Water-Data Report 2007

03287500 KENTUCKY RIVER AT LOCK 4 AT FRANKFORT, KY

Kentucky Basin
Lower Kentucky Subbasin

LOCATION.--Lat 38°12′06″, long 84°52′54″ referenced to North American Datum of 1927, Franklin County, KY, Hydrologic Unit 05100205, on left bank at downstream side of Broadway Street Bridge at Frankfort, 300 feet upstream from Benson Creek, 0.8 miles upstream from Lock 4, and at mile 65.8. Records include flow of Benson Creek. Auxiliary gage: Kentucky River at Lock 5 near Lawrenceburg lower gage and at mile 82.2.

DRAINAGE AREA.--5,411 mi^2 of which 119 mi^2 probably is noncontributing, (includes flow from Benson Creek).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1905 to July 1906 (gage-heights only), October 1925 to current year. Monthly discharge only October 1930 to February 1931, October, November 1931, and May to September 1932, published in WSP 1305. Gage-height record collected in this vicinity September 1887 to December 1889. January to May 1893, and since April 1901 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1113: 1941-42. WSP 1385: 1926-27, 1929(M). 1932-33, 1935-37, 1938(M), drainage area. WSP 1555: 1932(M).

GAGE.--Water-stage recorder with telemetry and crest-stage gage. Datum of gage is 462.10 feet above NGVD of 1929. Prior to December 27, 1939, nonrecording gage at lock 4, 0.9 miles downstream at same datum. Auxiliary water-stage recorder at Lock 5, at Tyrone, 16.3 miles upstream. Prior to January 28, 1982, nonrecording gage at same site and datum.

COOPERATION.--Kentucky River Authority, U.S. Army Corps of Engineers, Louisville District, and the City of Frankfort.

REMARKS.--Records fair except for those estimated and for those less than 500 ft^3/s, which are poor. Flow regulated since November 1925 by Herrington Lake (station 03286000), since December 1960 by Buckhorn Lake (station 03280800), since January 1976 by Carr Fork Lake (station 03277446), and by hydroelectric plant at Lock 7.

03287500 KENTUCKY RIVER AT LOCK 4 AT FRANKFORT, KY—Continued

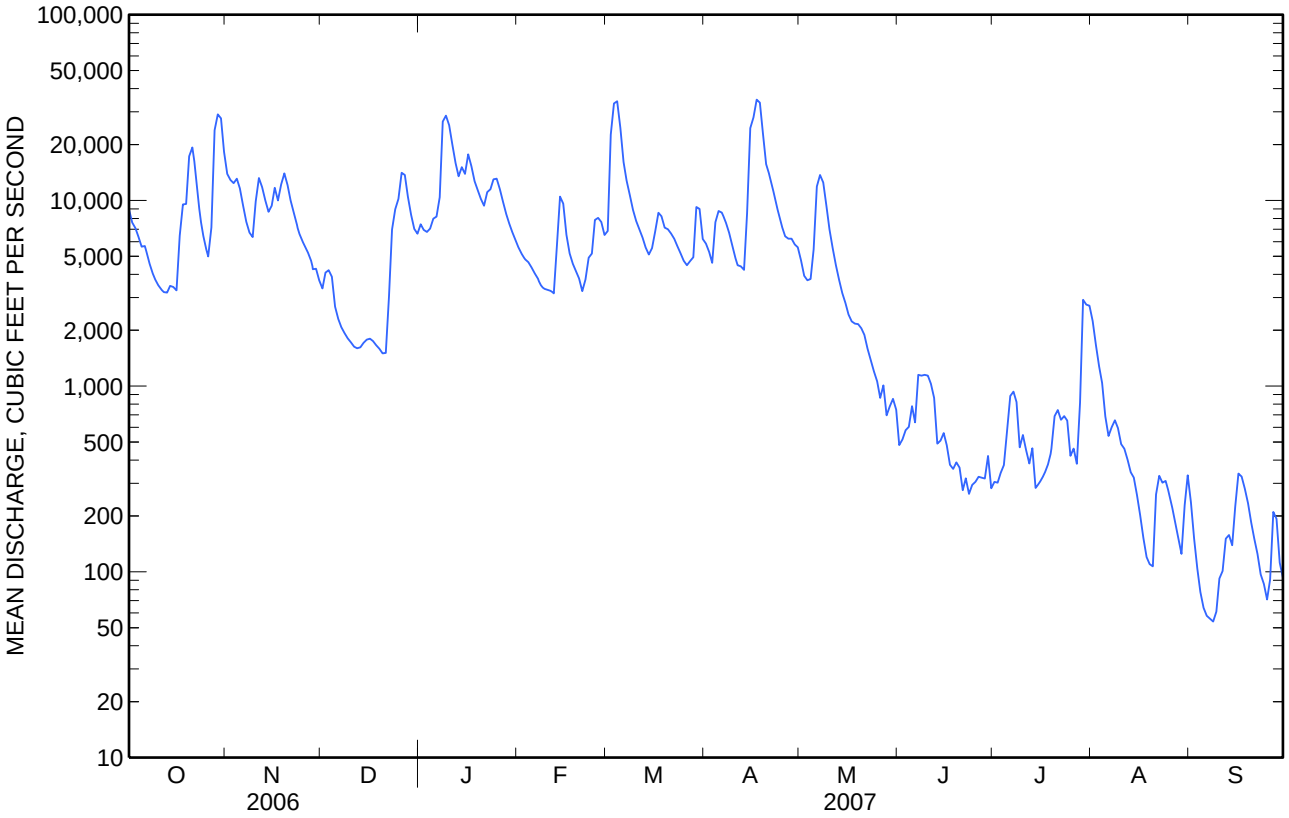
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8,960	13,900	3,360	7,450	5,540	6,850	5,850	4,760	482	305	2,240	237
2	7,610	12,900	4,090	6,940	5,100	22,600	5,280	3,930	516	302	1,670	151
3	7,090	12,400	4,210	6,770	4,810	33,300	4,610	3,720	579	341	1,280	104
4	6,370	13,100	3,880	7,050	4,650	34,200	7,640	3,780	604	376	1,040	78
5	5,640	11,600	2,680	7,980	4,360	24,600	8,780	5,450	780	576	687	64
6	5,680	9,380	2,300	8,180	4,050	16,100	8,610	11,900	638	886	539	58
7	4,920	7,690	2,080	10,400	3,790	12,800	7,770	13,700	1,150	934	601	56
8	4,260	6,710	1,930	26,600	3,480	10,700	6,960	12,500	1,140	821	655	54
9	3,850	6,350	1,810	28,600	3,350	8,890	6,100	9,340	1,150	468	594	61
10	3,570	9,880	1,720	25,400	3,300	7,750	5,090	6,990	1,140	546	487	92
11	3,340	13,200	1,630	20,000	3,260	6,990	4,480	5,540	1,030	452	460	101
12	3,210	11,800	1,600	15,900	3,160	6,300	4,420	4,490	865	383	402	151
13	3,190	10,000	1,620	13,500	5,810	5,580	4,230	3,740	490	463	344	158
14	3,470	8,690	1,710	15,100	10,500	5,110	8,530	3,170	509	283	322	139
15	3,420	9,370	1,780	13,900	9,610	5,540	24,500	2,800	559	299	259	225
16	3,280	11,700	1,800	17,700	6,530	6,840	28,000	2,430	481	317	201	338
17	6,450	10,000	1,750	15,300	5,190	8,580	34,900	2,230	377	348	152	326
18	9,520	12,200	1,660	12,700	4,560	8,220	33,600	2,170	358	384	120	280
19	9,580	14,000	1,590	11,400	4,170	7,140	23,000	2,160	389	460	110	234
20	17,300	12,100	1,500	10,200	3,800	7,000	15,700	2,050	364	690	107	184
21	19,300	10,000	1,510	9,360	3,250	6,630	13,600	1,890	275	744	261	151
22	14,200	8,590	3,050	11,100	3,750	6,210	11,800	1,590	319	659	329	125
23	9,470	7,380	6,970	11,500	4,920	5,680	9,860	1,380	263	690	302	97
24	7,110	6,490	8,970	13,000	5,180	5,200	8,390	1,200	294	652	309	86
25	5,810	5,870	10,200	13,100	7,860	4,730	7,220	1,060	305	422	271	71
26	4,990	5,430	14,100	11,500	8,060	4,480	6,410	864	325	461	223	91
27	7,150	5,010	13,700	9,810	7,650	4,720	6,220	1,010	321	382	188	210
28	23,900	4,260	10,500	8,440	6,520	4,950	6,230	696	318	815	152	193
29	29,100	4,290	8,390	7,490	---	9,230	5,800	779	421	2,920	125	112
30	27,700	3,710	7,030	6,700	---	9,000	5,590	855	282	2,750	229	93
31	18,300	---	6,620	6,060	---	6,200	---	747	---	2,710	331	---
Total	287,740	278,000	135,740	389,130	146,210	312,120	329,170	118,921	16,724	22,839	14,990	4,320
Mean	9,282	9,267	4,379	12,550	5,222	10,070	10,970	3,836	557	737	484	144
Max	29,100	14,000	14,100	28,600	10,500	34,200	34,900	13,700	1,150	2,920	2,240	338
Min	3,190	3,710	1,500	6,060	3,160	4,480	4,230	696	263	283	107	54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,456	5,096	9,252	10,990	13,180	13,520	10,630	8,753	5,564	2,455	2,028	2,211
Max	13,240	13,700	33,220	27,590	35,680	34,190	22,400	28,200	20,840	6,446	6,433	12,750
(WY)	(1990)	(1987)	(1979)	(1979)	(1989)	(1997)	(1994)	(1983)	(1997)	(1998)	(1992)	(2004)
Min	289	550	1,134	540	4,866	4,175	1,518	1,354	417	638	260	144
(WY)	(1981)	(2000)	(2006)	(1981)	(2002)	(1983)	(1986)	(1986)	(1988)	(1999)	(2002)	(2007)

03287500 KENTUCKY RIVER AT LOCK 4 AT FRANKFORT, KY—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1977 - 2007	
Annual total	2,113,978		2,055,904			
Annual mean	5,792		5,633		7,146	
Highest annual mean					11,860	1979
Lowest annual mean					3,182	1988
Highest daily mean	40,900	Jan 24	34,900	Apr 17	116,000	Dec 10, 1978
Lowest daily mean	363	Aug 9	54	Sep 8	54	Sep 8, 2007
Annual seven-day minimum	412	Aug 4	66	Sep 4	66	Sep 4, 2007
Maximum peak flow			36,100	Apr 17	118,000	Dec 9, 1978
Maximum peak stage			15.06	Apr 17	48.47	Dec 10, 1978
10 percent exceeds	13,100		13,100		17,500	
50 percent exceeds	3,570		4,050		3,380	
90 percent exceeds	1,160		236		490