

Republican River at Hardy, Nebraska
1993 Level Flows - KAF

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
1931	1.5	0	0	0	17.1	3.4	6.7	9.1	4.9	5	1.7	11	60.4
1932	6.1	29.6	5.6	4.8	3.3	12.3	5.9	2.4	4.5	0	0.1	0	74.6
1933	0.3	1.8	4.5	0.8	7	2.4	5.6	5.9	9	4.8	0.7	0	42.8
1934	1.8	1.9	4.1	3.6	4	0.7	3.4	1.8	0	0.9	2.4	0.2	24.8
1935	0	8	2.8	3.7	0	261.9	4.4	0	20	4.1	1.7	6.9	313.5
1936	0	1	0.3	5.8	0	11	4.9	2.1	2.7	1.5	0	0	29.3
1937	1	35.6	5.9	2.9	1.7	3.9	12.4	1.3	3.5	1.8	0	0	70
1938	0.2	2	4.2	0	10	9.5	2.4	9.6	7.4	1.5	1.3	0	48.1
1939	0	0.5	4.8	9	1.3	19.3	7.7	5.4	2	0.6	0	0	50.6
1940	0	0	5.5	2.4	6.5	4.7	0	7.7	0	0	3.4	2.5	32.7
1941	4.1	2.3	2.1	4.3	4.1	78.4	0	0	1.2	9.1	6.3	4.6	116.5
1942	4.8	10.1	5.3	20.8	10.1	70.3	7.8	7.6	29.2	4.8	4.1	0	175
1943	7.8	16.3	3.3	23.8	4.6	35.8	6.4	4.7	2.2	1	0.5	0.4	106.9
1944	3.7	0	6.5	0	19.7	8.2	2.7	17.8	7.2	3.3	2.4	0	71.5
1945	4.9	5.3	5.3	11.1	45.4	0	22.4	4.2	0.2	0	0.3	0	99.2
1946	3.3	8.5	3.5	4.2	0	10.3	7.6	6.5	35.4	0	39.8	23.6	142.7
1947	9.1	2.4	13.3	24.2	21.5	167.5	6.2	5.3	3	1.5	0	2	256
1948	2.8	12.9	13.6	5.9	4.1	1.9	1.4	5.1	2.4	0.4	2	1.7	54.2
1949	0	18.2	36.5	8.5	56.4	88.3	9.9	2.7	6.2	6.4	3.4	5.2	242
1950	3.4	0.9	6.8	3.7	9.2	7	33.2	11.6	29.6	19.8	5.6	4.4	135.2
1951	5.2	7.3	10.4	11.8	0	111.7	111.9	14.1	34.2	26.3	18.9	17.6	369.5
1952	28.8	36.9	47.7	50	63.3	13.4	5.3	2.9	3.5	1.1	4	5.3	262.3
1953	2.2	10.4	4.6	4.8	5.3	14.2	2.6	2.2	5.6	4.1	4.4	7	67.4
1954	3.4	6.3	3.4	3.6	13.9	5.1	1.6	5.9	3.2	2.5	3	4.7	56.6
1955	4.2	8.2	4	3.5	2	37.9	1.5	1.5	10	4.7	3.2	4	84.7
1956	4.2	5.2	4.3	3.1	2.6	7.3	9.6	3.3	1.1	2.1	3	3.4	49.2
1957	2.5	4.8	3	3.2	12.2	124.8	1.2	10.4	6.7	4.7	3.2	4.3	181
1958	4.1	4.1	2.8	3.9	6.6	6.1	11.7	11.2	26.9	4.8	3.2	3.4	88.8
1959	4.7	8.9	12.5	1.8	40.8	6.6	11.8	7	5.7	5.9	4	6.7	116.4
1960	4.9	9.3	38.6	0.9	28.8	60.5	7	5.4	4.7	3.7	4	6.4	174.2
1961	5.4	6.1	3.6	4	11.2	12.7	11.7	9.4	7.1	9.4	8.1	6	94.7
1962	13	15.8	17	3.1	8.5	0	2.3	7	3.7	15.2	9.2	7.8	102.6
1963	5.5	0	8.4	11.4	6.9	4.9	6.4	2.8	18.2	10.2	3	3.8	81.6
1964	6.9	6.6	10	4	4.4	4.4	4.4	12.6	2.7	3.8	3.9	5	68.7
1965	5.4	12.6	13	8.8	34.5	40.7	10.7	9	19.8	0	16.5	20.5	191.5
1966	14	36.4	21.4	11.1	12.4	30.8	7.7	5.8	4.7	2	1.5	6	153.9
1967	5.3	3.6	4.5	5.4	4.9	38.5	4.6	9.3	11.5	9.3	4.8	7.2	108.9
1968	5.6	1.9	0.5	8.2	4.5	3.1	6.1	6.2	7.7	4.9	4	5.2	57.9
1969	0.2	22.9	43	4.9	12.2	10	14.8	12	11.5	10.6	5	7.9	155.1
1970	4.2	6	7.6	15.5	7.3	5.1	6.7	7.3	5.4	4.6	5.2	7.5	82.4
1971	5.7	11	11.8	5.5	7.7	12	6.3	7.4	5.9	3.9	4	8.4	89.6
1972	6.7	7.2	3.8	3.2	8.6	5	8.8	7.9	5.5	3.4	5.6	9.5	75.2
1973	10.4	10.4	18.4	22.5	12.5	8.5	7.58	9.6	87.3	78.1	25	18.3	311.8
1974	18.9	13.3	12.9	13.8	15.4	4.7	4.1	5	4.5	4.3	4.9	8.6	110.4
1975	9.3	10.4	11.3	7.1	9.6	56.7	11.6	7.2	5.2	4.2	5.3	10.2	148.1
1976	2.8	3.6	2.9	12	3.9	4.8	4.7	5.5	3.3	3.2	2.2	0	48.9
1977	4.3	9.6	5.5	5.1	8.1	7.3	6.3	14.4	26.8	6.5	5.6	7.5	107
1978	5.8	5.2	32.6	9.9	8.3	4.63	6.7	6.4	20.7	3.9	5	6.1	115.2
1979	4	21.6	56.7	17.1	21.5	4.7	7.5	6.8	6.3	6.1	7.1	8.9	168.3
1980	7.4	9.9	18.4	30.7	11	6.6	6.9	8.5	4.5	4.2	4	6.5	118.6
1981	6.6	5.6	4.4	4.5	28.1	7	17.2	9.3	4.5	3.5	2.7	12.4	105.8
1982	5.7	23.2	15.5	5.4	78.7	25.8	24.6	13	10.4	8.1	5	8.6	224.1
1983	10.8	10.1	9.6	6	19.6	54.6	8.9	9.5	29.2	66.4	15.5	13.2	253.5
1984	29.9	24.5	24.5	58.3	48.5	23.2	9	8.3	6	5.5	3.7	17.7	259.1
1985	8.7	13.1	9.1	7.4	44.1	9.7	7.3	24	4.8	15.7	11.8	10.2	165.9
1986	10.8	10.8	11.7	17.4	13.8	12.4	10.8	10.2	13.8	22.8	10.3	11	158.9
1987	8.4	8.4	48.3	58.7	39.8	7.9	8.6	14.4	5.1	4.7	4.5	11.3	222.1
1988	14.2	14.2	11.4	5	5.1	0.8	16.5	8.2	5.8	3.6	3.6	6.5	91.1
1989	6.8	7.5	5.3	5.3	3.5	4.3	5	7.2	5.6	6.9	4.2	4.9	66.6
1990	7.5	7	10.1	3.9	11.6	12.4	2.6	4.9	4.9	4.2	4.3	5.1	78.5
1991	3.6	8.2	4.9	3.9	4.9	4.7	1.3	5.1	4.2	3.6	3.7	7.1	55.2
1992	7.6	6.8	5.8	5.4	3.7	4.2	54.6	8	5.4	4.6	4.9	7.2	118.3
1993	6.9	28.5	96	33.5	31.4	22.7	<u>204.9</u>	42.4	45	25.9	46.1	38.3	621.6

Annual Values

1965-2000

Hardy	Guide Rock	Arikaree R N FK at Haigler	Buffalo Creek nr Haigler	Rock Creek at Parks	S Fk nr Benklema n	Frenchma n Creek at Culbertso n	Red			Beaver		
							Driftwood Creek near McCook	Willow Creek near Red Willow	Sappa Creek nr Stamford	Courtland Canal at SL	Creek near Beaver City	Prairie Dog Creek near Woodruff
95%	792.70	24.92	7.74	14.70	49.03	119.75	17.16	28.10	113.28	137.00	53.06	40.73
99%	942.72	42.66	8.33	15.70	71.37	163.72	22.51	50.32	178.33	151.77	74.51	46.23
99.50%	985.36	43.58	8.51	16.05	77.69	165.36	24.00	56.06	196.17	152.39	80.36	47.22
99.80%	1010.94	44.13	8.63	16.26	81.47	166.34	24.90	59.50	206.87	152.75	83.86	47.81
99.98%	1026.29	44.46	8.69	16.39	83.75	166.93	25.44	61.57	213.29	152.98	85.97	48.16
Max	1028.00	44.50	8.70	16.40	84.00	167.00	25.50	61.80	214.00	153.00	86.20	48.20

All values are annual mean cfs

Monthly

1936-40

75%

95%

12% (500m 4830)

Confidential RRCL Settlement Document

Flow at Hardy	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1929												
1930												
1931					1,124	966	222	566	102			
1932			1,456	817	484	2,044	353	440	390	76	147	300
1933		425	405	609	1,111	263	236	900	1,797	400	360	553
1934		530	485	623	494	1,120	110	18	320	94	238	248
1935		311	548	524	1,807	10,390	1,028	1,213	1,750	383	454	513
1936		307	261	733	2,020	1,221	118	35	166	61	183	286
1937		162	702	696	415	1,739	886	765	465	139	151	211
1938		414	456	581	1,458	1,684	924	829	839	123	185	255
1939		285	275	667	613	2,350	696	432	32	20	69	134
1940		102	205	754	496	1,298	620	537	238	274	261	301

Monthly	Max Two Months
J 1935	1935 MJ
J 1939	JJ 1939
	MJ 1932

10390	12,197
2350	3,046
2044	2,528
2020	
1807	
1797	
1750	
1739	
1684	
1458	
1456	

Monthly flow at Hardy.xls