Water-Data Report 2013

03289500 ELKHORN CREEK NEAR FRANKFORT, KY

Kentucky Basin
Lower Kentucky Subbasin

LOCATION.--Lat 38°16′07″, long 84°48′53″ referenced to North American Datum of 1927, Franklin County, KY, Hydrologic Unit 05100205, on right bank, 50 feet downstream from bridge on State Highway 1900, 4.2 miles northeast of city limits of Frankfort, 7.4 miles downstream from confluence of North and South Elkhorn Creeks, and at mile 10.4.

DRAINAGE AREA.--473.0 mi^2 of which 70.6 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1915 to December 1920 (gage heights only, October 1918 to December 1920), December 1939 to August 1984, October 1987 to current year. Published as "at Forks of Elkhorn" 1915 to 1920.

REVISED RECORDS.--WSP 1555: Drainage area.

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is approximately 540.20 feet above NGVD of 1929. May 1, 1915 to December 31, 1920, nonrecording gage at site 6.6 miles upstream at different datum. December 28, 1939 to August 14, 1940, nonrecording gage, August 15, 1940 to July 21, 1970, water stage recorder, July 21 to August 31, 1970, nonrecording gage at same site and datum.

COOPERATION.--Kentucky River Authority.

REMARKS.--Records good except for those estimated, which are poor. City of Lexington diverts water from Hickman Creek in Kentucky River Basin for municipal water supply; return flow enters tributary upstream of station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 2, 1932, reached a stage of about 17.5 feet, from information by local resident. Flood of January 1937 was about 0.3 feet lower.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 14	0915	8,580	9.99
Mar 19	1045	7,910	9.67
Jun 27	1515	7,520	9.48
Jul 6	1430	*17,500	*13.37

03289500 ELKHORN CREEK NEAR FRANKFORT, KY—Continued

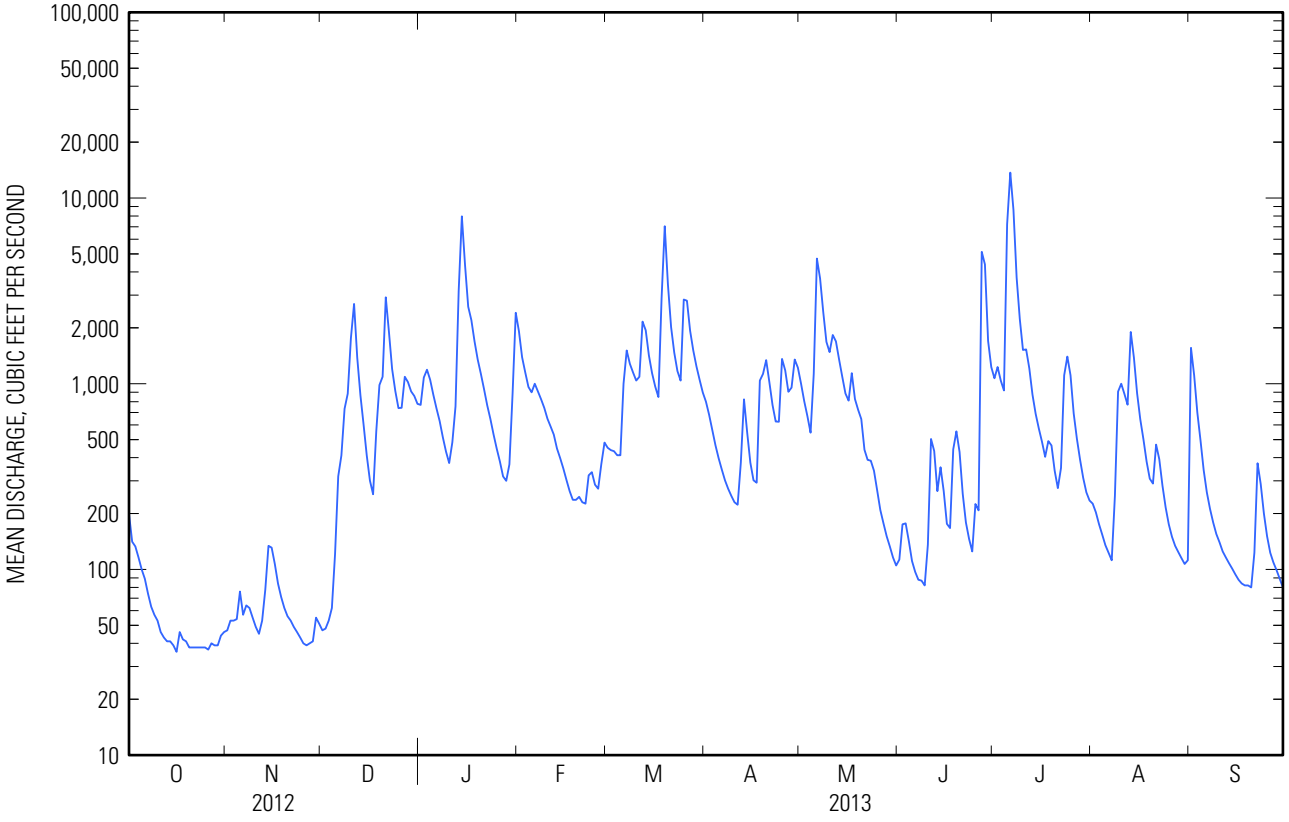
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	199	47	47	769	1,920	452	800	1,000	113	1,070	226	1,560
2	141	53	48	1,080	1,390	439	680	805	175	1,230	203	1,110
3	133	53	53	1,190	1,150	433	563	669	177	1,040	175	700
4	116	54	62	1,050	961	412	466	545	142	920	154	496
5	100	76	121	872	899	412	397	1,130	111	7,220	135	343
6	89	57	317	736	1,000	1,000	345	4,720	97	13,700	123	260
7	74	64	411	629	908	1,510	302	3,690	88	8,630	112	212
8	63	62	733	515	824	1,280	272	2,430	87	3,730	249	179
9	57	55	884	431	741	1,150	249	1,680	82	2,230	907	155
10	53	49	1,760	374	648	1,040	230	1,480	136	1,520	1,000	140
11	46	45	2,690	484	588	1,090	223	1,830	504	1,530	881	125
12	43	53	1,380	756	532	2,160	376	1,690	434	1,210	771	116
13	41	78	867	3,170	448	1,940	824	1,350	264	874	1,900	108
14	41	134	602	7,970	398	1,420	547	1,090	355	689	1,380	101
15	39	131	411	4,360	350	1,140	376	886	264	574	889	94
16	36	107	301	2,600	303	965	302	811	176	487	644	88
17	46	84	254	2,200	264	848	293	1,140	167	404	502	84
18	42	71	554	1,690	237	2,880	1,040	827	443	491	381	82
19	41	62	984	1,350	237	7,050	1,130	724	554	465	308	82
20	38	56	1,090	1,130	246	3,430	1,340	645	429	340	290	80
21	38	53	2,920	934	230	2,020	1,020	441	255	274	470	123
22	38	49	1,900	765	226	1,470	768	389	179	352	392	373
23	38	46	1,200	646	321	1,170	626	385	146	1,110	283	288
24	38	43	915	533	334	1,040	624	340	125	1,400	216	200
25	38	40	739	447	286	2,840	1,360	267	225	1,110	175	151
26	37	39	742	381	272	2,800	1,180	209	208	692	150	123
27	40	40	1,090	317	370	1,930	905	177	5,130	507	134	109
28	39	41	1,020	300	482	1,510	953	151	4,390	391	124	99
29	39	55	909	368	---	1,240	1,350	133	1,700	311	115	89
30	44	51	859	885	---	1,050	1,220	116	1,230	260	107	80
31	46	---	779	2,410	---	897	---	105	---	235	112	---
Total	1,873	1,848	26,642	41,342	16,565	49,018	20,761	31,855	18,386	54,996	13,508	7,750
Mean	60.4	61.6	859	1,334	592	1,581	692	1,028	613	1,774	436	258
Max	199	134	2,920	7,970	1,920	7,050	1,360	4,720	5,130	13,700	1,900	1,560
Min	36	39	47	300	226	412	223	105	82	235	107	80
Cfsm	0.15	0.15	2.14	3.31	1.47	3.93	1.72	2.55	1.52	4.41	1.08	0.64
In.	0.17	0.17	2.46	3.82	1.53	4.53	1.92	2.94	1.70	5.08	1.25	0.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	184	378	881	1,111	1,266	1,374	924	729	431	276	189	185
Max	1,334	1,869	3,138	4,630	4,438	4,309	3,367	3,747	2,686	1,774	963	2,101
(WY)	(2007)	(2005)	(1979)	(1950)	(1989)	(1964)	(2011)	(1983)	(1997)	(2013)	(1992)	(1979)
Min	5.94	12.1	17.3	33.8	64.5	145	119	51.8	31.7	15.9	17.7	9.21
(WY)	(1944)	(1944)	(1944)	(1944)	(1944)	(1941)	(1918)	(1941)	(1944)	(1944)	(1948)	(1953)

03289500 ELKHORN CREEK NEAR FRANKFORT, KY—Continued

SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1916 - 2013	
Annual total	155,118		284,544			
Annual mean	424		780		659	
Highest annual mean					1,103	1997
Lowest annual mean					126	1954
Highest daily mean	2,920	Dec 21	13,700	Jul 6	25,000	Feb 16, 1989
Lowest daily mean	27	Aug 27	36	Oct 16	0.00	Jan 7, 1940
Annual seven-day minimum	30	Aug 23	38	Oct 20	0.00	Jan 7, 1940
Maximum peak flow			17,500	Jul 6	35,900	Mar 4, 1997
Maximum peak stage			13.37	Jul 6	17.96	Mar 3, 1997
Instantaneous low flow					23	Sep 26, 2007
Annual runoff (cfsm)	1.05		1.94		1.64	
Annual runoff (inches)	14.34		26.30		22.24	
10 percent exceeds	1,200		1,610		1,630	
50 percent exceeds	142		397		222	
90 percent exceeds	39		53		36