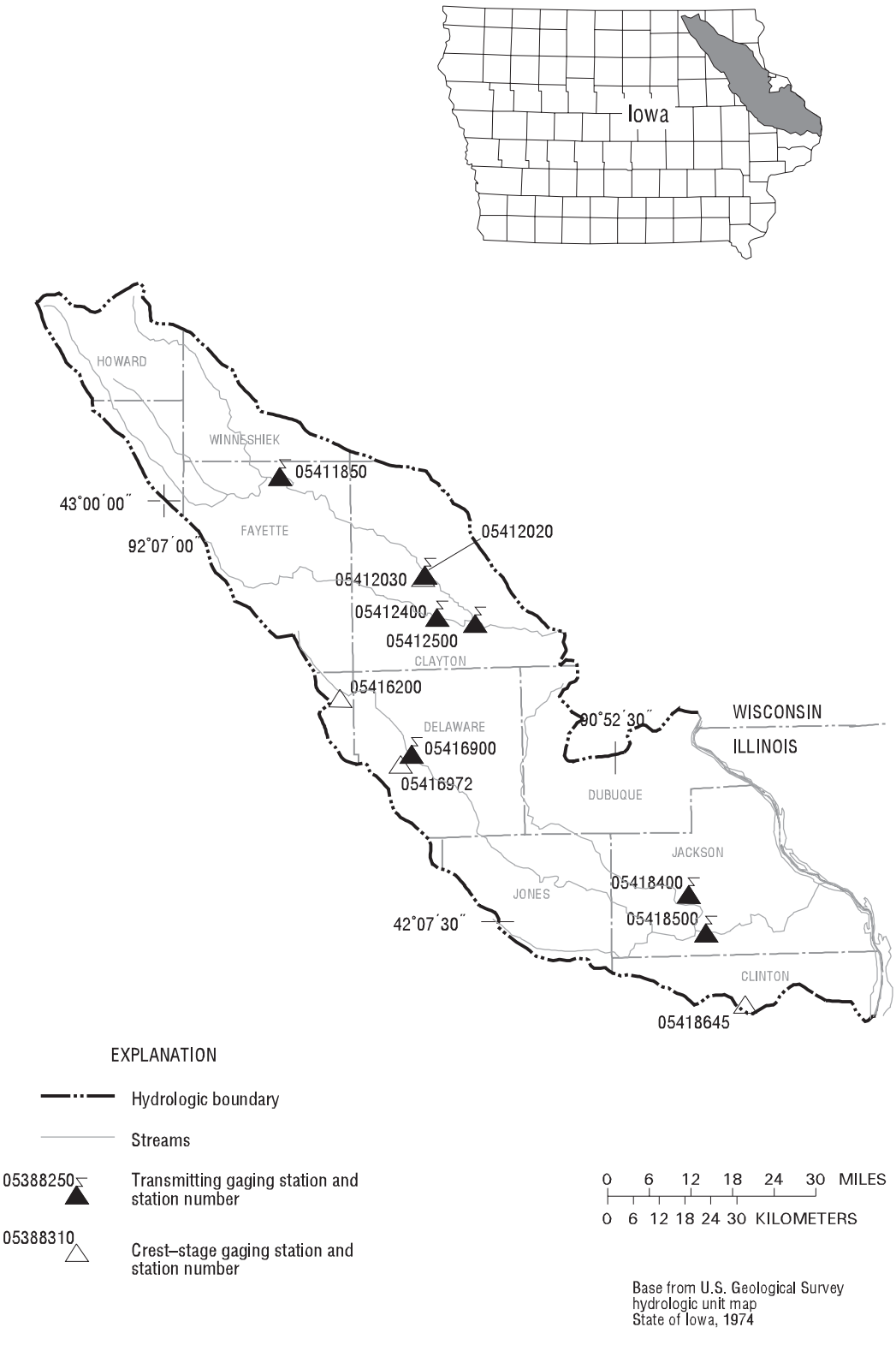

Iowa
HOWARD
WINNESHIEK
05411850
43°00′00″
FAYETTE
92°07′00″
05412020
05412030
05412400
05412500
CLAYTON
05416200
DELAWARE
05416900
05416972
90°52′30″
WISCONSIN
ILLINOIS
DUBUQUE
JACKSON
05418400
JONES
05418500
42°07′30″
CLINTON
05418645
EXPLANATION
Hydrologic boundary
Streams
05388250
Transmitting gaging station and station number
05388310
Crest–stage gaging station and station number
0 6 12 18 24 30 MILES
0 6 12 18 24 30 KILOMETERS
Base from U.S. Geological Survey hydrologic unit map State of Iowa, 1974

Gaging Stations

Crest Stage Gaging Stations

05411850 TURKEY RIVER NEAR ELDORADO, IA

LOCATION.--Lat 43°03'15", long 91°48'32", in NW¼ SE¼ SE¼ sec.8, T.95 N., R.8 W., Fayette County, Hydrologic Unit 07060004, on left bank 5 ft. downstream of bridge on County Highway B40, 3.6 miles downstream of confluence with the Little Turkey River, 3.4 upstream of Dry Branch Creek, and 1.4 miles east of Eldorado.

DRAINAGE AREA.--641 mi^2.

PERIOD OF RECORD.--September 27, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 890.00 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 15, 1991, gage height 18.78 ft, discharge 17,600; flood discharge at downstream site at Garber was 49,900 ft^3/s; flood of May 19, 1999 at downstream site at Garber was 53,900 ft^3/s, gage height 30.91 ft. This is the highest known flood in the basin.

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	57	61	68	74	e32	e508	513	268	3,050	568	538	210
2	57	63	85	78	e33	e531	455	244	2,340	532	583	197
3	58	73	88	80	e32	e561	414	224	1,940	511	594	186
4	58	117	98	e52	e28	e622	374	213	1,680	682	644	179
5	59	103	75	e45	e32	e1,800	345	202	1,500	1,660	644	173
6	59	91	78	e39	e39	2,500	322	198	1,400	9,480	592	209
7	59	80	77	e49	e35	1,470	289	189	1,280	6,680	525	266
8	59	64	74	e47	e31	685	263	197	1,170	2,700	483	255
9	57	61	74	e42	e33	496	241	206	1,100	2,000	526	208
10	57	77	69	e35	e36	416	220	315	1,480	3,620	512	189
11	57	79	e47	e37	e38	358	206	604	1,500	3,790	538	179
12	60	74	e43	e39	e37	254	199	750	1,600	5,560	474	173
13	58	67	e48	e39	e30	277	189	965	1,570	3,900	432	167
14	62	66	e50	e35	e33	264	179	1,270	1,390	2,350	400	171
15	65	70	e51	e28	e30	221	179	1,370	1,230	1,780	360	202
16	64	71	e50	e35	e33	195	176	879	1,630	1,480	340	191
17	62	69	e42	e35	e32	186	179	719	1,680	1,290	329	258
18	60	88	e46	e25	e37	182	177	704	2,180	1,110	313	263
19	60	94	e44	e29	e41	175	206	599	2,090	1,020	304	220
20	60	86	e38	e36	e108	172	218	532	1,370	925	285	190
21	58	81	e48	e36	e140	167	301	2,040	1,260	1,210	265	180
22	57	79	e44	e26	e120	165	319	17,500	1,180	1,350	234	171
23	56	80	e42	e31	e134	164	315	17,800	1,030	1,210	223	168
24	57	69	e39	e29	e161	182	298	9,690	944	1,020	225	167
25	58	65	e57	e26	e147	240	309	5,420	874	896	235	163
26	57	84	e66	e27	e179	1,420	317	3,840	793	803	227	161
27	57	88	78	e27	e224	1,230	325	2,840	731	726	355	159
28	62	75	81	e25	e294	877	341	2,250	691	656	311	156
29	61	73	78	e25	e381	793	319	4,180	649	656	269	153
30	61	79	76	e26	---	697	293	6,720	601	587	245	153
31	63	---	77	e26	---	591	---	4,690	---	563	222	---
MEAN	59.2	77.6	62.3	38.2	87.2	594	283	2,826	1,398	1,978	394	191
MAX	65	117	98	80	381	2,500	513	17,800	3,050	9,480	644	266
MIN	56	61	38	25	28	164	176	189	601	511	222	153
AC-FT	3,640	4,620	3,830	2,350	5,020	36,490	16,820	173,800	83,170	121,600	24,250	11,340
CFSM	0.09	0.12	0.10	0.06	0.14	0.93	0.44	4.41	2.18	3.09	0.62	0.30
IN.	0.11	0.14	0.11	0.07	0.15	1.07	0.49	5.08	2.43	3.56	0.71	0.33

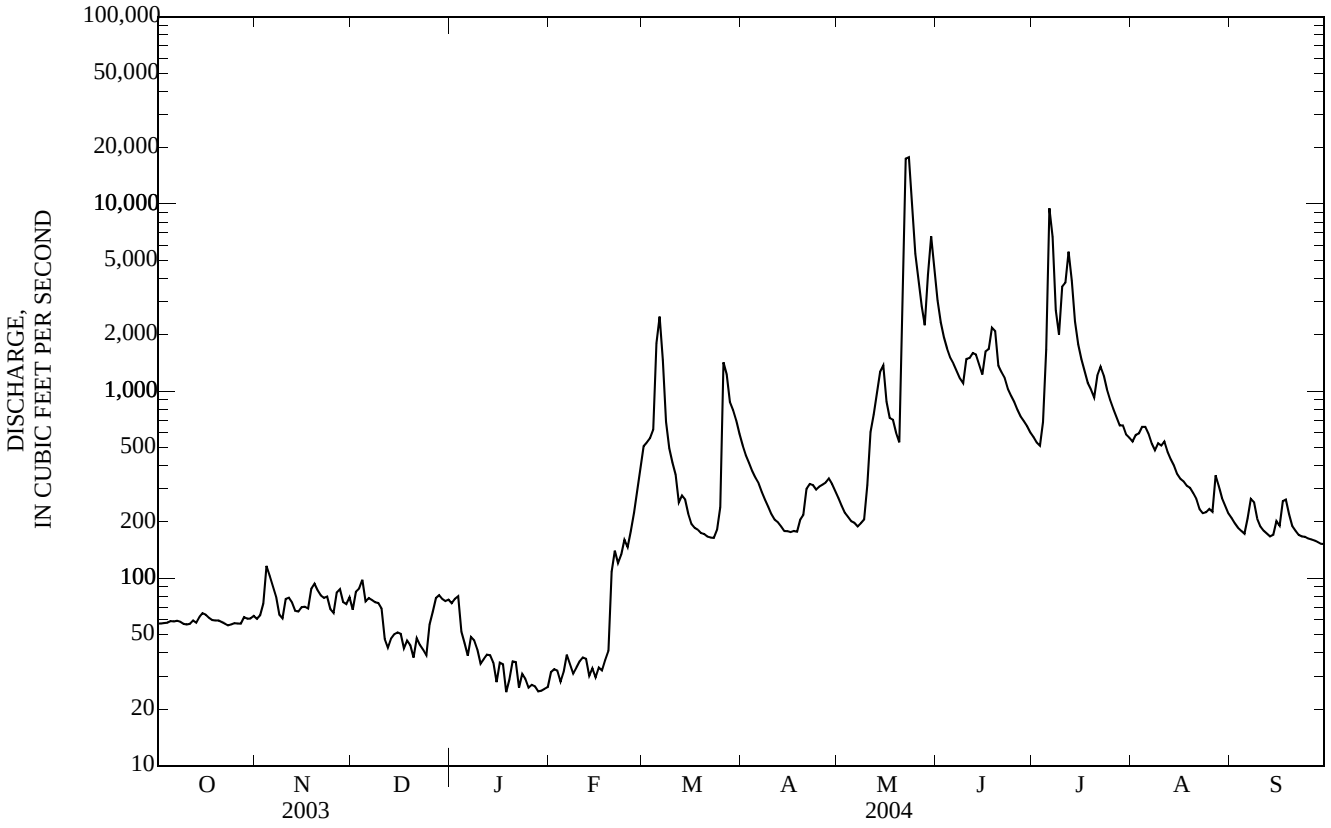
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2004, BY WATER YEAR (WY)

MEAN	136	153	105	79.5	116	449	916	1,496	721	683	231	143
MAX	188	270	147	123	182	883	2,764	2,826	1,398	1,978	394	196
(WY)	(2002)	(2001)	(2002)	(2001)	(2001)	(2001)	(2001)	(2004)	(2004)	(2004)	(2004)	(2001)
MIN	59.2	77.6	62.3	38.2	44.1	144	277	526	286	229	93.6	61.8
(WY)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2002)	(2003)	(2001)	(2003)	(2003)

05411850 TURKEY RIVER NEAR ELDORADO, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2000 - 2004	
ANNUAL MEAN	188		671		438	
HIGHEST ANNUAL MEAN					671	2004
LOWEST ANNUAL MEAN					199	2003
HIGHEST DAILY MEAN	1,930	May 11	17,800	May 23	17,800	May 23, 2004
LOWEST DAILY MEAN	36	Jan 23	25	Jan 18 a	25	Jan 18, 2004 a
ANNUAL SEVEN-DAY MINIMUM	38	Feb 7	26	Jan 25	26	Jan 25, 2004
MAXIMUM PEAK FLOW			19,700	May 23	19,700	May 23, 2004
MAXIMUM PEAK STAGE			19.61	May 23	19.61	May 23, 2004
ANNUAL RUNOFF (AC-FT)	136,100		486,900		317,000	
ANNUAL RUNOFF (CFSM)	0.293		1.05		0.683	
ANNUAL RUNOFF (INCHES)	3.98		14.25		9.27	
10 PERCENT EXCEEDS	402		1,490		932	
50 PERCENT EXCEEDS	79		190		165	
90 PERCENT EXCEEDS	43		38		59	

a Ice affected; Also January 28,29.
e Estimated.



05412020 TURKEY RIVER ABOVE FRENCH HOLLOW CREEK AT ELKADER, IA

LOCATION.--Lat 42°50'36", long 91°24'04", in NW¼ SE¼ sec.26, T.93 N., R.05 W., Clayton County, Hydrologic Unit 07060004, on left bank 5 ft. downstream of bridge on State Highway 13, and 100 ft upstream of the mouth of French Hollow Creek.

DRAINAGE AREA.--903 mi^2.

PERIOD OF RECORD.--August 28, 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 694.93 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 15, 1991, gage height 27.32 ft. and discharge 38,300cfs; flood discharge at downstream site at Garber was 49,900 ft^3/s; flood of May 19, 1999 at downstream site at Garber was 53,900 ft^3/s, gage height 30.91 ft. This is the highest known flood in the basin.

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	122	107	128	123	71	871	883	382	4,780	805	838	427
2	118	116	105	141	71	886	774	352	3,680	760	910	410
3	117	144	110	134	68	892	689	333	e3,210	733	1,000	397
4	119	278	121	95	66	957	626	318	2,740	723	1,060	382
5	117	233	125	90	69	3,180	573	305	2,420	933	895	370
6	123	197	131	80	71	3,040	535	297	2,220	8,820	855	372
7	124	174	125	89	70	2,200	502	288	2,000	9,890	788	401
8	123	153	126	93	67	1,430	471	289	1,800	4,140	730	445
9	121	135	129	89	69	909	440	297	1,650	2,670	719	437
10	117	132	131	86	70	729	413	310	1,980	2,980	703	406
11	115	143	87	91	71	621	390	392	2,770	4,930	706	375
12	115	146	87	95	70	500	370	718	2,320	6,370	707	360
13	118	138	100	96	68	436	356	851	2,270	5,410	656	346
14	123	130	100	95	69	467	342	1,180	2,050	3,320	623	335
15	119	129	100	81	66	424	325	1,450	1,810	2,400	596	342
16	118	130	105	99	67	384	314	1,300	1,740	2,090	570	363
17	120	131	94	96	66	357	317	1,010	3,000	1,890	555	355
18	120	147	102	70	69	344	308	976	2,450	1,640	533	405
19	120	156	97	74	72	331	318	880	2,670	1,500	512	407
20	116	163	84	85	174	320	343	772	2,380	1,440	496	376
21	117	155	107	82	195	303	399	839	1,950	1,660	476	348
22	119	146	101	63	157	292	429	12,000	1,870	1,840	461	330
23	116	153	104	73	180	289	431	26,200	e1,600	1,680	454	322
24	118	143	90	72	214	327	420	20,100	e1,410	1,520	454	317
25	117	120	128	67	187	385	412	9,480	e1,270	1,350	455	308
26	117	119	110	67	228	1,700	407	5,440	e1,160	1,220	462	300
27	114	129	113	67	326	2,060	398	3,970	e1,070	1,120	690	298
28	115	138	128	61	500	1,560	410	3,120	e1,000	1,010	606	293
29	113	113	123	60	752	1,320	414	3,820	e950	941	523	287
30	110	123	115	62	---	1,190	396	8,590	875	955	483	285
31	109	---	127	67	---	1,040	---	8,070	---	867	446	---
TOTAL	3,650	4,421	3,433	2,643	4,223	29,744	13,405	114,329	63,095	77,607	19,962	10,799
MEAN	118	147	111	85.3	146	959	447	3,688	2,103	2,503	644	360
MAX	124	278	131	141	752	3,180	883	26,200	4,780	9,890	1,060	445
MIN	109	107	84	60	66	289	308	288	875	723	446	285
AC-FT	7,240	8,770	6,810	5,240	8,380	59,000	26,590	226,800	125,100	153,900	39,590	21,420
CFSM	0.13	0.16	0.12	0.09	0.16	1.06	0.49	4.08	2.33	2.77	0.71	0.40
IN.	0.15	0.18	0.14	0.11	0.17	1.23	0.55	4.71	2.60	3.20	0.82	0.44

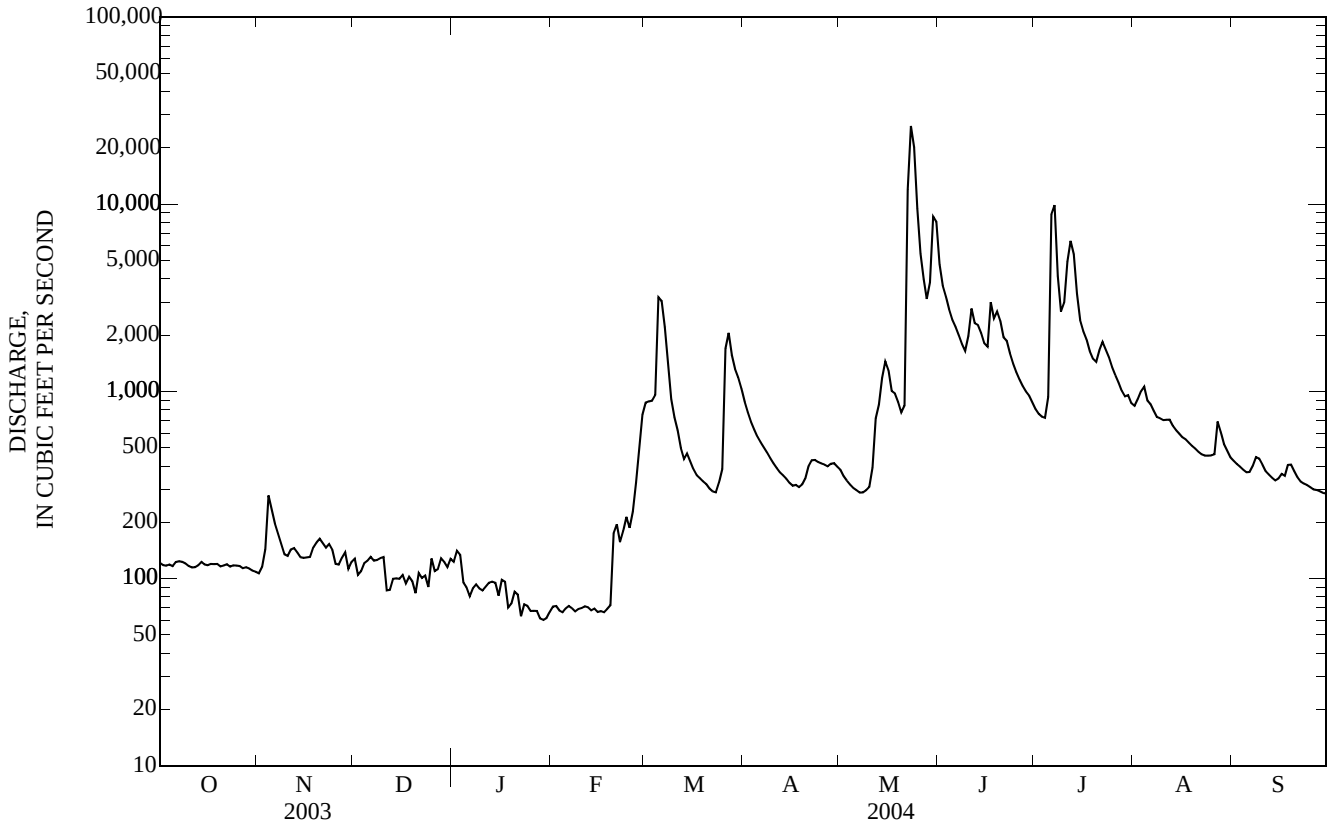
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2004, BY WATER YEAR (WY)

MEAN	238	208	183	130	175	503	441	1,851	1,129	1,110	458	236
MAX	380	294	295	218	303	959	530	3,688	2,103	2,503	644	360
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2004)	(2002)	(2004)	(2004)	(2004)	(2004)	(2004)
MIN	118	147	111	85.3	77.8	212	346	721	462	388	175	125
(WY)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2002)	(2003)	(2002)	(2003)	(2003)

05412020 TURKEY RIVER ABOVE FRENCH HOLLOW CREEK AT ELKADER, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2001 - 2004	
ANNUAL TOTAL	105,408		347,311			
ANNUAL MEAN	289		949		559	
HIGHEST ANNUAL MEAN					949	2004
LOWEST ANNUAL MEAN					303	2003
HIGHEST DAILY MEAN	2,820	May 11	26,200	May 23	26,200	May 23, 2004
LOWEST DAILY MEAN	53	Jan 23	60	Jan 29	53	Jan 23, 2003 a
ANNUAL SEVEN-DAY MINIMUM	56	Jan 21	64	Jan 25	56	Jan 21, 2003 a
MAXIMUM PEAK FLOW			33,300	May 23	33,300	May 23, 2004
MAXIMUM PEAK STAGE			25.57	May 23	25.57	May 23, 2004
ANNUAL RUNOFF (AC-FT)	209,100		688,900		404,700	
ANNUAL RUNOFF (CFSM)	0.320		1.05		0.619	
ANNUAL RUNOFF (INCHES)	4.34		14.31		8.41	
10 PERCENT EXCEEDS	590		2,120		951	
50 PERCENT EXCEEDS	144		345		289	
90 PERCENT EXCEEDS	74		86		100	

a Ice affected
e Estimated



05412400 VOLGA RIVER AT LITTLEPORT, IA

LOCATION.--Lat 42°45'15", long 91°22'10", in NE¼ NE¼ SE¼ sec.25, T.92 N., R.5 W., Clayton County, Hydrologic Unit 07060004, on left bank 10 ft. downstream of bridge on County Highway X21, 6 miles upstream of confluence with the Turkey River, and 8.0 miles southeast of Elkader.

DRAINAGE AREA.--348 mi^2.

PERIOD OF RECORD.--September 1957 to July 1977 as miscellaneous low-flow site. September 19, 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 677.00 ft. above NGVD of 1929.

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 May 17, 1999 reached a stage of 25.36 ft, approximate discharge 30,000 cfs. (from indirect measurement at Mederville, 2.5 miles upstream of Littleport)

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	53	44	55	52	e45	560	456	177	2,240	332	248	176
2	52	48	53	58	e45	474	399	169	1,420	311	275	164
3	52	78	54	56	e44	338	350	163	1,110	295	396	152
4	50	312	53	e40	e42	247	309	157	916	289	387	143
5	50	192	56	e39	e44	1,340	279	155	796	307	317	136
6	49	141	54	e44	e46	1,340	256	156	748	5,850	273	135
7	48	101	54	e43	e45	703	240	155	644	2,410	249	132
8	48	77	55	e41	e43	461	225	151	564	1,400	232	126
9	47	66	55	e40	e44	356	208	145	510	1,110	293	123
10	47	64	59	e41	e45	303	194	147	998	948	272	120
11	47	64	e44	e47	e46	273	183	141	2,000	1,270	237	116
12	49	63	e39	e52	e46	238	175	137	1,400	e1,870	217	112
13	47	64	e37	e51	e44	223	169	156	1,040	e1,290	200	110
14	50	62	e36	e47	e45	232	163	342	883	e875	189	108
15	48	62	e46	e39	e41	215	159	451	737	e654	178	106
16	46	62	e52	e47	e43	201	155	369	786	565	173	102
17	47	61	e48	e46	e44	195	165	327	2,430	543	186	99
18	47	76	e46	e36	e45	198	161	398	1,510	458	175	98
19	46	82	e42	e40	e45	201	159	496	1,030	412	165	94
20	46	68	e40	e48	e55	207	165	422	840	377	155	90
21	45	66	e46	e47	e104	206	195	409	759	522	148	88
22	45	63	e45	e40	e100	202	214	3,090	795	526	144	88
23	45	76	e44	e45	e125	198	219	13,600	687	449	142	87
24	45	76	e40	e44	e166	239	207	4,990	614	392	140	89
25	47	62	e45	e42	e127	299	207	2,020	556	350	140	85
26	46	60	e49	e42	e232	817	205	1,530	500	319	139	84
27	47	59	58	e42	e367	1,360	192	1,130	454	295	327	84
28	47	56	64	e40	e422	958	183	876	422	275	300	83
29	47	55	61	e39	e523	789	183	3,240	387	266	256	77
30	46	56	57	e41	---	648	180	3,910	356	257	215	78
31	45	---	56	e43	---	536	---	4,470	---	249	190	---
TOTAL	1,474	2,416	1,543	1,372	3,063	14,557	6,555	44,079	28,132	25,466	6,958	3,285
MEAN	47.5	80.5	49.8	44.3	106	470	218	1,422	938	821	224	110
MAX	53	312	64	58	523	1,360	456	13,600	2,430	5,850	396	176
MIN	45	44	36	36	41	195	155	137	356	249	139	77
AC-FT	2,920	4,790	3,060	2,720	6,080	28,870	13,000	87,430	55,800	50,510	13,800	6,520
CFSM	0.14	0.23	0.14	0.13	0.30	1.35	0.63	4.09	2.69	2.36	0.64	0.31
IN.	0.16	0.26	0.16	0.15	0.33	1.56	0.70	4.71	3.01	2.72	0.74	0.35

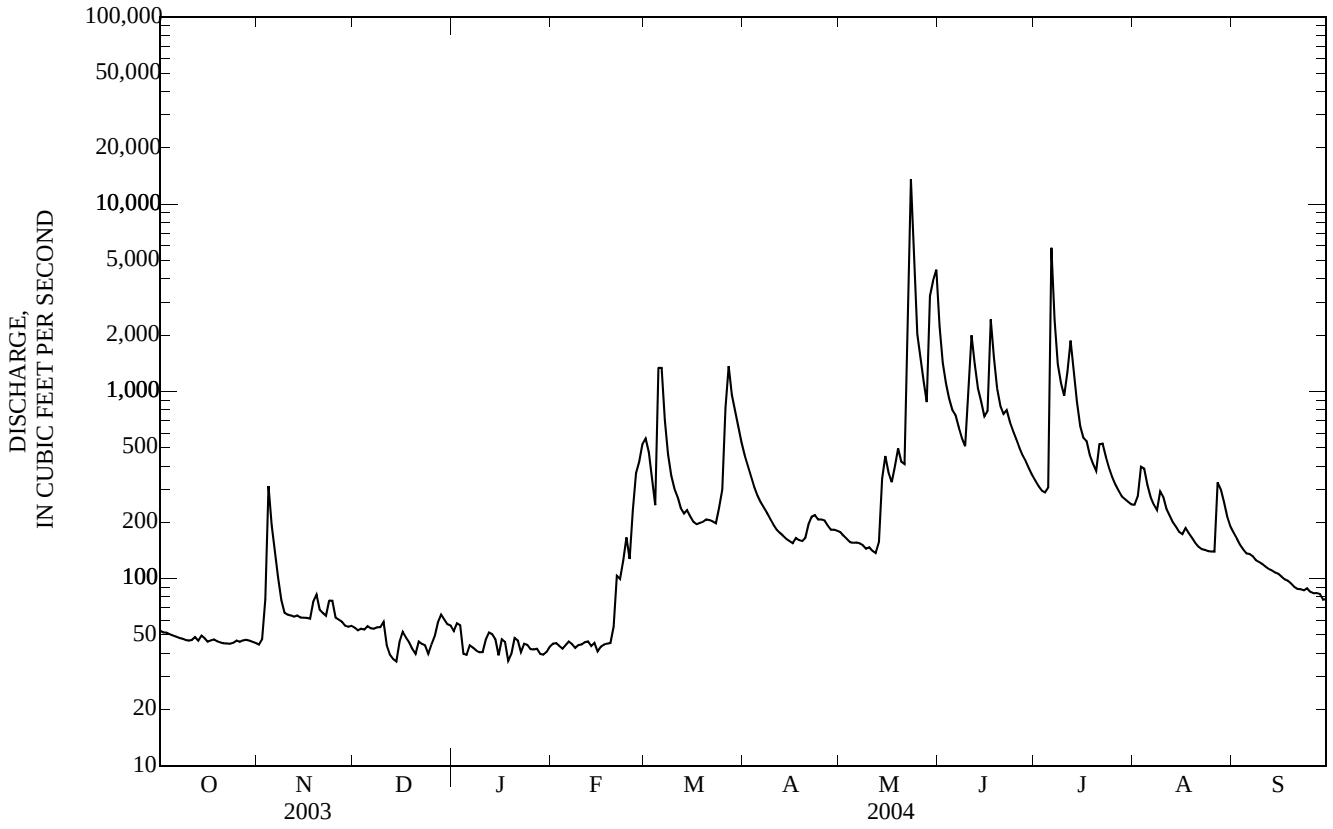
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2004, BY WATER YEAR (WY)

MEAN	102	104	74.1	53.8	113	306	286	628	521	378	134	112
MAX	186	144	150	89.2	175	649	590	1,422	938	821	224	246
(WY)	(2002)	(2002)	(2002)	(2002)	(2000)	(2001)	(2001)	(2004)	(2004)	(2004)	(2004)	(2001)
MIN	47.5	68.4	43.7	30.4	42.6	81.0	103	270	180	121	63.5	52.2
(WY)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2000)	(2003)	(2002)	(2003)	(2003)

05412400 VOLGA RIVER AT LITTLEPORT, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2000 - 2004	
ANNUAL TOTAL	49,259		138,900			
ANNUAL MEAN	135		380		235	
HIGHEST ANNUAL MEAN					380	2004
LOWEST ANNUAL MEAN					138	2003
HIGHEST DAILY MEAN	1,570	Jul 9	13,600	May 23	13,600	May 23, 2004
LOWEST DAILY MEAN	20	Jan 22	36	Dec 14 a	20	Jan 22, 2003
ANNUAL SEVEN-DAY MINIMUM	22	Jan 17	41	Jan 4	22	Jan 17, 2003
MAXIMUM PEAK FLOW			21,000	May 23	21,000	May 23, 2004
MAXIMUM PEAK STAGE			21.98	May 23	21.98	May 23, 2004
ANNUAL RUNOFF (AC-FT)	97,710		275,500		170,100	
ANNUAL RUNOFF (CFSM)	0.388		1.09		0.675	
ANNUAL RUNOFF (INCHES)	5.27		14.85		9.17	
10 PERCENT EXCEEDS	271		824		485	
50 PERCENT EXCEEDS	60		152		123	
90 PERCENT EXCEEDS	37		44		46	

a also January 18, Ice affected.
e Estimated



05412500 TURKEY RIVER AT GARBER, IA

LOCATION.--Lat 42°44'24", long 91°15'42", in SE¼ NW¼ sec.36, T.92 N., R.4 W., Clayton County, Hydrologic Unit 07060004, on right bank 10 ft. upstream from bridge on county highway C43, 800 ft. upstream from Wayman Creek, 1,000 ft. southeast of Garber, 2,000 ft. downstream from Elk Creek, 1 mi downstream from Volga River, and 21.2 mi upstream from mouth.

DRAINAGE AREA.--1,545 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1913 to November 1916, May 1919 to September 1927, April 1929 to September 1930, October 1932 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1922-25 (M), 1927 (M). WSP 1438: Drainage area; WDR IA-95-1: location.

GAGE.--Water-stage recorder. Datum of gage is 634.46 ft. above NGVD of 1929. Prior to Feb. 7, 1935, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers rain gage and data collection platform with satellite telemetry at station. Precipitation records are available online at the U.S. Army Corps of Engineers website: www2.mvr.usace.army.mil/WaterControl/datamining2.cfm.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, that of May 17, 1999.

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	204	212	302	e235	e159	2,160	1,580	631	8,590	1,520	1,160	664
2	201	238	283	e246	e155	2,050	1,360	601	6,040	1,450	1,170	636
3	203	360	263	e228	e150	1,760	1,240	573	4,870	1,390	1,440	610
4	207	1,440	276	e185	e155	1,680	1,130	552	4,130	1,340	1,510	584
5	206	745	291	e175	e162	5,320	1,030	534	3,660	1,390	1,370	566
6	203	546	296	e161	e169	5,350	966	523	3,380	10,500	1,250	553
7	203	449	287	e160	e169	3,530	910	522	3,080	e11,700	1,160	567
8	204	384	288	e175	e166	2,610	861	525	2,810	6,500	1,070	576
9	201	340	285	e165	e169	1,760	804	519	2,560	4,490	1,090	596
10	198	324	314	e161	e170	1,320	757	550	2,960	4,110	1,080	560
11	200	329	245	e167	e199	1,160	714	574	5,000	5,740	1,010	536
12	213	324	e253	e172	e205	979	683	730	4,060	7,570	1,000	514
13	208	307	e254	e177	e226	893	655	1,040	3,520	6,590	943	496
14	237	289	e256	e177	e226	905	635	1,310	3,250	4,530	891	480
15	223	284	e256	e179	e236	851	618	1,720	2,860	3,390	842	474
16	213	277	e263	e161	e243	792	603	1,730	2,840	2,910	815	489
17	211	273	e257	e175	e233	753	619	1,410	5,360	2,780	826	481
18	214	297	e259	e165	e250	744	599	1,410	4,050	2,350	801	499
19	214	325	e254	e149	e260	732	589	1,450	3,670	2,090	767	522
20	210	314	e236	e152	e451	722	610	1,290	3,330	1,940	735	492
21	207	307	e265	e162	e1,050	691	682	1,270	2,830	2,110	709	464
22	207	293	e261	e160	e967	663	726	14,900	2,880	2,480	687	443
23	206	343	e259	e148	e1,030	646	740	52,200	2,540	2,200	673	429
24	210	337	e236	e155	e1,090	743	718	31,100	2,310	1,970	667	424
25	218	e277	e248	e157	e1,060	867	706	14,800	2,220	1,760	663	411
26	213	e290	e241	e151	e1,100	2,390	695	8,570	2,050	1,620	659	400
27	214	318	e242	e153	e1,320	3,680	674	6,480	1,910	1,500	976	394
28	219	325	e257	e142	e1,670	2,700	663	5,170	1,810	1,390	982	384
29	220	312	e248	e144	e2,000	2,220	666	7,090	1,700	1,310	866	379
30	221	290	e240	e144	---	2,060	648	12,900	1,600	1,300	767	387
31	218	---	e251	e149	---	1,820	---	14,500	---	1,210	703	---
TOTAL	6,526	11,149	8,166	5,230	15,440	54,551	23,881	187,174	101,870	103,130	29,282	15,010
MEAN	211	372	263	169	532	1,760	796	6,038	3,396	3,327	945	500
MAX	237	1,440	314	246	2,000	5,350	1,580	52,200	8,590	11,700	1,510	664
MIN	198	212	236	142	150	646	589	519	1,600	1,210	659	379
AC-FT	12,940	22,110	16,200	10,370	30,630	108,200	47,370	371,300	202,100	204,600	58,080	29,770
CFSM	0.14	0.24	0.17	0.11	0.34	1.14	0.52	3.91	2.20	2.15	0.61	0.32
IN.	0.16	0.27	0.20	0.13	0.37	1.31	0.57	4.51	2.45	2.48	0.71	0.36

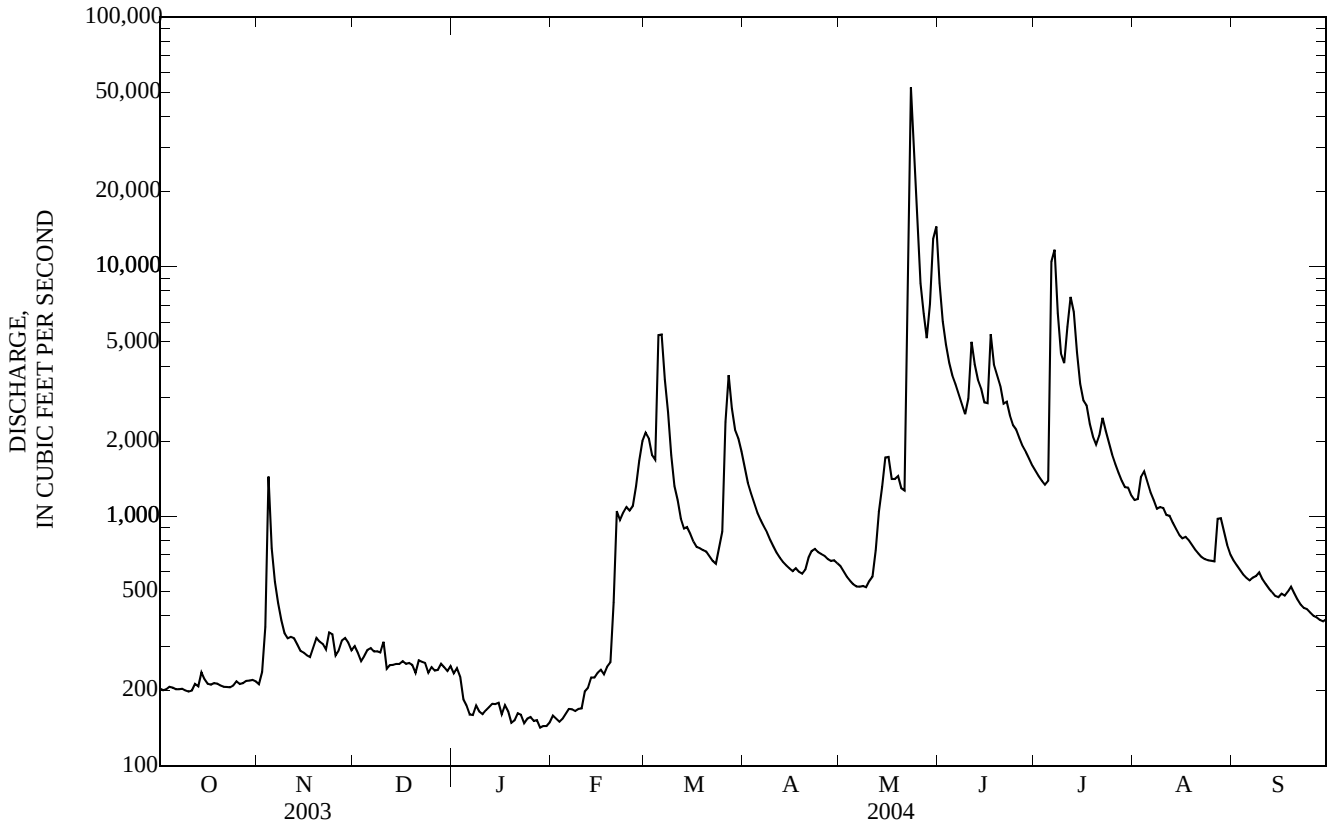
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2004, BY WATER YEAR (WY)

MEAN	569	610	475	498	811	1,988	1,710	1,425	1,438	1,016	849	632
MAX	2,527	2,834	2,889	3,306	4,265	4,832	6,382	6,038	5,316	5,772	5,119	3,011
(WY)	(1987)	(1962)	(1983)	(1916)	(1922)	(1979)	(1951)	(2004)	(1947)	(1993)	(1993)	(1938)
MIN	88.2	92.2	78.5	62.0	60.9	188	288	95.7	103	121	140	108
(WY)	(1950)	(1950)	(1959)	(1940)	(1959)	(1934)	(1957)	(1934)	(1934)	(1936)	(1964)	(1958)

05412500 TURKEY RIVER AT GARBER, IA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1913 - 2004	
ANNUAL TOTAL	207,785		561,409			
ANNUAL MEAN	569		1,534		1,006	
HIGHEST ANNUAL MEAN					2,905	1993
LOWEST ANNUAL MEAN					249	1934
HIGHEST DAILY MEAN	6,450	May 11	52,200	May 23	52,200	May 23, 2004
LOWEST DAILY MEAN	172	Jan 22	142	Jan 28 a	49	Jan 28, 1940
ANNUAL SEVEN-DAY MINIMUM	180	Jan 16	149	Jan 25	51	Jan 25, 1940
MAXIMUM PEAK FLOW			66,700	May 23	66,700	May 23, 2004
MAXIMUM PEAK STAGE			32.80	May 23	32.80	May 23, 2004
ANNUAL RUNOFF (AC-FT)	412,100		1,114,000		728,500	
ANNUAL RUNOFF (CFSM)	0.368		0.993		0.651	
ANNUAL RUNOFF (INCHES)	5.00		13.52		8.84	
10 PERCENT EXCEEDS	1,040		3,340		2,130	
50 PERCENT EXCEEDS	307		614		530	
90 PERCENT EXCEEDS	200		178		171	

a Ice affected
e Estimated



05412500 TURKEY RIVER AT GARBER, IA—Continued

(Large river mass contaminents 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 unf lab, 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)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)
MAR													
15...	1100	853	160	12	742	13.2	99	8.2	575	2.3	229	279	18.6
APR													
20...	0950	594	145	3.4	740	11.8	114	8.1	541	12.4	257	314	20.2
MAY													
19...	1200	1,510	160	84	--	9.4	--	8.1	525	18.1	--	208	26.0
24...	1100	28,800	260	710	--	--	--	--	--	--	42	52	9.72
JUN													
10...	1000	3,060	180	1,100	744	7.2	83	7.8	506	20.9	--	210	15.9
JUL													
21...	1130	2,030	180	130	--	8.2	--	8.2	560	22.5	219	267	17.9
AUG													
17...	1445	830	170	9.9	--	10.4	--	8.3	594	19.7	240	293	17.6
SEP													
14...	1300	476	165	12	--	9.9	--	8.3	584	21.0	--	302	19.0

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

Date	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 anal ysis, mg/L (62854)	Total nitrogen, wat unf by anal ysis, mg/L (62855)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)
MAR													
15...	11.3	29.7	.12	6.11	.014	.11	.104	.123	.151	6.37	6.76	1.1	<.1
APR													
20...	2.7	28.8	<.04	5.00	.022	.24	.013	.022	.065	5.04	5.60	1.3	<.1
MAY													
19...	9.2	20.2	.04	12.8	.037	.68	.088	.102	.36	12.5	12.9	6.4	.2
24...	8.8	9.0	.14	9.16	.077	3.22	.153	.166	1.52	9.42	11.5	29.9	.4
JUN													
10...	8.3	17.5	E.03	8.69	.029	2.03	.102	.118	1.80	9.19	13.2	18.7	<.1
JUL													
21...	11.5	22.6	<.04	9.16	.010	.48	.090	.102	.38	9.79	10.9	4.7	.3
AUG													
17...	7.6	25.0	<.04	7.32	.008	.15	.043	.056	.099	6.99	7.64	1.4	<.1
SEP													
14...	8.2	26.2	<.04	5.54	.014	.24	.028	.035	.092	5.63	6.00	1.7	<.1

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

Date	Organic carbon, suspnd sedimnt 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-Diethylaniline 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)	Butylate, water, fltrd, ug/L (04028)
MAR													
15...	1.1	4.0	.9	1.3	<.006	E.051	.038	<.007	<.005	.104	<.050	<.010	<.004
APR													
20...	1.3	2.5	9.7	16.3	<.006	E.058	.029	<.005	<.005	.125	<.050	<.010	<.004
MAY													
19...	6.2	3.1	12.2	9.2	<.006	E.184	2.48	.014	<.005	5.60	<.050	<.010	<.004
24...	29.4	6.3	8.8	4.4	<.006	E.475	4.85	.147	<.005	7.11	<.050	<.010	<.013
JUN													
10...	18.6	4.7	14.1	16.9	<.006	E.166	.336	.008	<.005	1.94	<.050	<.010	<.004
JUL													
21...	4.4	2.2	3.6	5.6	<.006	E.091	.019	<.005	<.005	.264	<.050	<.010	<.004
AUG													
17...	1.3	1.6	1.8	3.3	<.006	E.112	.016	<.005	<.005	.189	<.050	<.010	<.004
SEP													
14...	1.7	.9	9.6	12.3	<.006	E.078	.008	<.005	<.005	.147	<.050	<.010	<.004

05412500 TURKEY RIVER AT GARBER, IA—Continued

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

Date	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)	Desulfinyl 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)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)
MAR													
15...	<.041	<.020	<.005	<.006	<.018	<.003	<.012	.008	<.009	<.02	<.004	<.009	<.005
APR													
20...	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009	<.005
MAY													
19...	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	E.002	<.009	<.005
24...	<.041	<.020	.009	<.006	.021	<.003	<.012	<.005	<.009	<.02	<.004	<.009	<.005
JUN													
10...	<.041	E.016	.037	<.006	E.013	<.003	<.012	<.005	<.009	<.02	<.004	<.009	<.005
JUL													
21...	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009	<.005
AUG													
17...	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009	<.005
SEP													
14...	<.041	<.020	<.005	<.006	<.018	<.003	<.012	<.005	<.009	<.02	<.004	<.009	<.005

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

Date	Desulfinyl-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)	Napropamide, water, fltrd 0.7u GF ug/L (82684)
MAR													
15...	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.080	<.006	<.003	<.007
APR													
20...	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.031	<.006	<.003	<.007
MAY													
19...	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.594	.013	<.003	<.007
24...	<.029	<.013	E.007	E.013	<.003	<.004	<.035	<.027	<.015	.930	.029	<.004	<.007
JUN													
10...	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.415	<.006	<.003	<.007
JUL													
21...	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.025	<.006	<.003	<.007
AUG													
17...	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.019	<.006	<.003	<.007
SEP													
14...	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.015	<.006	<.003	<.007

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

Date	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)
MAR													
15...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
APR													
20...	<.003	<.010	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	<.010	<.02	<.034
MAY													
19...	<.003	<.010	<.004	<.022	<.011	M	<.004	<.025	<.011	<.02	.029	<.02	<.034
24...	<.010	<.010	<.004	E.011	<.011	.01	<.004	<.025	<.011	<.02	.046	.04	<.034
JUN													
10...	<.003	<.010	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.042	<.02	<.034
JUL													
21...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.010	<.02	<.034
AUG													
17...	<.003	<.010	<.004	<.022	<.011	.01	<.004	<.025	<.011	<.02	.011	<.02	<.034
SEP													
14...	<.003	<.010	<.004	<.022	<.011	M	<.004	<.025	<.011	<.02	<.010	<.02	<.034

05412500 TURKEY RIVER AT GARBER, IA—Continued

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

Date	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)	Suspended sediment concentration mg/L (80154)	Number of sampling points, count (00063)
MAR						
15...	<.02	<.010	<.002	<.009	31	11
APR						
20...	<.02	<.010	<.002	<.009	29	10
MAY						
19...	<.02	<.010	<.002	<.009	214	11
24...	<.02	<.010	<.002	<.009	1,720	11
JUN						
10...	<.02	<.010	<.002	<.009	1,570	11
JUL						
21...	<.02	<.010	<.002	<.009	432	11
AUG						
17...	<.02	<.010	<.002	<.009	83	11
SEP						
14...	<.02	<.010	<.002	<.009	59	11

05416900 MAQUOKETA RIVER AT MANCHESTER, IA

LOCATION.--Lat 42°28'12", long 91°26'54", in SW¼ SW¼ SW¼ sec.33, T.89 N., R.5 E., Delaware, Hydrologic Unit 07060006, on left bank, 10 feet downstream of east bound bridge of Highway 20, 1.5 miles upstream of Sand Creek, and 1.5 miles downstream of dam in Manchester.

DRAINAGE AREA.--275 mi^2.

PERIOD OF RECORD.--April 26, 2000 to December 16, 2002; June 23, 2003 to current year.

GAGE.--Water-stage recorder. Datum of gage is 895.00 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	62	63	180	e102	e70	479	464	158	2,470	e345	e135	81
2	62	76	171	e99	e71	521	417	152	1,380	e267	e145	80
3	63	119	169	e97	e70	370	385	146	1,030	302	e189	78
4	63	1,180	168	e97	e67	297	355	144	884	317	e154	74
5	62	1,080	171	e96	e68	1,310	326	140	777	292	e133	73
6	61	536	163	e99	e69	1,720	310	138	758	422	e123	73
7	62	367	161	e97	e68	942	278	134	717	1,350	e117	70
8	61	289	161	e93	e69	594	245	132	664	588	e116	68
9	61	250	162	e93	e70	448	225	133	614	368	e117	68
10	61	229	179	e91	e72	385	219	147	595	288	e111	67
11	65	224	e140	e91	e73	362	217	141	757	e262	e109	65
12	70	210	e142	e93	e69	313	212	140	1,130	e751	e109	65
13	66	194	e146	e94	e76	298	199	153	966	e496	e108	64
14	71	184	e148	e93	e71	287	200	181	843	334	e105	62
15	67	182	e151	e90	e72	272	204	209	873	239	e108	63
16	64	179	e152	e88	e65	251	e200	196	735	214	e106	62
17	62	178	e145	e98	e73	248	e190	192	2,040	e198	e105	60
18	63	182	e139	e92	e70	274	e195	215	1,500	e180	e105	59
19	64	247	e136	e90	e84	333	e190	209	926	e168	e104	57
20	67	238	e128	e88	e101	359	e195	212	726	e171	e103	57
21	67	213	e132	e85	e118	333	220	216	645	e158	e101	55
22	67	197	e131	e88	e131	309	216	1,760	580	e156	e102	55
23	68	230	e130	e83	e177	292	206	14,800	510	e150	e108	55
24	69	282	e124	e81	e272	381	197	6,310	e485	e144	e88	55
25	68	261	e126	e79	e231	573	202	2,000	e469	e132	e88	53
26	66	235	e127	e80	e299	1,220	194	1,460	e441	e133	e93	52
27	65	217	e137	e77	478	1,220	181	1,120	e410	e126	e158	52
28	67	204	e147	e77	536	978	178	876	e384	e122	e152	51
29	66	194	e150	e74	566	817	173	838	e364	e131	e129	48
30	65	192	e130	e70	---	672	162	1,940	e344	e133	e102	48
31	63	---	e107	e69	---	541	---	4,400	---	e132	e84	---
TOTAL	2,008	8,432	4,553	2,744	4,256	17,399	7,155	38,992	25,017	9,069	3,607	1,870
MEAN	64.8	281	147	88.5	147	561	238	1,258	834	293	116	62.3
MAX	71	1,180	180	102	566	1,720	464	14,800	2,470	1,350	189	81
MIN	61	63	107	69	65	248	162	132	344	122	84	48
AC-FT	3,980	16,720	9,030	5,440	8,440	34,510	14,190	77,340	49,620	17,990	7,150	3,710
CFSM	0.24	1.02	0.53	0.32	0.53	2.04	0.87	4.57	3.03	1.06	0.42	0.23
IN.	0.27	1.14	0.62	0.37	0.58	2.35	0.97	5.27	3.38	1.23	0.49	0.25

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

MEAN	121	160	121	85.2	140	457	310	613	785	311	140	122
MAX	230	281	173	115	157	645	474	1,258	1,005	540	210	302
(WY)	(2002)	(2004)	(2002)	(2002)	(2002)	(2001)	(2001)	(2004)	(2000)	(2003)	(2001)	(2001)
MIN	64.8	91.5	43.4	52.0	115	165	217	280	427	141	97.0	62.3
(WY)	(2004)	(2003)	(2001)	(2001)	(2001)	(2002)	(2002)	(2002)	(2001)	(2002)	(2003)	(2004)