Water-Data Report 2012

05440700 ROCK RIVER AT BYRON, IL

Rock Basin
Lower Rock Subbasin

LOCATION.--Lat 42°07′23″, long 89°15′21″ referenced to North American Datum of 1927, in NW ¼ SW ¼ sec.32, T.25 N., R.11 E., Ogle County, IL, Hydrologic Unit 07090005, at bridge on State Highway 72, 0.3 mi south of Byron, 1.2 mi upstream from Mill Creek, 1.3 mi downstream from Stillman Creek, and at mile 120.3.

DRAINAGE AREA.--7,990 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.—
SURFACE-WATER DISCHARGE AND STAGE
DISCHARGE: May 2000 to current year.
STAGE: Water years 2000 to current year.
PRECIPITATION: May 2000 to current year.
SURFACE-WATER QUALITY
CHEMICAL: Water years 1978-1988 and 2009-2011. Additional data for water years 1964, 1971-1977 are published in Water-Resources Investigations 78-23 and 79-24 as site P 14.

GAGE.--Water-stage recorder, phone telemeter, and unheated rain gage. Datum of gage is 666.13 ft above NGVD of 1929 (666.00 ft NAVD 1988).

REMARKS.--Discharge records good except for estimated daily discharges, which are poor. Collection, computation, and publication of precipitation data do not necessarily conform to standards used by the National Weather Service. Precipitation data could be subject to error for days with freezing and/or thawing of precipitation, which are identified as estimated (e).

EXTREMES FOR PERIOD OF RECORD.--
SURFACE-WATER DISCHARGE AND STAGE: Maximum discharge, 37,700 ft^3/s, July 25, 2010, gage-height, 16.50 ft; minimum discharge, 1,190 ft^3/s, Sept. 9, 2003 and Nov. 3, 2005.
PRECIPITATION: Maximum daily total, 5.57 in., July 23, 2010.

Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 05440700, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/05440700.2012.pdf

05440700 ROCK RIVER AT BYRON, IL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5,190	3,840	6,180	6,910	5,690	6,920	6,950	6,220	5,080	2,140	1,900	1,380
2	5,030	3,630	5,970	6,790	6,240	7,420	6,940	6,200	5,110	2,140	1,890	1,400
3	4,740	4,140	6,120	5,930	6,280	7,710	7,000	6,130	4,810	2,100	1,840	1,470
4	4,560	4,520	7,140	e5,000	6,220	7,620	6,870	6,040	4,560	2,060	1,890	1,500
5	4,410	4,650	7,930	e5,500	6,150	7,450	6,700	6,000	4,330	2,000	1,890	1,550
6	4,060	4,570	8,080	5,930	6,080	7,270	6,580	6,090	4,210	1,900	1,820	1,480
7	3,980	4,480	8,020	5,850	5,860	7,430	6,450	6,540	3,900	2,020	1,840	1,500
8	3,710	4,730	7,760	5,750	5,750	7,740	6,240	7,140	3,760	1,940	1,830	1,460
9	3,390	7,500	7,510	5,710	5,670	8,010	5,990	7,610	3,580	1,810	1,850	1,510
10	3,430	12,000	7,090	5,570	5,530	8,110	5,840	7,710	3,090	1,790	1,880	1,510
11	3,510	12,100	6,640	5,450	5,250	8,080	5,740	7,660	2,850	1,820	1,810	1,490
12	3,670	11,000	6,370	5,420	e4,900	8,450	5,680	7,430	2,700	1,790	1,830	1,490
13	3,930	e10,200	6,370	5,440	e4,800	9,900	5,560	7,220	2,810	1,790	1,840	1,400
14	4,180	e9,400	6,710	5,140	e4,900	9,890	5,450	7,100	2,760	1,780	1,810	1,420
15	4,290	8,840	8,330	e4,800	e5,000	9,570	7,660	6,950	2,640	1,860	1,840	1,410
16	4,040	8,270	9,350	e4,900	5,200	9,070	8,480	6,620	2,720	1,760	1,860	1,440
17	3,990	7,580	9,460	5,190	5,200	8,610	8,250	6,520	2,710	1,800	1,880	1,440
18	4,040	7,260	9,000	5,580	5,080	8,320	8,090	6,410	2,770	1,740	1,770	1,410
19	3,930	6,960	8,470	e4,800	4,980	8,130	7,450	6,200	2,610	2,000	1,800	1,460
20	4,240	6,720	8,040	e4,500	4,870	8,010	7,210	6,010	2,530	2,020	1,790	1,510
21	4,180	6,580	7,850	e5,000	4,870	7,770	7,070	5,760	2,490	1,990	1,760	1,310
22	4,230	6,370	7,560	e5,800	4,830	7,680	6,720	5,660	2,340	1,920	1,760	1,450
23	4,380	6,290	7,340	e6,000	4,750	7,840	6,530	5,500	2,340	1,840	1,720	1,530
24	4,240	6,230	7,190	e5,700	4,970	7,860	6,420	5,340	2,370	2,060	1,710	1,480
25	4,060	6,040	7,070	e5,600	4,960	7,770	6,250	5,030	2,260	2,070	1,640	1,400
26	3,940	5,930	6,850	e5,500	4,830	7,450	6,190	5,160	2,270	2,000	1,610	1,350
27	4,010	6,210	6,710	e5,400	4,890	7,460	6,030	5,160	2,300	1,930	1,640	1,470
28	3,960	6,550	6,570	e5,300	4,890	7,180	5,940	5,120	2,220	1,940	1,540	1,460
29	3,940	6,530	6,500	e5,200	5,540	6,880	6,020	4,880	2,140	1,950	1,540	1,360
30	3,810	6,430	6,450	e5,100	---	6,980	6,220	4,720	2,130	1,940	1,570	1,310
31	3,700	---	6,670	5,150	---	7,000	---	4,840	---	1,950	1,490	---
Total	126,770	205,550	227,300	169,910	154,180	245,580	198,520	190,970	92,390	59,850	54,840	43,350
Mean	4,089	6,852	7,332	5,481	5,317	7,922	6,617	6,160	3,080	1,931	1,769	1,445
Max	5,190	12,100	9,460	6,910	6,280	9,900	8,480	7,710	5,110	2,140	1,900	1,550
Min	3,390	3,630	5,970	4,500	4,750	6,880	5,450	4,720	2,130	1,740	1,490	1,310
Cfsm	0.51	0.86	0.92	0.69	0.67	0.99	0.83	0.77	0.39	0.24	0.22	0.18
In.	0.59	0.96	1.06	0.79	0.72	1.14	0.92	0.89	0.43	0.28	0.26	0.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2012, BY WATER YEAR (WY)

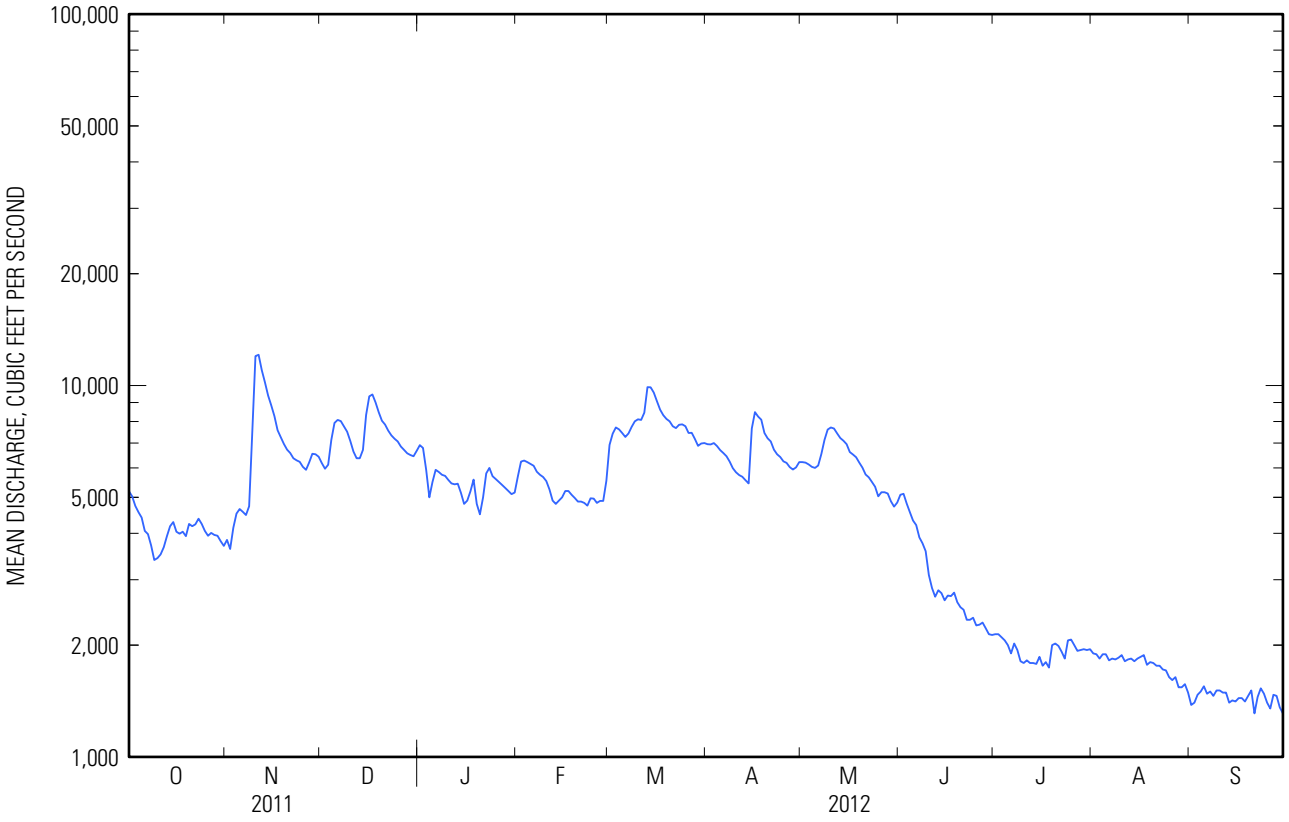
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	4,576	5,165	5,526	5,825	6,889	10,490	10,630	9,295	10,320	6,552	5,592	4,581
Max	7,112	8,680	8,428	10,270	11,480	20,220	22,460	15,180	22,280	17,870	15,450	11,580
(WY)	(2010)	(2010)	(2010)	(2009)	(2009)	(2009)	(2008)	(2009)	(2008)	(2008)	(2007)	(2007)
Min	1,426	2,205	2,482	2,601	2,818	3,096	3,520	4,176	2,682	1,931	1,769	1,445
(WY)	(2006)	(2006)	(2006)	(2003)	(2003)	(2003)	(2003)	(2005)	(2005)	(2012)	(2012)	(2012)

05440700 ROCK RIVER AT BYRON, IL—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 2000 - 2012	
Annual total	2,779,580		1,769,210			
Annual mean	7,615		4,834		7,024	
Highest annual mean					12,090	2008
Lowest annual mean					3,256	2003
Highest daily mean	15,800	Mar 24	12,100	Nov 11	35,900	Jul 25, 2010
Lowest daily mean	2,680	Sep 23	1,310	Sep 21, 30	1,210	Sep 9, 2003
Annual seven-day minimum	2,960	Sep 19	1,400	Sep 24	1,280	Sep 5, 2003
Maximum peak flow			12,700	Nov 10	38,200	Jul 25, 2010
Maximum peak stage			8.99	Nov 10	16.50	Jul 25, 2010
Instantaneous low flow			1,210	Sep 21	1,190	[A]
Annual runoff (cfsm)	0.953		0.605		0.879	
Annual runoff (inches)	12.94		8.24		11.94	
10 percent exceeds	12,800		7,760		13,500	
50 percent exceeds	6,750		5,080		5,670	
90 percent exceeds	3,710		1,640		2,460	

[A] Sept. 9, 2003 and Nov. 3, 2005.

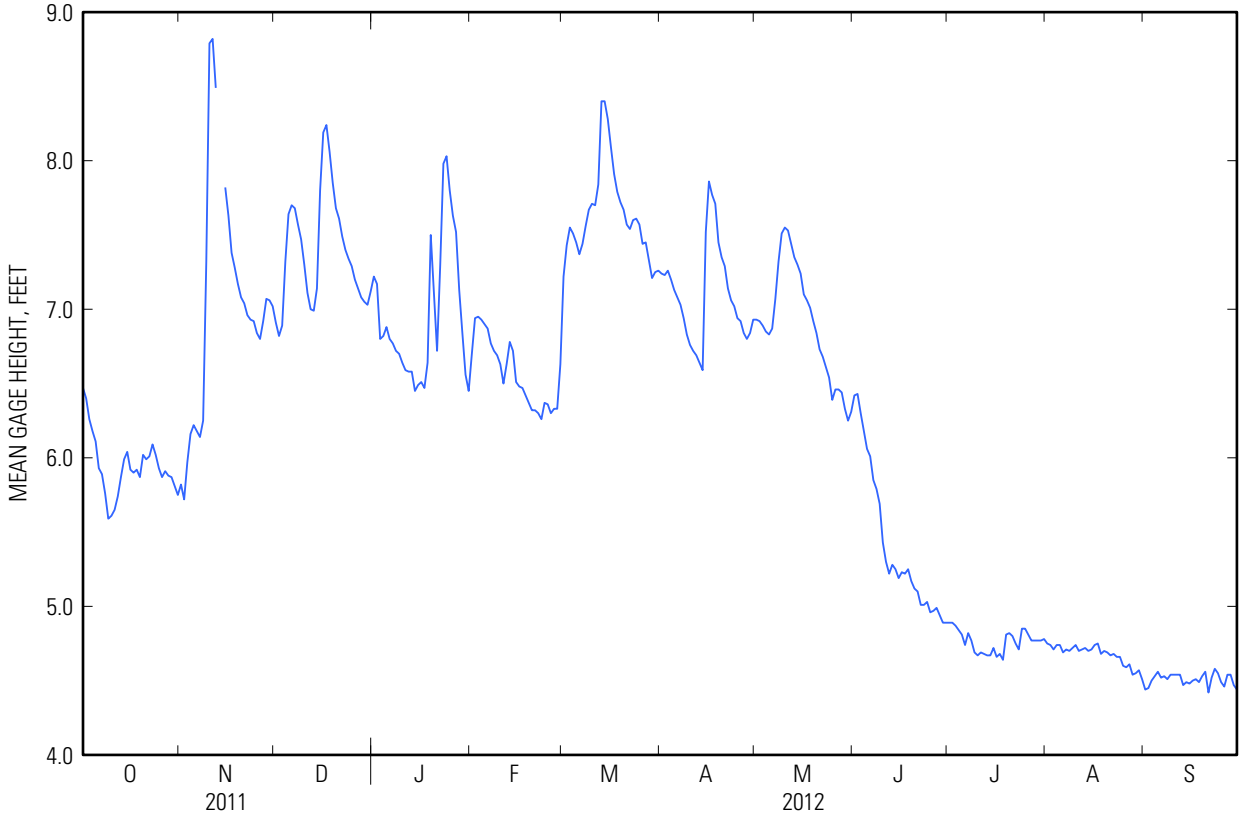


05440700 ROCK RIVER AT BYRON, IL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6.47	5.82	6.91	7.22	6.70	7.22	7.24	6.93	6.42	4.89	4.75	4.44
2	6.40	5.72	6.82	7.17	6.94	7.43	7.23	6.92	6.43	4.89	4.74	4.45
3	6.26	5.97	6.89	6.80	6.95	7.55	7.26	6.89	6.30	4.87	4.71	4.50
4	6.18	6.16	7.32	6.82	6.93	7.51	7.20	6.85	6.18	4.84	4.74	4.53
5	6.11	6.22	7.64	6.88	6.90	7.45	7.13	6.83	6.06	4.81	4.74	4.56
6	5.93	6.18	7.70	6.80	6.87	7.37	7.08	6.87	6.01	4.74	4.69	4.52
7	5.89	6.14	7.68	6.77	6.77	7.44	7.03	7.07	5.85	4.82	4.71	4.53
8	5.76	6.25	7.57	6.72	6.72	7.56	6.94	7.32	5.79	4.77	4.70	4.51
9	5.59	7.32	7.47	6.70	6.69	7.67	6.83	7.51	5.69	4.69	4.72	4.54
10	5.61	8.79	7.30	6.64	6.63	7.71	6.76	7.55	5.43	4.67	4.74	4.54
11	5.65	8.82	7.11	6.59	6.50	7.70	6.72	7.53	5.30	4.69	4.70	4.54
12	5.74	8.49	7.00	6.58	6.63	7.84	6.69	7.44	5.22	4.68	4.71	4.54
13	5.87	---	6.99	6.58	6.78	8.40	6.64	7.35	5.28	4.67	4.72	4.47
14	5.99	---	7.14	6.45	6.72	8.40	6.59	7.30	5.25	4.67	4.70	4.49
15	6.04	7.82	7.80	6.49	6.51	8.28	7.52	7.24	5.19	4.72	4.71	4.48
16	5.92	7.63	8.19	6.51	6.48	8.09	7.86	7.10	5.23	4.66	4.74	4.50
17	5.90	7.38	8.24	6.47	6.47	7.91	7.77	7.06	5.22	4.68	4.75	4.51
18	5.92	7.28	8.06	6.64	6.42	7.79	7.71	7.01	5.25	4.64	4.68	4.49
19	5.87	7.17	7.85	7.50	6.37	7.72	7.45	6.92	5.17	4.81	4.70	4.53
20	6.02	7.08	7.68	7.11	6.32	7.67	7.35	6.84	5.12	4.82	4.69	4.56
21	5.99	7.04	7.61	6.72	6.32	7.57	7.29	6.73	5.10	4.80	4.67	4.42
22	6.01	6.96	7.49	7.30	6.30	7.54	7.14	6.68	5.01	4.75	4.68	4.52
23	6.09	6.93	7.40	7.98	6.26	7.60	7.06	6.61	5.01	4.71	4.66	4.58
24	6.02	6.92	7.34	8.03	6.37	7.61	7.02	6.54	5.03	4.85	4.66	4.55
25	5.93	6.84	7.29	7.80	6.36	7.57	6.94	6.39	4.96	4.85	4.60	4.49
26	5.87	6.80	7.20	7.63	6.30	7.44	6.92	6.46	4.97	4.81	4.59	4.46
27	5.91	6.92	7.14	7.52	6.33	7.45	6.84	6.46	4.99	4.77	4.61	4.54
28	5.88	7.07	7.08	7.13	6.33	7.33	6.80	6.44	4.94	4.77	4.54	4.54
29	5.87	7.06	7.05	6.84	6.63	7.21	6.84	6.33	4.89	4.77	4.55	4.47
30	5.81	7.02	7.03	6.56	---	7.25	6.93	6.25	4.89	4.77	4.57	4.44
31	5.75	---	7.12	6.45	---	7.26	---	6.31	---	4.78	4.51	---
Mean	5.94	---	7.39	6.95	6.57	7.63	7.09	6.89	5.41	4.76	4.68	4.51
Max	6.47	---	8.24	8.03	6.95	8.40	7.86	7.55	6.43	4.89	4.75	4.58
Min	5.59	---	6.82	6.45	6.26	7.21	6.59	6.25	4.89	4.64	4.51	4.42

05440700 ROCK RIVER AT BYRON, IL—Continued



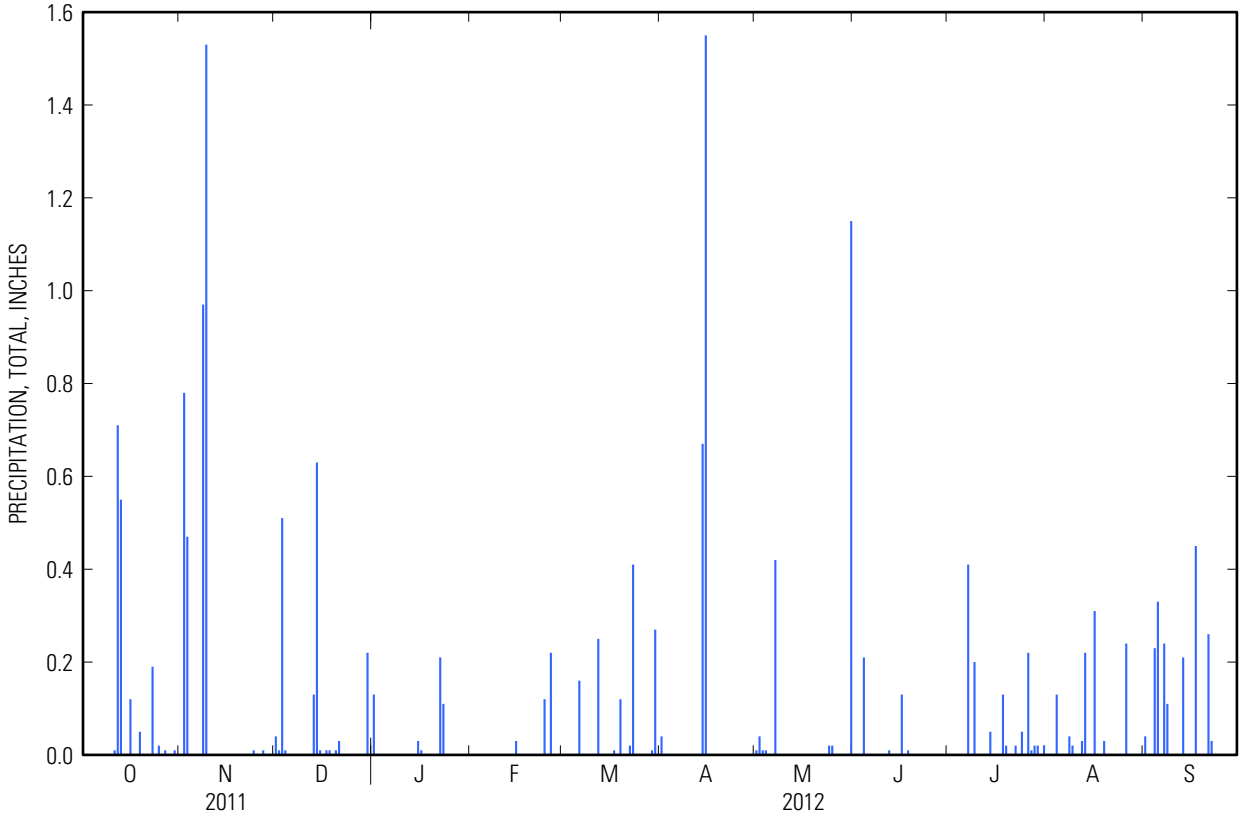
05440700 ROCK RIVER AT BYRON, IL—Continued

CLIMATOLOGICAL RECORDS

EXTREMES FOR CURRENT YEAR.—Maximum daily total, 1.55 in., April 15.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY SUM VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	e0.04	e0.13	0.00	e0.00	0.04	0.01	0.00	0.00	0.00	0.04
2	0.00	0.78	e0.01	e0.00	0.00	e0.00	0.00	0.04	0.00	0.00	0.00	0.00
3	0.00	0.47	0.51	0.00	e0.00	e0.00	0.00	0.01	0.00	0.00	0.00	0.00
4	0.00	0.00	0.01	0.00	0.00	e0.00	0.00	0.01	0.21	0.00	0.13	0.23
5	0.00	0.00	e0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.33
6	0.00	0.00	0.00	0.00	0.00	e0.16	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.42	0.00	0.41	0.00	0.24
8	0.00	0.97	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.11
9	0.00	e1.53	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.02	0.00
10	0.00	e0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.71	0.00	0.00	e0.00	0.00	0.25	0.00	0.00	0.01	0.00	0.03	0.00
13	0.55	0.00	0.13	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.21
14	0.00	0.00	0.63	e0.00	e0.00	0.00	0.67	0.00	0.00	0.05	0.00	0.00
15	0.00	0.00	0.01	e0.03	0.03	0.00	1.55	0.00	0.00	0.00	0.00	0.00
16	0.12	0.00	0.00	e0.01	0.00	0.00	0.00	0.00	0.13	0.00	0.31	0.00
17	0.00	0.00	e0.01	e0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.45
18	0.00	0.00	e0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.13	0.00	0.00
19	0.05	0.00	0.00	e0.00	0.00	0.12	0.00	0.00	0.00	0.02	0.03	0.00
20	0.00	0.00	e0.01	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.03	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
22	0.00	0.00	0.00	e0.21	e0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.03
23	0.19	0.00	e0.00	e0.11	e0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.01	0.00	0.00	e0.12	0.00	0.00	0.02	0.00	0.05	0.00	0.00
25	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	e0.22	0.00	0.00	0.00	0.00	0.22	0.24	0.00
27	0.01	0.01	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
28	0.00	0.00	0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
29	0.00	0.00	0.00	e0.00	e0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
30	0.01	0.00	e0.22	0.00	---	0.27	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	1.15	---	0.02	0.00	---
Total	1.67	3.77	1.62	0.49	0.37	1.25	2.26	1.68	0.36	1.17	1.02	1.90
Mean	0.05	0.13	0.05	0.02	0.01	0.04	0.08	0.05	0.01	0.04	0.03	0.06
Max	0.71	1.53	0.63	0.21	0.22	0.41	1.55	1.15	0.21	0.41	0.31	0.45

	Water Year 2012
Total	17.56
Mean	0.05
Max	1.55

05440700 ROCK RIVER AT BYRON, IL—Continued