Water-Data Report 2008

05462000 Shell Rock River at Shell Rock, IA

Iowa Basin
Shell Rock Subbasin

LOCATION.--Lat 42°42′43″, long 92°34′58″ referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.11, T.91 N., R.15 W., Butler County, IA, 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 10.7 mi upstream from confluence with West Fork Cedar River.

DRAINAGE AREA.--1,746 mi^2.

SURFACE-WATER RECORDS

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 October 19, 1957. Datum of gage is 885.34 ft above NGVD of 1929.

REMARKS.--Records are considered good, except for those estimated daily discharges, which are poor. U.S. Geological Survey data collection platform with satellite 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 ft^3/s.

05462000 Shell Rock River at Shell Rock, IA—Continued

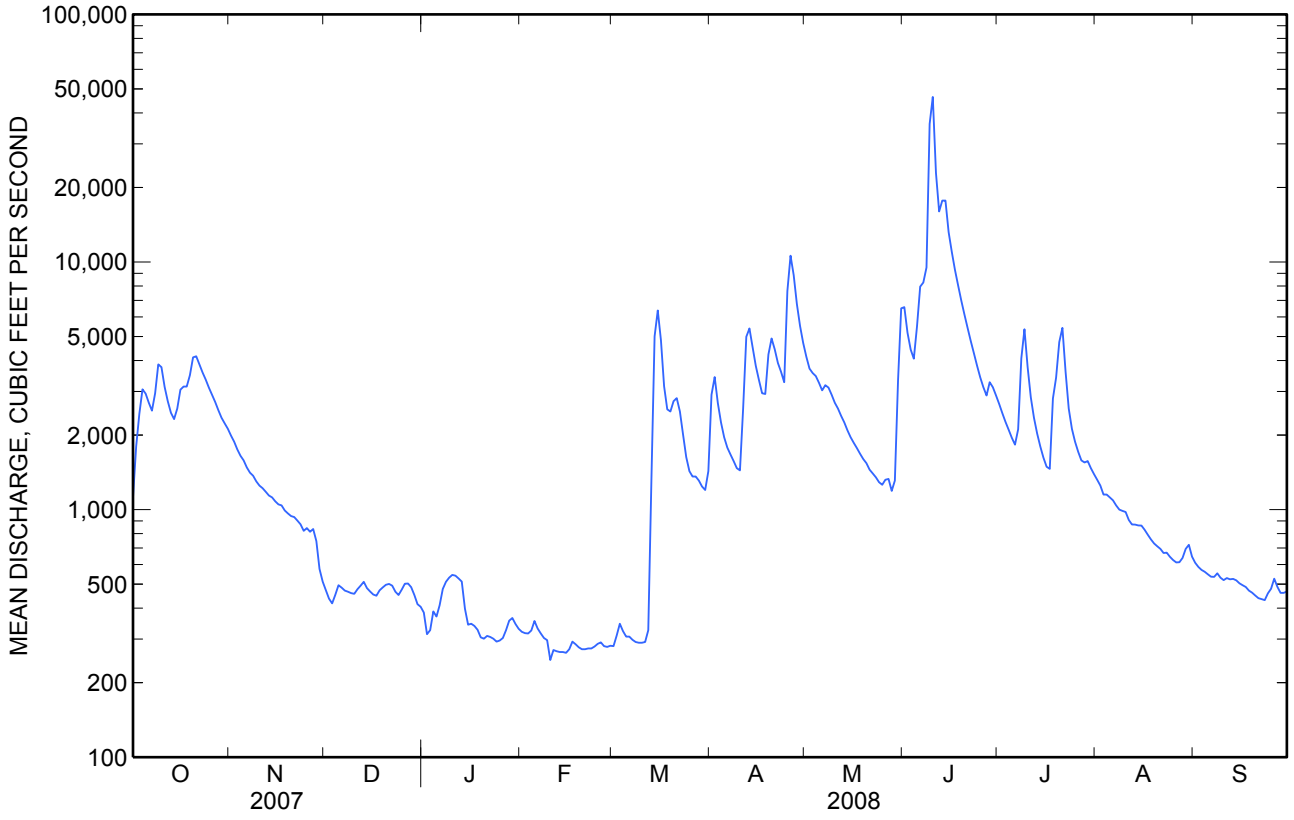
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,120	1,990	e473	e384	e321	e281	2,910	4,140	6,570	2,670	1,320	610
2	1,800	1,880	e437	e314	e317	e310	3,430	3,710	5,180	2,450	1,250	587
3	2,430	1,750	e418	e326	e316	e346	2,690	3,560	4,430	2,260	1,150	571
4	3,060	1,650	e453	e388	e325	e323	2,250	3,460	4,070	2,100	1,150	561
5	2,940	1,580	e495	e370	e355	e307	1,960	3,250	5,490	1,950	1,120	548
6	2,700	1,480	e484	e411	e331	e307	1,780	3,030	7,950	1,830	1,090	536
7	2,510	1,410	e471	e478	e316	e298	1,670	3,180	8,260	2,110	1,040	535
8	2,950	1,370	e466	e511	e303	e292	1,570	3,110	9,500	4,080	1,000	553
9	3,860	1,300	e460	531	e297	e290	1,470	2,910	36,100	5,350	988	531
10	3,760	1,250	e457	545	e247	e290	1,440	2,700	46,400	3,760	978	519
11	3,130	1,220	e477	541	e271	e292	2,560	2,560	22,900	2,840	908	529
12	2,740	1,180	e493	527	e268	e326	4,990	2,390	16,000	2,350	871	523
13	2,460	1,140	e511	512	e266	1,340	5,390	2,250	17,700	2,030	870	525
14	2,320	1,120	e482	e398	e266	5,010	4,530	2,090	17,700	1,800	863	518
15	2,560	1,080	e467	e343	e264	6,370	3,810	1,960	13,200	1,620	862	504
16	3,050	1,050	e454	e346	e273	4,830	3,340	1,860	11,000	1,490	829	495
17	3,140	1,040	e449	e339	e293	3,150	2,950	1,770	9,310	1,460	792	487
18	3,140	992	e472	e327	e286	2,540	2,930	1,680	8,050	2,810	758	471
19	3,490	965	e485	e305	e278	2,490	4,230	1,600	7,000	3,410	730	462
20	4,120	942	e497	e301	e273	2,740	4,910	1,540	6,140	4,750	711	450
21	4,160	933	e501	e309	e273	2,820	4,440	1,450	5,420	5,420	694	439
22	3,860	903	e493	e306	e275	2,490	3,910	1,400	4,800	3,600	668	435
23	3,580	872	e466	e301	e275	2,010	3,600	1,350	4,280	2,560	670	431
24	3,350	821	e452	e293	e280	1,630	3,270	1,290	3,810	2,120	645	459
25	3,110	842	e475	e296	e287	1,430	e7,630	e1,260	3,420	1,880	626	479
26	2,910	814	e502	e303	e291	1,360	e10,600	e1,320	3,120	1,710	612	526
27	2,720	835	e503	e326	e281	1,360	8,850	e1,330	2,890	1,580	613	488
28	2,520	746	e486	e356	e279	1,310	6,770	1,190	3,270	1,550	638	461
29	2,350	576	e452	e365	e282	1,240	5,520	1,310	3,120	1,570	694	461
30	2,230	e512	e415	e345	---	1,200	4,710	3,320	2,890	1,470	721	467
31	2,120	---	e405	e330	---	1,430	---	6,500	---	1,390	646	---
Total	90,190	34,243	14,551	11,727	8,389	50,412	120,110	74,470	299,970	77,970	26,507	15,161
Mean	2,909	1,141	469	378	289	1,626	4,004	2,402	9,999	2,515	855	505
Max	4,160	1,990	511	545	355	6,370	10,600	6,500	46,400	5,420	1,320	610
Min	1,120	512	405	293	247	281	1,440	1,190	2,890	1,390	612	431
Ac-ft	178,900	67,920	28,860	23,260	16,640	99,990	238,200	147,700	595,000	154,700	52,580	30,070
Cfsm	1.67	0.65	0.27	0.22	0.17	0.93	2.29	1.38	5.73	1.44	0.49	0.29
In.	1.92	0.73	0.31	0.25	0.18	1.07	2.56	1.59	6.39	1.66	0.56	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	778	683	509	362	502	1,602	2,194	1,819	1,978	1,360	915	735
Max	2,909	2,326	2,381	1,375	2,833	5,426	8,540	5,889	9,999	6,461	5,637	2,862
(WY)	(2008)	(1983)	(1983)	(1983)	(1984)	(1992)	(1965)	(1991)	(2008)	(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

	Calendar Year 2007		Water Year 2008		Water Years 1954 - 2008	
Annual total	615,960		823,700			
Annual mean	1,688		2,251		1,121	
Highest annual mean					3,231	1993
Lowest annual mean					171	1977
Highest daily mean	7,380	Apr 3	46,400	Jun 10	46,400	Jun 10, 2008
Lowest daily mean	268	Feb 5	247	Feb 10	27	Dec 22, 1989
Annual seven-day minimum	312	Feb 4	265	Feb 10	29	Dec 16, 1989
Maximum peak flow			60,400	Jun 10	60,400	Jun 10, 2008
Maximum peak stage			20.36	Jun 10	20.36	Jun 10, 2008
Annual runoff (ac-ft)	1,222,000		1,634,000		812,200	
Annual runoff (cfsm)	0.967		1.29		0.642	
Annual runoff (inches)	13.12		17.55		8.72	
10 percent exceeds	3,860		4,580		2,670	
50 percent exceeds	1,120		1,200		554	
90 percent exceeds	415		307		167