Water-Data Report 2008

05451500 Iowa River at Marshalltown, IA

Iowa Basin
Middle Iowa Subbasin

LOCATION.--Lat 42°03′57″, long 92°54′27″ referenced to North American Datum of 1927, in SE ¼ SE ¼ sec.23, T.84 N., R.18 W., Marshall County, IA, Hydrologic Unit 07080208, on right bank 10 ft downstream from bridge on State Highway 14, 1,500 ft upstream from Burnett Creek, 2.2 mi upstream from Linn Creek, and 212.7 mi upstream from mouth.

DRAINAGE AREA.--1,532 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1902 to September 1903, October 1914 to September 1927, October 1932 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1438: Drainage area. WSP 1558: 1915-18, 1919 (M), 1920, 1921-23 (M), 1924-27, 1933, 1934 (M), 1936, 1938, 1947 (M).

GAGE.--Water-stage recorder. Datum of gage is 853.10 ft above NGVD of 1929. See WSP 1728 for history of changes prior to September 21, 1934.

REMARKS.--Records are considered good, except for those 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.

05451500 Iowa River at Marshalltown, IA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	786	1,600	e643	e646	e404	e636	5,060	5,580	10,200	3,090	1,550	491
2	800	1,530	e676	e554	e388	e944	5,070	5,050	7,830	2,930	1,370	444
3	1,370	1,460	e699	e636	e396	e2,300	4,210	4,660	7,510	2,730	1,260	400
4	1,580	1,420	e750	e649	e419	e2,860	3,780	4,350	8,140	2,550	1,160	386
5	1,510	1,370	e748	e693	e480	e2,020	3,320	3,830	8,130	e2,330	1,090	374
6	1,440	1,300	e708	e819	e563	e1,490	2,800	3,440	9,410	e2,260	1,010	370
7	1,370	1,240	e696	e944	e529	e1,150	2,300	5,410	14,100	e3,290	967	364
8	1,530	1,230	e669	e1,030	e494	e927	1,960	8,830	14,500	2,140	919	338
9	3,480	1,190	e649	e911	e444	e790	1,780	8,380	18,400	1,830	878	348
10	3,790	1,150	e642	e767	e399	e773	1,790	6,600	20,000	3,690	859	335
11	3,400	1,140	e1,000	e665	e439	e859	3,960	5,380	16,400	2,550	826	334
12	2,760	1,130	e1,210	e584	e457	e1,780	4,760	4,550	18,200	2,250	791	471
13	2,320	1,090	e1,070	e514	e472	e4,510	4,200	3,870	20,800	2,020	762	540
14	2,280	1,060	e868	e450	e503	e7,820	3,650	3,330	16,400	1,740	731	522
15	4,440	1,030	e762	e387	e473	e8,580	3,350	2,900	14,100	1,550	726	426
16	5,270	988	e711	e461	e450	e6,010	3,140	2,630	11,400	1,410	677	382
17	4,860	983	e706	e402	e480	e4,330	2,890	2,430	9,590	1,420	639	349
18	4,620	955	e738	e380	e517	e4,420	4,020	2,230	8,470	5,040	607	334
19	4,770	934	e711	e366	e526	e4,450	5,730	2,030	7,510	5,270	569	318
20	4,720	935	e670	e338	e488	3,960	5,080	1,910	6,580	5,190	545	304
21	4,340	912	e699	e352	e465	3,520	4,410	1,760	5,860	4,710	519	289
22	3,900	872	e895	e347	e457	2,850	4,160	1,670	5,320	3,850	510	276
23	3,560	827	e859	e337	e440	2,370	e5,090	1,650	4,870	3,340	488	280
24	e3,170	794	e831	e332	e431	2,010	3,980	1,640	4,320	3,050	456	292
25	e2,860	788	e858	e340	e474	1,760	6,930	1,560	3,870	2,740	431	286
26	e2,600	773	e810	e344	e523	1,590	e12,000	1,570	4,800	2,290	416	270
27	e2,350	757	e752	e352	e451	1,460	e12,600	1,480	5,780	2,080	407	262
28	e2,130	743	e683	e379	e411	1,410	e9,180	1,410	4,350	2,220	477	261
29	e1,940	e678	e667	e413	e483	1,360	7,220	1,490	3,720	1,840	672	361
30	e1,750	e635	e654	e403	---	1,350	6,270	9,610	3,320	2,160	548	433
31	e1,650	---	e654	e388	---	1,540	---	15,400	---	1,770	499	---
Total	87,346	31,514	23,688	16,183	13,456	81,829	144,690	126,630	293,880	85,330	23,359	10,840
Mean	2,818	1,050	764	522	464	2,640	4,823	4,085	9,796	2,753	754	361
Max	5,270	1,600	1,210	1,030	563	8,580	12,600	15,400	20,800	5,270	1,550	540
Min	786	635	642	332	388	636	1,780	1,410	3,320	1,410	407	261
Ac-ft	173,300	62,510	46,990	32,100	26,690	162,300	287,000	251,200	582,900	169,300	46,330	21,500
Cfsm	1.84	0.69	0.50	0.34	0.30	1.72	3.15	2.67	6.39	1.80	0.49	0.24
In.	2.12	0.77	0.58	0.39	0.33	1.99	3.51	3.07	7.14	2.07	0.57	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2008, BY WATER YEAR (WY)

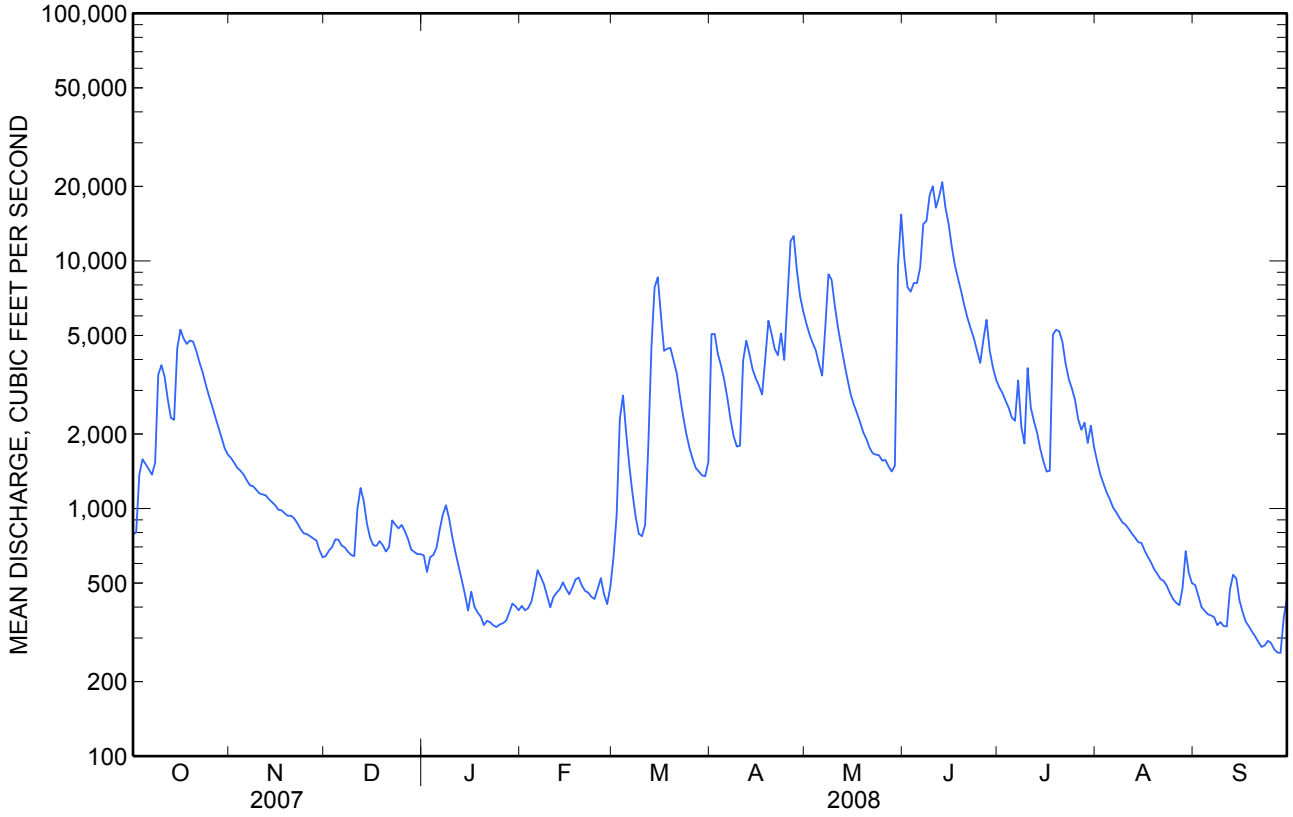
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	512	491	363	308	617	1,558	1,571	1,455	1,909	1,064	583	488
Max	2,818	2,593	2,139	2,231	3,424	4,206	6,796	5,559	9,796	8,389	7,062	3,362
(WY)	(2008)	(1973)	(1983)	(1973)	(1915)	(1973)	(1965)	(1991)	(2008)	(1993)	(1993)	(1993)
Min	39.2	46.2	31.0	10.2	20.9	98.4	99.3	49.9	16.0	41.8	35.9	27.5
(WY)	(1940)	(1940)	(1990)	(1977)	(1940)	(1934)	(1934)	(1934)	(1934)	(1977)	(1934)	(1939)

05451500 Iowa River at Marshalltown, IA—Continued

SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1903 - 2008	
Annual total	784,148		938,745			
Annual mean	2,148		2,565		910	
Highest annual mean					3,456	1993
Lowest annual mean					77.3	1934
Highest daily mean	15,400	Jun 24	20,800	Jun 13	39,400	Jun 4, 1918
Lowest daily mean	292	Feb 10	261	Sep 28	4.7	Jan 25, 1977
Annual seven-day minimum	301	Feb 5	275	Sep 22	5.2	Jan 20, 1977
Maximum peak flow			22,400	Jun 13	42,000	Jun 4, 1918
Maximum peak stage			21.79	Jun 13	21.79	Jun 13, 2008
Instantaneous low flow			252	Sep 27[a]		
Annual runoff (ac-ft)	1,555,000		1,862,000		659,300	
Annual runoff (cfsm)	1.40		1.67		0.594	
Annual runoff (inches)	19.04		22.79		8.07	
10 percent exceeds	4,790		5,740		2,240	
50 percent exceeds	1,230		1,280		409	
90 percent exceeds	466		394		80	

[a]Also Sep 28.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1988 to February 1995; June 2008.

REMARKS.--Water-quality samples were collected in June 2008 to assess the impact of historic flooding on surface-water quality. For samples collected in this time period, flow-integrating sample-collection techniques were not always possible due to safety and equipment considerations.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 7

[Remark codes: <, less than; E, estimated.]

Date	Time	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Alkalinity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt infl pt titr., field, mg/L (00453)	Carbonate, wat flt infl pt titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)
Jun													
12...	1600	20.96	18,800	7.3	329	20.7	128	156	.3	6.77	8.15	.030	5.54
19...	1325	17.23	7,460	--	505	--	206	249	1.0	8.43	10.7	<.020	8.01

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 7

[Remark codes: <, less than; E, estimated.]

Date	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unf by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L as P (00665)	1-Methylnaphthalene, water, unfltrd µg/L (81696)	2,6-Dimethylnaphthalene, water, unfltrd µg/L (62805)	2-Methylnaphthalene, water, unfltrd µg/L (30194)	3,4-Dichlorophenyl isocyanate wat unf µg/L (63145)	3-beta-Coprostanol, water, unfltrd µg/L (62806)	3-Methyl-1H-indole, water, unfltrd µg/L (62807)	3-tert-Butyl-4-hydroxyanisole wat unf µg/L (61702)	4-Cumylphenol, water, unfltrd µg/L (62808)	4-n-Octylphenol, water, unfltrd µg/L (62809)
Jun													
12...	.070	6.57	.195	.511	<.2	<.2	<.2	<2.0	<.8	<.2	<.2	<.2	<.2
19...	.050	8.41	.200	.281	<.2	<.2	<.2	<2.0	<.8	<.2	<.2	<.2	<.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 7

[Remark codes: <, less than; E, estimated.]

Date	4-Nonylphenol, all isomers wat unf µg/L (62829)	4-Nonylphenol diethoxylate, wat unf µg/L (61703)	4-Nonylphenol monoethoxylate, wat unf µg/L (61704)	4t-Octylphenol diethoxylate, wat flt µg/L (61705)	4t-Octylphenol monoethoxylate, wat flt µg/L (61706)	4-tert-Octylphenol, water, unfltrd µg/L (62810)	5-Methyl-1H-benzotriazole, wat unf µg/L (61944)	Acetophenone water, unfltrd µg/L (62811)	AHTN, water, unfltrd µg/L (62812)	Anthracene, water, unfltrd µg/L (34220)	9,10-Anthraquinone water, unfltrd µg/L (62813)	Atrazine, water, unfltrd µg/L (39630)	BDE congenr 47, water, unfltrd µg/L (63147)
Jun													
12...	<2	<3	<2.0	<.32	<1	<.2	<2	<.3	<.2	<.2	<.2	E1.2	<.2
19...	<2	<3	<2.0	<.32	<1	<.2	<2	<.3	<.2	<.2	<.2	1.0	<.2

05451500 Iowa River at Marshalltown, IA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 4 of 7
[Remark codes: <, less than; E, estimated.]

Date	Benzo-[a]-pyrene, water, unfltrd µg/L (34247)	Benzo-phenone water, unfltrd µg/L (62814)	beta-Sitos-terol, water, unfltrd µg/L (62815)	beta-Stigmas tanol, water, unfltrd µg/L (61948)	Bis(2-ethyl-hexyl) phthal-ate, wat unf µg/L (39100)	Bisphe-nol A, water, unfltrd µg/L (62816)	Broma-cil, water, unfltrd µg/L (30234)	Caf-feine, water, unfltrd µg/L (81436)	Camphor water, unfltrd µg/L (62817)	Car-baryl, water, unfltrd µg/L (39750)	Carba-zole, water, unfltrd µg/L (77571)	Chlor-pyrifos water, unfltrd µg/L (38932)	Choles-terol, water, unfltrd µg/L (62818)
Jun													
12...	<.2	<.2	<2	<2	<2	<.4	<.2	<.2	<.2	<.2	<.2	<.2	<.8
19...	<.2	<.2	<.8850	<1	<2	<.4	<.2	<.2	<.2	<.2	<.2	<.2	<.8850

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 5 of 7
[Remark codes: <, less than; E, estimated.]

Date	Coti-nine, water, unfltrd µg/L (61945)	DEET, water, unfltrd µg/L (61947)	Diazi-non, water, unfltrd µg/L (39570)	Di-chlor-vos, water, unfltrd µg/L (30218)	Di-ethyl phthal-ate, water, unfltrd µg/L (34336)	D-Limo-nene, water, unfltrd µg/L (62819)	Fluor-anthene water, unfltrd µg/L (34376)	HHCB, water, unfltrd µg/L (62823)	Indole, water, unfltrd µg/L (62824)	Isobor-neol, water, unfltrd µg/L (62825)	Iso-phorone water, unfltrd µg/L (34408)	Iso-quin-oline, water, unfltrd µg/L (62826)	Menthol water, unfltrd µg/L (62827)
Jun													
12...	<.8	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
19...	<.8	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 6 of 7
[Remark codes: <, less than; E, estimated.]

Date	Metal-axyl, water, unfltrd µg/L (04254)	Methyl salicy-late, water, unfltrd µg/L (62828)	Metola-chlor, water, unfltrd µg/L (82612)	p-Cresol, water, unfltrd µg/L (77146)	Penta-chloro-phenol, water, unfltrd µg/L (39032)	Phenan-threne, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Prome-ton, water, unfltrd µg/L (39056)	Pyrene, water, unfltrd µg/L (34469)	Tri-butyl phos-phate, water, unfltrd µg/L (62832)	Tri-closan, water, unfltrd µg/L (61708)	Tri-ethyl citrate water, unfltrd µg/L (62833)	Tri-phenyl phos-phate, water, unfltrd µg/L (62834)
Jun													
12...	<.2	<.2	E1.2	<.2	<.8	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
19...	<.2	<.2	.8	<.2	<.8	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2

05451500 Iowa River at Marshalltown, IA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 7 of 7
[Remark codes: <, less than; E, estimated.]

Date	Tris(2-butoxy-ethyl) phos-phate, wat unf µg/L (62830)	Tris(2-chloro-ethyl) phos-phate, wat unf µg/L (62831)	Tris-(diCl-i-Pr) phos-phate, wat unf µg/L (61707)	1,4-Di-chloro-benzene water, unfltrd µg/L (34571)	Tri-bromo-methane water, unfltrd µg/L (32104)	Iso-propyl-benzene water, unfltrd µg/L (77223)	Naphth-alene, water, unfltrd µg/L (34696)	Tetra-chloro-ethene, water, unfltrd µg/L (34475)	Sus-pended sedi-ment concen-tration mg/L (80154)
Jun									
12...	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.4	281
19...	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.4	266