06800500 Elkhorn River at Waterloo, Nebr.

Elkhorn Basin
Lower Elkhorn Subbasin

LOCATION.--Lat 41°17′36″, long 96°17′02″ referenced to North American Datum of 1983, in SE ¼ SW ¼ sec.3, T.15 N., R.10 E., Douglas County, NE, Hydrologic Unit 10220003, on right bank at Nebraska Highway 64 bridge at north edge of Waterloo, 3.5 mi downstream from Rawhide Creek, and at mile 13.8.

DRAINAGE AREA.--6,900 mi^2 of which 1,030 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1899 to November 1903, May 1911 to September 1915, August 1928 to current year. Published as "at Arlington" 1899-1903, July 1913 to September 1915. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1914 (M), 1915, 1936, 1943(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,104.73 ft above sea level. Oct. 1, 1960, to July 27, 1978, at datum 2.00 ft higher. See WSP 1918 for history of changes prior to Oct. 1, 1960. July 28, 1978 to Nov. 17, 1993, at site 800 ft downstream at present datum. Data collection platform at station.

REMARKS.--Records good except for estimated daily discharges, which are poor. Some small diversions above station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--1899 to 1903, 1911-15, 1928-65: Maximum discharge, 100,000 cfs June 12, 1944 (gage height, 16.6 feet, from flood mark in the gage well, site and datum then in use), from rating curve extended from above 22,000 cfs, on the basis of current meter measurements of the peak flow in the main channel and velocity/area studies of the overflow section; minimum observed, 50 cfs Nov. 12, 1940. Stage and discharge of the flood of June 12, 1944, are the greatest known since at least 1880.

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FROM THE DCP
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	624	665	416	990	809	1,030	3,990	2,320	793	667	194	351
2	576	644	360	978	801	902	4,390	2,070	766	633	195	349
3	545	645	442	1,040	786	874	3,730	1,840	742	614	192	339
4	523	648	529	1,050	761	862	3,380	1,710	760	585	187	328
5	514	648	645	1,120	710	869	3,090	1,570	781	536	216	324
6	552	650	615	1,060	674	883	2,870	1,440	738	500	260	327
7	841	651	e636	976	718	877	3,260	1,350	773	468	237	330
8	631	656	e630	1,040	776	873	3,400	1,300	1,150	445	266	328
9	572	656	e642	1,020	733	906	3,250	1,400	940	430	261	328
10	560	653	e661	929	692	971	3,410	1,270	792	423	259	461
11	549	657	730	913	698	998	3,890	1,220	717	426	254	671
12	583	674	767	964	736	951	4,190	1,190	698	410	329	681
13	641	678	816	993	972	898	3,560	1,160	703	424	415	829
14	610	672	864	911	869	877	3,060	1,120	685	438	491	1,060
15	615	680	874	874	750	852	2,480	1,100	651	438	485	1,040
16	597	686	943	877	826	825	2,200	1,100	607	417	544	3,260
17	583	621	e954	873	e803	814	2,150	1,090	621	375	546	2,230
18	582	616	e971	814	e852	807	2,490	1,080	1,840	346	457	1,450
19	571	680	e957	822	e942	807	2,980	1,080	1,900	315	410	1,090
20	578	774	e948	873	e954	837	2,190	1,020	1,430	289	382	989
21	584	743	e923	833	e954	865	1,830	1,000	1,620	295	399	853
22	583	730	901	789	e959	853	1,630	981	1,360	277	360	1,090
23	594	734	834	748	e971	868	1,450	952	1,070	e250	374	1,130
24	601	720	861	763	e979	818	1,380	1,070	967	e240	398	1,050
25	610	689	911	778	975	864	1,370	1,040	993	e245	334	944
26	623	671	937	755	977	956	1,380	986	1,090	e250	294	831
27	633	692	966	750	1,110	962	1,360	1,030	966	e230	275	773
28	638	739	1,020	785	1,110	1,070	1,470	1,070	836	e205	364	725
29	641	768	1,030	835	---	1,290	1,960	940	772	203	493	683
30	648	639	1,050	791	---	1,820	2,260	865	722	201	433	651
31	664	---	1,030	805	---	3,330	---	818	---	193	384	---
Total	18,666	20,379	24,863	27,749	23,897	31,409	80,050	38,182	28,483	11,768	10,688	25,495
Mean	602	679	802	895	853	1,013	2,668	1,232	949	380	345	850
Max	841	774	1,050	1,120	1,110	3,330	4,390	2,320	1,900	667	546	3,260
Min	514	616	360	748	674	807	1,360	818	607	193	187	324
Ac-ft	37,020	40,420	49,320	55,040	47,400	62,300	158,800	75,730	56,500	23,340	21,200	50,570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	723	760	671	634	1,201	2,221	2,068	2,089	2,806	1,430	935	727
Max	2,780	2,792	1,803	1,650	6,439	8,082	10,450	7,565	11,950	11,470	4,755	2,705
(WY)	(1987)	(1999)	(1994)	(1973)	(1971)	(1993)	(1984)	(1995)	(1984)	(1993)	(1951)	(1951)
Min	150	240	150	180	256	489	512	327	405	173	117	87.8
(WY)	(1940)	(1940)	(1930)	(1977)	(1940)	(1981)	(1981)	(1934)	(1933)	(1936)	(1976)	(1939)

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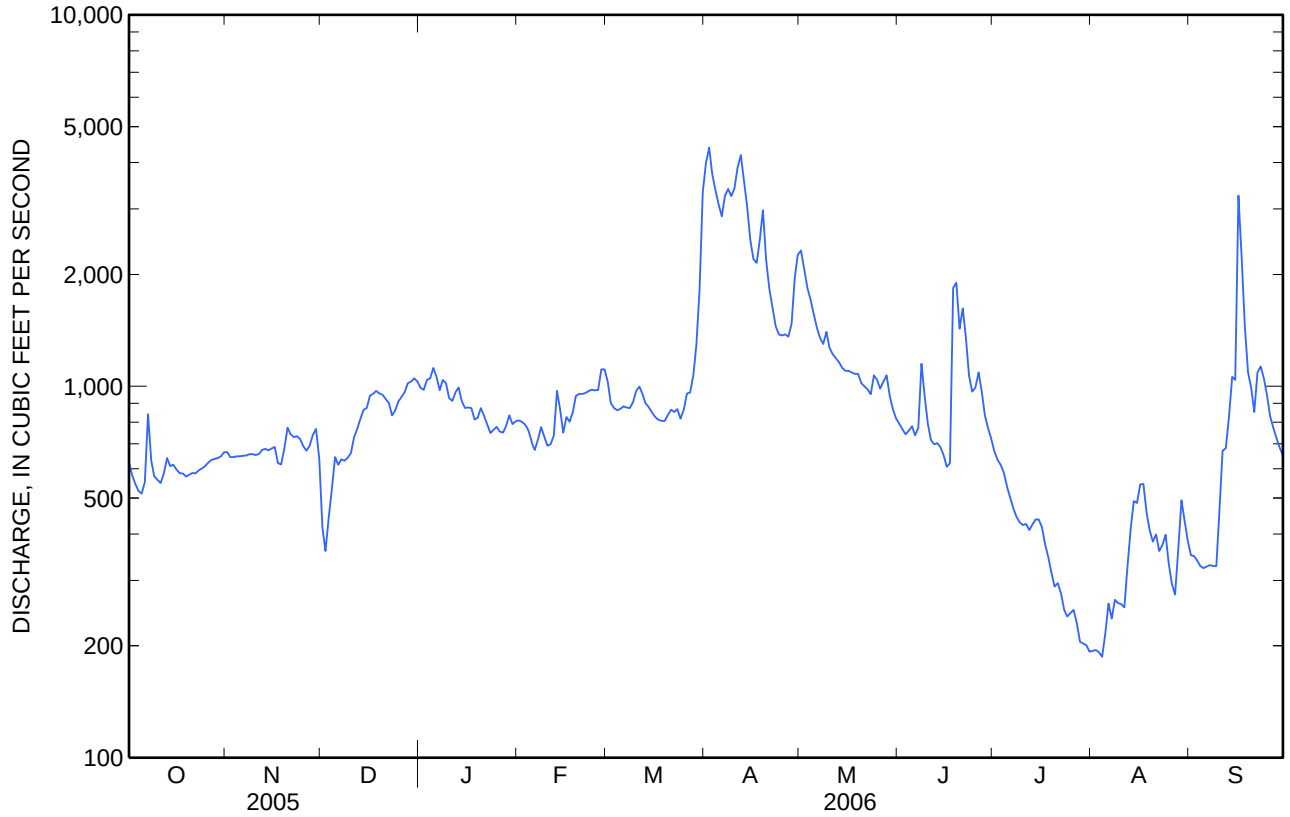
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1929 - 2006	
Annual total	523,375		341,629			
Annual mean	1,434		936		1,354	
Highest annual mean					3,870	1993
Lowest annual mean					417	1939
Highest daily mean	6,580	Feb 14	4,390	Apr 2	93,800	Jun 12, 1944
Lowest daily mean	359	Sep 17	187	Aug 4	64	Sep 16, 1939
Annual seven-day minimum	367	Sep 12	195	Jul 29	66	Sep 15, 1939
Maximum peak flow			5,470	Mar 31	100,000	Jun 12, 1944
Maximum peak stage			6.79	Mar 31	16.60	Jun 12, 1944
Annual runoff (ac-ft)	1,038,000		677,600		980,900	
10 percent exceeds	3,600		1,510		2,720	
50 percent exceeds	911		789		748	
90 percent exceeds	524		348		309