological Survey rain gage and data collection platform with satellite and telephone modem telemetry at station. Precipitation records are not published, but are available.

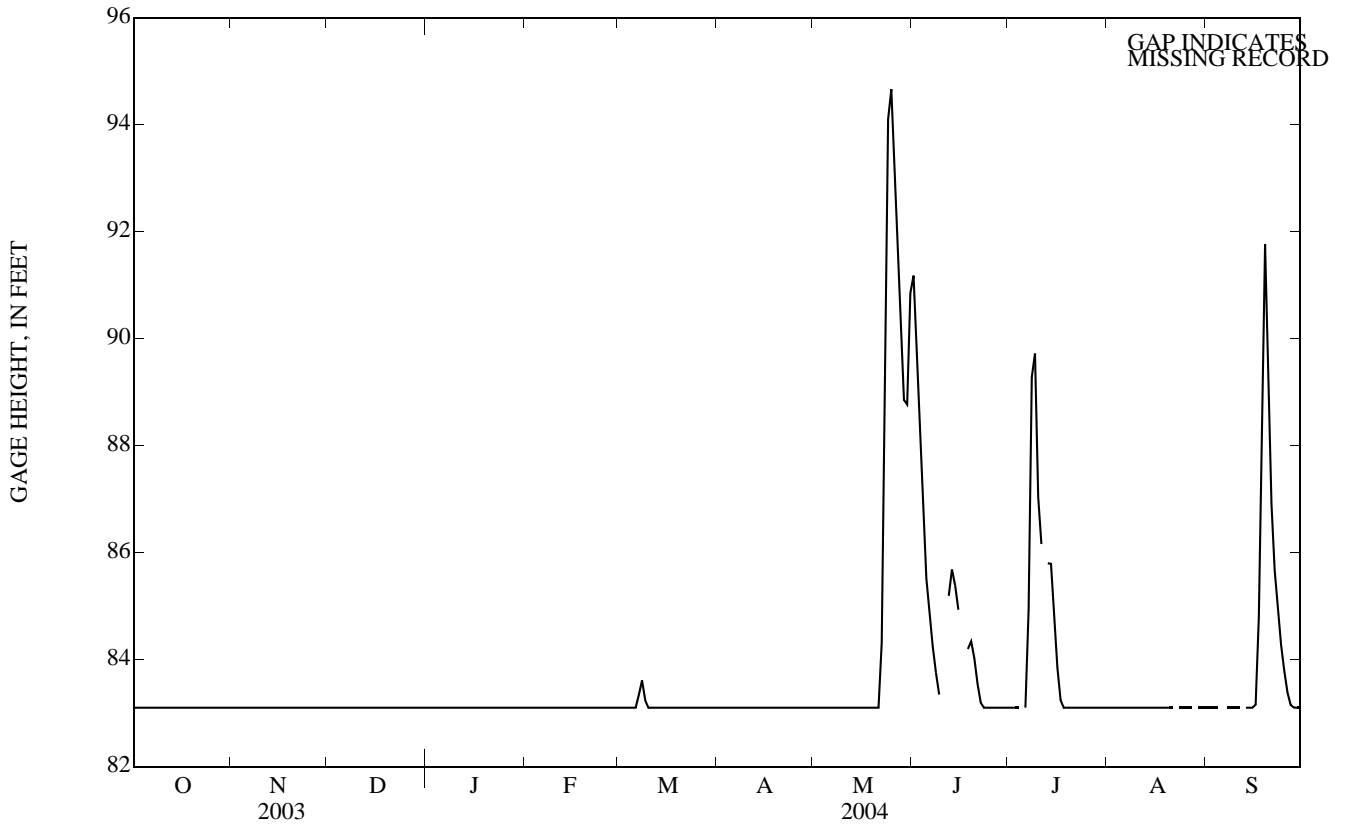
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height 94.99 ft on May 25, 2004.

EXTREMES FOR CURRENT YEAR.--Maximum gage height 94.99 ft on May 25, 2004.

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	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	91.18	83.10	83.10	83.10
2	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	89.62	83.10	83.10	83.10
3	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	88.01	83.10	83.10	83.10
4	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	86.58	83.10	83.10	83.10
5	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	85.52	---	83.10	---
6	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	84.86	83.10	83.10	---
7	83.10	83.10	83.10	83.10	83.10	83.34	83.10	83.10	84.24	84.92	83.10	83.10
8	83.10	83.10	83.10	83.10	83.10	83.61	83.10	83.10	83.75	89.28	83.10	83.10
9	83.10	83.10	83.10	83.10	83.10	83.24	83.10	83.10	83.34	89.72	83.10	83.10
10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	---	87.04	83.10	83.10
11	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	---	86.16	83.10	83.10
12	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	85.19	---	83.10	---
13	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	85.68	85.80	83.10	83.10
14	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	85.39	85.79	83.10	83.10
15	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	84.93	84.85	83.10	83.10
16	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	---	83.85	83.10	83.16
17	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	---	83.24	83.10	84.79
18	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	84.20	83.10	83.10	89.21
19	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	84.34	83.10	83.10	91.77
20	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	84.02	83.10	83.10	89.91
21	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.54	83.10	83.10	86.91
22	83.10	83.10	83.10	83.10	83.10	83.10	83.10	84.31	83.19	83.10	---	85.67
23	83.10	83.10	83.10	83.10	83.10	83.10	83.10	89.92	83.10	83.10	83.10	84.90
24	83.10	83.10	83.10	83.10	83.10	83.10	83.10	94.10	83.10	83.10	83.10	84.28
25	83.10	83.10	83.10	83.10	83.10	83.10	83.10	94.66	83.10	83.10	83.10	83.79
26	83.10	83.10	83.10	83.10	83.10	83.10	83.10	93.43	83.10	83.10	83.10	83.38
27	83.10	83.10	83.10	83.10	83.10	83.10	83.10	91.89	83.10	83.10	83.10	83.15
28	83.10	83.10	83.10	83.10	83.10	83.10	83.10	90.17	83.10	83.10	---	83.10
29	83.10	83.10	83.10	83.10	83.10	83.10	83.10	88.86	83.10	83.10	83.10	83.10
30	83.10	83.10	83.10	83.10	---	83.10	83.10	88.77	83.10	83.10	83.10	83.10
31	83.10	---	83.10	83.10	---	83.10	---	90.85	---	83.10	83.10	---
MEAN	83.10	83.10	83.10	83.10	83.10	83.13	83.10	85.55	---	---	---	---
MAX	83.10	83.10	83.10	83.10	83.10	83.61	83.10	94.66	---	---	---	---
MIN	83.10	83.10	83.10	83.10	83.10	83.10	83.10	83.10	---	---	---	---

05463050 CEDAR RIVER AT CEDAR FALLS, IA—Continued



05463500 BLACK HAWK CREEK AT HUDSON, IA

LOCATION.--Lat 42°24'28", long 92°27'47", in SW¹/₄ NE¹/₄ sec.27, T.88 N., R.14 W., Black Hawk County, Hydrologic Unit 07080205, on left bank 35 ft. from bridge on State Highway 58, 0.2 mi northwest of Chicago and Great Western Railway tracks at the west edge of Hudson, 4.5 mi. upstream from Prescotts Creek, and 9.6 mi. upstream from mouth.

DRAINAGE AREA.--303 mi².

PERIOD OF RECORD.--April 1952 to September 30, 1995. October 2001 to current year.

REVISED RECORDS.--WSP 1438: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 865.03 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.

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	14	20	36	e40	e35	288	358	161	1,150	182	58	44
2	15	23	34	e42	e33	202	311	152	885	170	60	43
3	16	35	29	e37	e28	158	277	146	780	170	e68	40
4	16	152	29	e32	e28	133	252	141	694	172	e319	38
5	16	e107	33	e27	e27	553	237	134	638	170	e550	37
6	15	e81	33	e31	e26	1,170	220	127	592	175	e302	39
7	15	60	27	e26	e25	516	203	120	546	166	e164	57
8	15	45	28	e24	e22	320	190	117	502	152	e140	65
9	14	46	29	e24	e26	255	175	119	466	143	115	52
10	15	46	29	e27	e27	218	164	113	468	143	97	46
11	16	41	29	e25	e30	197	157	107	605	147	86	42
12	18	38	e27	e29	e27	152	150	106	609	146	79	39
13	20	34	e29	e31	e26	175	143	122	532	136	73	37
14	23	32	e32	e29	e25	152	138	184	464	122	67	36
15	23	33	e34	e29	e24	135	133	191	419	112	63	38
16	22	32	e30	e26	e27	129	129	167	393	106	60	37
17	20	32	e27	e26	e30	126	127	158	442	113	67	35
18	20	35	e30	e21	e33	126	121	159	353	104	131	35
19	20	35	e29	e17	e31	138	118	151	323	96	121	34
20	19	32	e32	e20	e54	152	118	149	308	91	92	32
21	19	30	e36	e16	e106	141	178	157	305	91	78	31
22	19	29	e37	e14	e218	133	206	978	288	91	70	30
23	19	30	e40	e20	e488	130	186	5,450	261	86	65	30
24	19	25	e36	e19	e540	188	174	2,900	253	79	62	e31
25	20	31	e34	e21	e378	368	188	2,260	265	76	60	e30
26	21	36	e35	e20	e234	575	208	2,950	252	73	58	e28
27	21	33	e38	e19	e268	782	210	1,850	234	69	62	e23
28	21	28	e43	e17	e344	627	202	1,130	222	65	65	e22
29	21	31	e48	e17	e459	724	187	1,060	206	64	56	e22
30	21	34	e44	e21	---	542	168	1,410	193	62	52	e22
31	23	---	e41	e28	---	429	---	1,610	---	61	46	---
TOTAL	576	1,266	1,038	775	3,619	9,934	5,628	24,579	13,648	3,633	3,386	1,095
MEAN	18.6	42.2	33.5	25.0	125	320	188	793	455	117	109	36.5
MAX	23	152	48	42	540	1,170	358	5,450	1,150	182	550	65
MIN	14	20	27	14	22	126	118	106	193	61	46	22
AC-FT	1,140	2,510	2,060	1,540	7,180	19,700	11,160	48,750	27,070	7,210	6,720	2,170
CFSTM	0.06	0.14	0.11	0.08	0.41	1.06	0.62	2.62	1.50	0.39	0.36	0.12
IN.	0.07	0.16	0.13	0.10	0.44	1.22	0.69	3.02	1.68	0.45	0.42	0.13

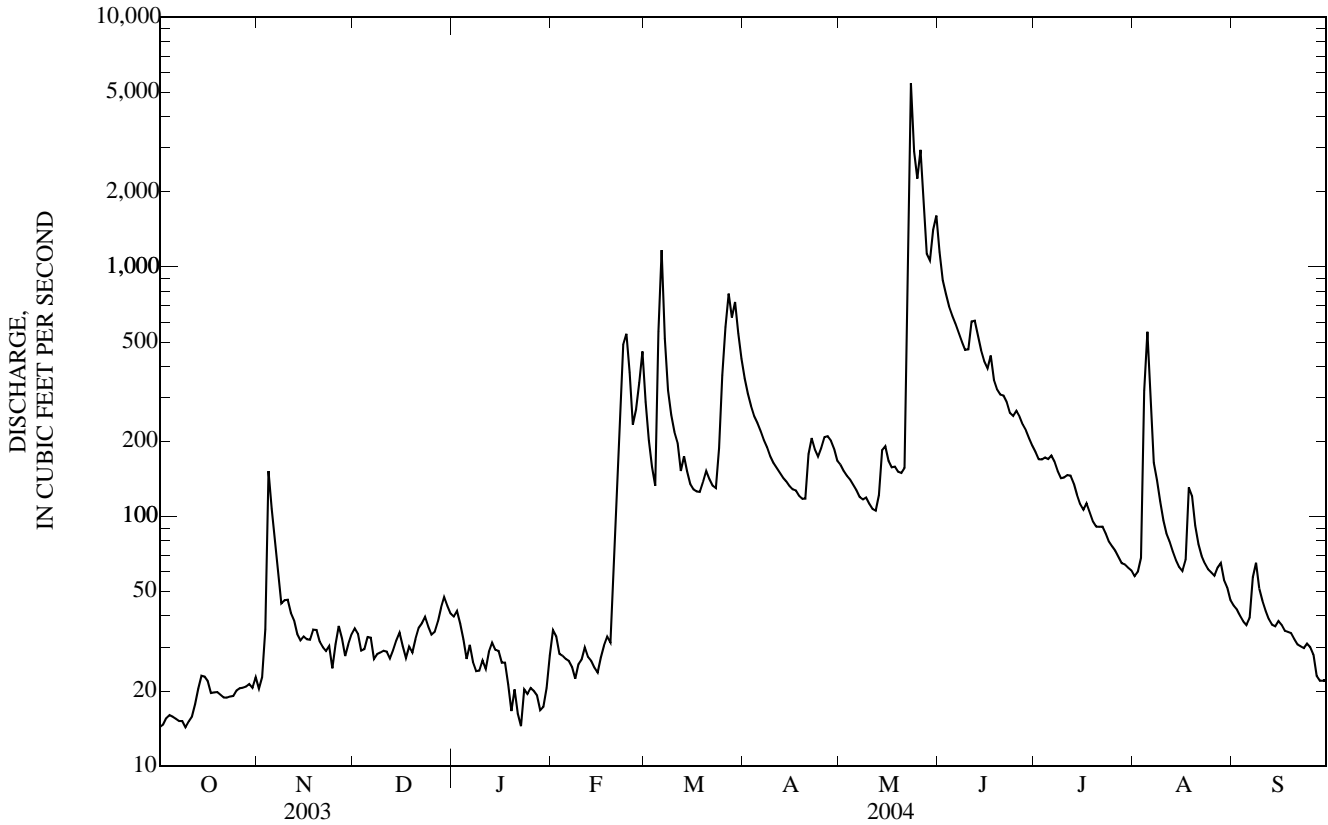
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2004, BY WATER YEAR (WY)

MEAN	95.5	107	84.9	68.8	141	368	311	295	328	250	124	86.7
MAX	440	359	418	463	564	1,280	1,173	1,036	1,403	1,705	1,134	735
(WY)	(1966)	(1973)	(1983)	(1973)	(1984)	(1993)	(1991)	(1991)	(1990)	(1993)	(1993)	(1965)
MIN	5.37	7.45	3.78	2.34	3.07	15.9	20.5	22.9	10.2	5.33	2.38	7.18
(WY)	(1990)	(1956)	(1990)	(1956)	(1956)	(1954)	(1956)	(1977)	(1956)	(1989)	(1989)	(1989)

05463500 BLACK HAWK CREEK AT HUDSON, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1953 - 2004	
ANNUAL TOTAL	44,700.3		69,177		189	
ANNUAL MEAN	122		189		18.4	
HIGHEST ANNUAL MEAN					697	1993
LOWEST ANNUAL MEAN					18.4	1956
HIGHEST DAILY MEAN	1,750	May 10	5,450	May 23	11,300	Jul 9, 1969
LOWEST DAILY MEAN	5.5	Jan 26	14	Oct 1 a	0.12	Jan 26, 1977
ANNUAL SEVEN-DAY MINIMUM	8.4	Jan 12	15	Oct 4	0.32	Jan 23, 1977
MAXIMUM PEAK FLOW			8,070	May 23	19,300	Jul 9, 1969
MAXIMUM PEAK STAGE			16.42	May 23	18.23	Jul 9, 1969
INSTANTANEOUS LOW FLOW			13	Oct 9		
ANNUAL RUNOFF (AC-FT)	88,660		137,200		136,600	
ANNUAL RUNOFF (CFSM)	0.404		0.624		0.622	
ANNUAL RUNOFF (INCHES)	5.49		8.49		8.45	
10 PERCENT EXCEEDS	313		447		434	
50 PERCENT EXCEEDS	35		64		75	
90 PERCENT EXCEEDS	15		21		15	

a Also Oct. 9.
e Estimated.



05464000 CEDAR RIVER AT WATERLOO, IA

LOCATION.--Lat 42°29'44", long 92°20'03", in NW¹/₄ NW¹/₄ sec.25, T.89 N., R.13 W., Black Hawk County, Hydrologic Unit 07080205, on left bank at foot of East Seventh Street, 0.3 mi upstream from Eleventh Street bridge in Waterloo, 1.1 mi downstream from Black Hawk Creek, and at mile 187.9 upstream from mouth of Iowa River.

DRAINAGE AREA.--5,146 mi².

PERIOD OF RECORD.--October 1940 to current year. Prior to April 1941, monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 1438: Drainage area. WSP 1558: 1950.

GAGE.--Water-stage recorder. Datum of gage is 824.14 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Slight diurnal fluctuation during low flow caused by powerplant upstream from station. U.S. National Weather Service Limited Automatic Remote Collector (LARC) and 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 Mar. 16, 1929, reached a stage of about 20 ft, determined by U. S. Army Corps of Engineers, from information by City of Waterloo, discharge, 65,000 ft³/s. Flood of Apr. 2, 1933, reached a stage of about 19.5 ft from information by City of Waterloo, discharge, 61,000 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	827	757	778	e716	e657	3,620	5,270	3,430	26,400	4,150	3,410	2,520
2	799	821	765	e708	e672	4,000	4,580	3,100	21,700	3,950	3,230	2,440
3	792	1,080	777	e724	e661	4,180	4,290	2,870	17,600	3,980	4,380	2,270
4	792	1,400	799	e708	e675	4,510	4,010	2,540	14,200	4,060	5,330	2,110
5	792	1,250	e825	e637	e692	5,700	3,720	2,430	11,800	4,160	5,660	1,990
6	784	1,210	e842	e623	e686	7,170	3,480	2,460	10,400	4,970	6,010	2,120
7	790	1,070	e917	e742	e683	8,150	3,230	2,230	9,190	9,200	5,680	2,250
8	798	985	e913	e780	e681	8,470	3,010	2,260	8,250	17,800	5,190	2,100
9	790	910	e881	e707	e688	7,840	2,840	2,370	7,460	21,600	4,750	1,960
10	781	894	e930	e650	e701	6,350	2,620	2,540	7,490	15,400	4,510	1,860
11	784	885	e608	e625	e726	5,340	2,520	2,560	9,790	12,700	4,650	1,750
12	785	935	e500	e612	732	4,610	2,380	2,510	10,700	11,100	4,580	1,700
13	806	863	e635	e608	654	4,190	2,270	2,650	11,500	11,300	4,210	1,640
14	926	888	e715	e605	697	3,970	2,240	2,930	11,300	11,900	3,920	1,580
15	866	835	e749	e577	661	3,670	2,140	4,280	10,300	10,200	3,630	1,690
16	808	846	e787	e586	661	3,570	2,100	5,290	9,490	8,360	3,350	e2,960
17	803	845	e860	e584	679	3,240	2,130	5,110	8,310	7,180	3,220	e11,900
18	790	908	e755	e568	669	3,000	2,040	4,450	8,680	6,470	3,790	17,200
19	784	912	e782	e562	660	2,830	1,980	4,170	9,000	5,810	4,510	26,000
20	786	938	e730	e610	e736	2,770	2,200	3,890	8,570	5,310	4,280	23,300
21	775	921	e778	631	e700	2,640	2,270	3,960	7,780	5,110	3,920	15,000
22	793	908	e753	e591	e759	2,460	2,490	8,710	7,190	4,890	3,910	11,800
23	749	897	e700	e584	e950	2,400	2,590	21,100	6,630	4,930	3,680	10,200
24	773	841	e718	631	e1,060	2,770	2,700	45,900	6,160	4,990	3,490	9,010
25	784	800	e710	639	e1,170	2,940	2,790	57,100	5,660	4,640	3,390	8,130
26	765	743	e700	552	e1,110	3,920	2,870	46,300	5,400	4,330	3,370	7,380
27	765	749	e732	612	e1,140	5,230	3,620	32,700	5,070	4,040	3,770	6,810
28	766	800	e724	e560	1,620	5,530	4,150	23,800	4,810	3,820	3,620	6,260
29	734	699	e736	e555	2,480	6,420	4,080	19,800	4,550	3,720	3,290	5,700
30	771	813	e736	e573	---	6,550	3,800	18,800	4,340	3,430	3,010	5,380
31	742	---	e726	e609	---	5,980	---	23,400	---	3,260	2,760	---
TOTAL	24,500	27,403	23,561	19,469	24,660	144,020	90,410	365,640	289,720	226,760	126,500	197,010
MEAN	790	913	760	628	850	4,646	3,014	11,790	9,657	7,315	4,081	6,567
MAX	926	1,400	930	780	2,480	8,470	5,270	57,100	26,400	21,600	6,010	26,000
MIN	734	699	500	552	654	2,400	1,980	2,230	4,340	3,260	2,760	1,580
AC-FT	48,600	54,350	46,730	38,620	48,910	285,700	179,300	725,200	574,700	449,800	250,900	390,800
CFSM	0.15	0.18	0.15	0.12	0.17	0.90	0.59	2.29	1.88	1.42	0.79	1.28
IN.	0.18	0.20	0.17	0.14	0.18	1.04	0.65	2.64	2.09	1.64	0.91	1.42

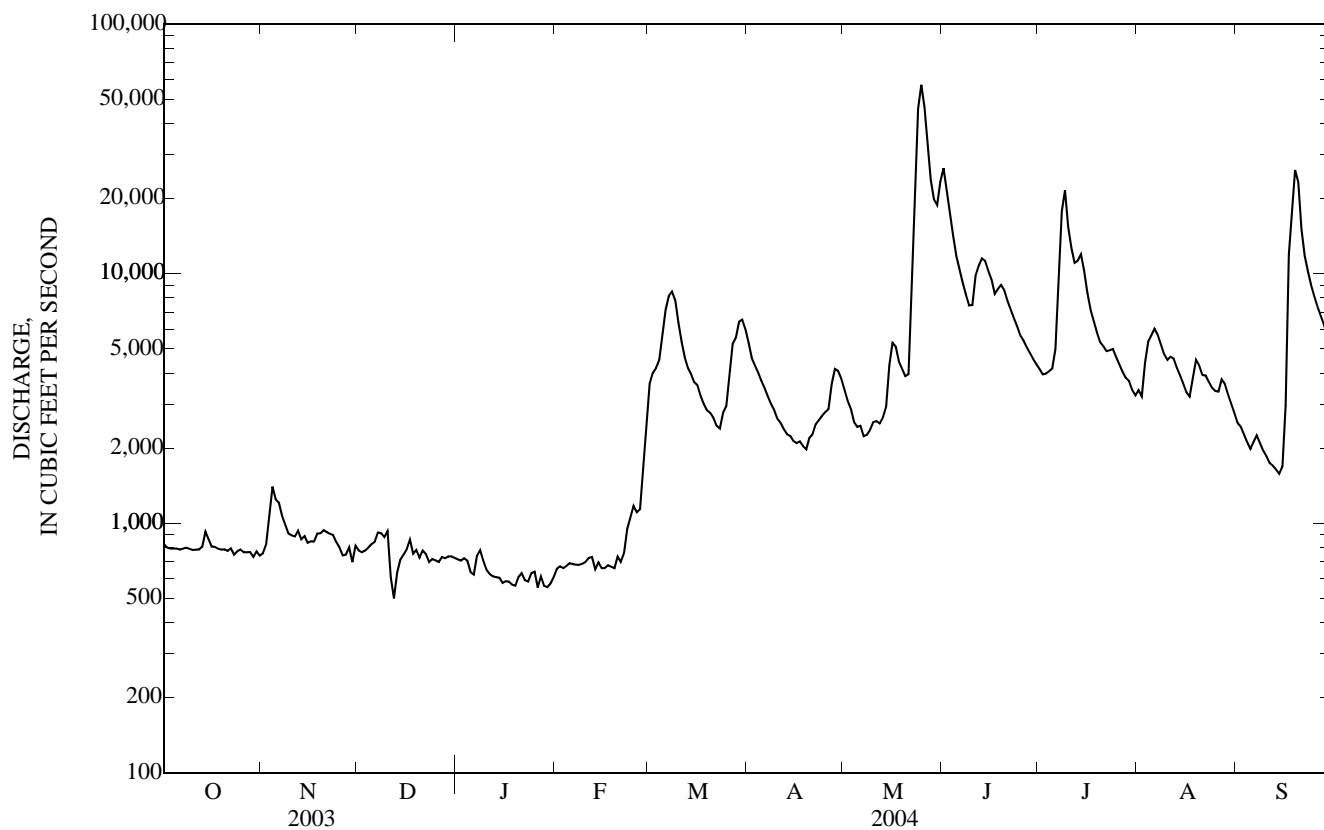
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2004, BY WATER YEAR (WY)

MEAN	2,090	2,033	1,522	1,211	1,750	5,450	6,273	4,975	5,469	4,182	2,734	2,094
MAX	8,499	7,434	6,891	5,479	9,448	13,760	24,940	19,010	18,320	21,210	18,770	9,258
(WY)	(1987)	(1973)	(1983)	(1973)	(1984)	(1973)	(1993)	(1991)	(1993)	(1993)	(1993)	(1993)
MIN	364	370	266	252	188	687	741	732	474	455	328	387
(WY)	(1990)	(1990)	(1990)	(1959)	(1959)	(1964)	(1957)	(1977)	(1977)	(1989)	(1989)	(1955)

05464000 CEDAR RIVER AT WATERLOO, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1941 - 2004	
ANNUAL TOTAL	957,569		1,559,653		3,320	
ANNUAL MEAN	2,623		4,261		10,580	
HIGHEST ANNUAL MEAN					636	1977
LOWEST ANNUAL MEAN					74,000	Mar 29, 1961
HIGHEST DAILY MEAN	16,000	May 11	57,100	May 25	152	Jan 28, 1959
LOWEST DAILY MEAN	500	Dec 12	500	Dec 12 a	173	Feb 13, 1959
ANNUAL SEVEN-DAY MINIMUM	614	Jan 25	584	Jan 13	76,700	Mar 29, 1961
MAXIMUM PEAK FLOW			19.32	May 25	21.86	Mar 29, 1961
MAXIMUM PEAK STAGE					2,405,000	
ANNUAL RUNOFF (AC-FT)	1,899,000		3,094,000		0.645	
ANNUAL RUNOFF (CFSM)	0.510		0.828		8.77	
ANNUAL RUNOFF (INCHES)	6.92		11.27		7,600	
10 PERCENT EXCEEDS	6,400		9,290		1,800	
50 PERCENT EXCEEDS	1,080		2,480		575	
90 PERCENT EXCEEDS	749		678			

a Ice affected.
e Estimated.



05464220 WOLF CREEK NEAR DYSART, IA

LOCATION.--Lat 42°15'06", long 92°17'55", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.86 N., R.13 W., Tama County, Hydrologic Unit 07080205, on bank 20 ft upstream of right bank side of bridge on County Highway V37, 10.0 miles upstream of confluence with the Cedar River, and 5.0 miles north of Dysart.

DRAINAGE AREA.--299 mi².

PERIOD OF RECORD.--October 24, 1995 to September 30, 1998. May 16, 2001 to current year.

GAGE.--Water stage recorder. Datum of gage is 835 ft above NGVD of 1929, from map.

REMARKS.--Records good except those for estimated daily discharges, which is poor. U.S. Geological Survey rain gage and data collection platform with satellite and telephone modem telemetry at station. Precipitation records are not published, but are available.

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	14	17	48	e32	e21	256	280	168	860	234	82	50
2	14	22	42	e30	e25	248	255	162	698	225	90	48
3	15	50	40	e26	e21	205	235	153	660	234	103	45
4	16	346	40	e24	e20	177	218	150	566	245	179	44
5	15	336	44	e25	e24	798	208	145	525	225	219	43
6	14	155	41	e30	e25	968	197	140	490	232	154	49
7	15	106	40	e26	e22	476	186	141	450	220	124	45
8	15	82	40	e26	e23	344	179	138	414	207	109	41
9	15	76	42	e24	e25	290	169	138	383	200	99	40
10	14	67	42	e23	e23	255	160	135	371	197	89	39
11	16	64	e25	e27	e23	234	155	129	372	192	82	38
12	18	58	e22	e31	e22	207	153	145	572	216	78	36
13	19	49	e19	e31	e21	203	146	389	491	203	74	36
14	24	46	e20	e31	e21	190	146	327	490	183	71	34
15	24	46	e25	e26	e21	174	143	277	459	172	68	34
16	22	45	e31	e32	e21	169	138	241	603	165	67	35
17	19	43	e30	e36	e21	168	141	222	1,050	170	74	33
18	18	49	e26	e43	e21	174	139	236	516	162	73	33
19	18	48	e27	e33	e33	203	134	220	425	150	69	33
20	18	45	e25	e24	e188	222	134	208	383	142	65	32
21	17	43	e29	e27	e991	204	182	251	395	137	60	31
22	16	41	e29	e32	e712	192	235	1,060	396	131	57	31
23	16	46	e29	e25	e560	188	219	8,360	343	125	55	33
24	17	37	e26	e25	e469	244	202	4,430	323	118	56	32
25	19	44	e30	e25	e314	304	208	3,390	314	112	56	31
26	18	49	e32	e25	e281	329	201	3,020	291	108	56	31
27	18	50	e38	e24	e286	346	197	1,670	276	102	60	30
28	19	43	e49	e23	300	342	195	974	274	94	76	30
29	18	31	e61	e21	269	352	185	873	259	91	71	29
30	18	53	e45	e20	---	341	173	1,150	245	88	60	29
31	18	---	e35	e20	---	307	---	1,170	---	86	53	---
TOTAL	537	2,187	1,072	847	4,803	9,110	5,513	30,212	13,894	5,166	2,629	1,095
MEAN	17.3	72.9	34.6	27.3	166	294	184	975	463	167	84.8	36.5
MAX	24	346	61	43	991	968	280	8,360	1,050	245	219	50
MIN	14	17	19	20	20	168	134	129	245	86	53	29
AC-FT	1,070	4,340	2,130	1,680	9,530	18,070	10,940	59,930	27,560	10,250	5,210	2,170
CFSM	0.06	0.24	0.12	0.09	0.55	0.98	0.61	3.26	1.55	0.56	0.28	0.12
IN.	0.07	0.27	0.13	0.11	0.60	1.13	0.69	3.76	1.73	0.64	0.33	0.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2004, BY WATER YEAR (WY)

MEAN	89.6	61.3	52.0	40.0	177	181	197	400	540	208	75.4	36.5
MAX	267	101	119	92.6	513	440	695	975	1,773	584	163	62.9
(WY)	(1999)	(1997)	(1998)	(1998)	(1997)	(1998)	(1998)	(2004)	(1998)	(1998)	(1998)	(1998)
MIN	17.3	29.6	17.2	13.4	21.0	34.5	43.7	121	116	52.5	44.6	20.3
(WY)	(2004)	(2002)	(1996)	(2002)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2003)