

Year Month Mean
Streamflow,
cfs

		Hardy	Guide Rock		Hardy	Guide Rock
1993	7	3210	2446	75	364.25	235
1967	7	2107	2053	80	446.2	307.2
1967	6	1979	1645	90	723.9	589.6
1965	10	1970	2073	95	1102	868.4
1993	3	1584	595			
1965	7	1575	1419	0.99	2107	
1984	5	1500	1247			
1973	9	1455	613			
1982	5	1360	1019			
1993	11	1308	1245			
1965	11	1303	1223			
1996	9	1283	934			
1973	10	1272	559			
1993	10	1251	1259			
1983	6	1190	1151			
1993	9	1173	909			
1995	6	1157	1064			
1995	5	1151	757			
1996	10	1137	974			
1994	3	1133	973			
1965	6	1115	894			
1975	6	1113	538			
1984	4	1093	823			
1983	10	1081	243			
1987	4	998	510			
1966	2	968	880			
1996	8	968	851			
1966	3	967	952			
1979	3	941	540			
1992	7	930	614			
1993	12	928	819			
1969	5	925	881			
1996	11	898	554			
1993	8	848	799			
1997	4	836	939			
1977	9	801	429			
1987	3	797	410			
1969	6	793	659			
1974	2	780	700			
1998	4	778	605			
1984	6	761	402			
1970	4	750	706			
1983	9	740	589			
1969	3	724	350			
1974	3	723	663			

3/15/02
3/15/02
3/15/02

1999	5	717	554
1985	5	704	592
1985	8	687	354
1982	7	687	310
1966	4	674	654
1983	5	673	683
1969	2	671	474
1965	12	668	622
1968	4	642	599
1983	3	641	709
1965	5	638	552
1966	1	636	572
1970	3	632	654
1983	4	630	644
1974	4	627	578
1965	9	616	533
1973	5	614	500
1987	5	613	249
1969	7	604	381
1996	7	591	968
1966	7	563	472
1978	3	550	332
1993	4	543	224
1970	2	540	505
1980	4	535	386
1967	2	534	505
1974	5	531	439
1982	6	529	445
1994	2	529	356
1967	3	520	486
1988	7	519	304
1993	2	516	163
2000	7	506	434
1984	1	500	201
1990	8	486	426
1989	7	484	437
1998	5	483	398
1994	1	474	344
1997	5	472	314
1993	5	463	220
1969	9	450	294
1969	12	448	392
1984	2	439	269
1973	11	433	213
1982	2	426	250
1975	7	417	263
1984	3	406	287
1979	2	402	197
1994	4	401	359
1996	5	400	296
1973	4	397	229
1978	9	397	99

1969	4	392	369
1986	9	392	202
1973	6	379	268
1981	7	379	141
1974	1	378	262
1986	10	375	170
1969	11	373	368
1981	5	371	285
1967	8	369	245
1969	8	369	203
1971	6	365	195
1976	4	364	180
1994	5	357	310
1967	4	357	306
1983	2	347	302
1979	5	346	309
1968	3	344	376
1996	6	341	262
1987	7	341	237
1977	8	337	166
1968	2	336	358

Notes on Monthly Flow Analysis 1965-200
 Republican River – Guide Rock and Hardy

The monthly mean flows were analyzed and a percentile flow values were computed at follows:

Percentile	Hardy – Mean Monthly cfs	Guide Rock – Mean Monthly cfs
75	364	235
80	446	307
90	724	589
95	1102	868

The flows were also analyzed using the USGS Bulletin 17B Method Mean Monthly Flow Frequency and the results are shown as exceedance probability

Monthly Exceedance Probability	Hardy – Mean Monthly cfs	Guide Rock – Mean Monthly cfs
0.10 – Ten month event	1210	970
0.04 – 25 month event	1630	1380
0.02 – 50 month event	2000	1750
0.01 – 100 month event	2420	2180
0.005 – 200 month event	2900	2690
0.002 – 500 month event	3640	3500

During the 1965-2000 period, the ten-month flows were exceeded 14 times at Guide Rock and 14 times at Hardy.

The USGS Bulletin 17B Method Limits the number of records that can be used, for these analysis, all flows less than 200 were removed. The effect of removing them causes the exceedance values to increase and the results can be seen in the following chart

Monthly Exceedance Probability	Guide Rock all Flows 1990-1999 – Mean Monthly cfs	Guide Rock Flow > 200 cfs 1990-1999– Mean Monthly cfs
0.10 – Ten month event	620	1140
0.04 – 25 month event	1020	1630
0.02 – 50 month event	1410	2050
0.01 – 100 month event	1870	2530
0.005 – 200 month event	2420	3070
0.002 – 500 month event	3300	3890

All values are monthly mean cfs

	Hardy	Guide Rock	Arikaree R N FK at Haigler CO-NE sl	Buffalo Creek nr Haigler	Rock Creek at Parks	S Fk nr Benklema n	Frenchma n Creek at Culbertso n	Driftwood Creek near McCook	Red Willow Creek near Red Willow	Sappa Creek nr Stamford SL	Courtland Canal at Beaver City	Beaver Creek near Beaver City	Prairie Dog Creek near Woodruff
95%	1136	938	36	72	10	16	94	133	26	38	412	47	53
99%	2029	2049	63	80	12	18	157	257	57	69	570	204	177
99.95%	2467	2464	115	86	13	19	160	298	62	103	519	247	213
99.98%	2793	2511	193	94	13	19	167	351	77	124	708	289	243
99.997%	3147												
99.998%	3168	2749	379	111	13	29	268	524	196	248	848	344	254
Max	3210	2776	400	113	13	30	279	543	209	262	863	350	255
Difference between percent and max and as percent of maximum value.													
99.50%	743	612	285	27	1	12	119	245	147	159	344	11	103
% max	23%	11%	71%	24%	5%	38%	43%	45%	70%	61%	40%	2%	29%
99.80%	417	265	207	19	0	11	112	192	132	138	155	5	61
% max	13%	10%	52%	17%	1%	37%	40%	35%	63%	53%	18%	1%	17%
99.97%	63	2776	400	113	13	30	279	543	209	262	863	350	255
% max	2%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
99.98%	42	27	21	2	0	1	11	19	13	14	15	6	1
% max	1%	1%	5%	2%	0%	4%	4%	4%	6%	5%	2%	2%	0%

90 max 97 90 48% 83% 100% 60% 64% 36% 47% 80% 97% 82% 95%

02 June 28% of max June flow 1930-1940 excluded
 04 " 13% " " " included

Annual Values

Hardy		Guide Rock	Arikaree R at Haigler	CO-NE sl	Buffalo Creek nr Haigler	Rock Creek at Parks	S Fk nr Benklema n	Frenchma n Creek at Culbertson	Driftwood Creek near McCook	Willow Creek near Willow	Red Creek near Red	Sappa Creek nr Stamford	Courtland Canal at SL	Beaver Creek near Beaver City	Prairie Dog Creek near Woodruff
95%	792.70	734.00	24.92	53.97	7.74	14.70	49.03	119.75	17.16	28.10	113.28	137.00	53.06	40.73	
99%	942.72	765.80	42.66	62.68	8.33	15.70	71.37	163.72	22.51	50.32	178.33	151.77	74.51	46.23	
99.50%	985.36	772.40	43.58	64.79	8.51	16.05	77.69	165.36	24.00	56.06	196.17	152.39	80.36	47.22	
99.80%	1010.94	776.36	44.13	66.06	8.63	16.26	81.47	166.34	24.90	59.50	206.87	152.75	83.86	47.81	
99.98%	1026.29	778.74	44.46	66.82	8.69	16.39	83.75	166.93	25.44	61.57	213.29	152.98	85.97	48.16	
Max	1028.00	779.00	44.50	66.90	8.70	16.40	84.00	167.00	25.50	61.80	214.00	153.00	86.20	48.20	

Difference between percent and max and as percent of maximum value.

99.50%	43	7	1	2	0	0	6	2	1	6	18	1	6	1	
% max	4.15%	0.85%	2.07%	3.16%	2.14%	2.12%	7.52%	0.98%	5.87%	9.29%	8.33%	0.40%	6.78%	2.04%	
99.80%	17.06	2.64	0.37	0.84	0.07	0.14	2.53	0.66	0.60	2.30	7.13	0.25	2.34	0.39	
% max	1.66%	0.34%	0.83%	1.26%	0.86%	0.85%	3.01%	0.39%	2.35%	3.72%	3.33%	0.16%	2.71%	0.82%	
99.98%	2	0	0	0	0	0	0	0	0	0	1	0	0	0	
% max	0.17%	0.03%	0.08%	0.13%	0.09%	0.09%	0.30%	0.04%	0.23%	0.37%	0.33%	0.02%	0.27%	0.08%	

7 cfs

Difference between Max and 99.98% = $\frac{10390 - 4830}{10390} = 54\%$ of max

(Left in 99.98% 2360 cfs) = $\frac{10390 - 2360}{10390} = 77\%$ of max

1999	5	717	554
1985	5	704	592
1985	8	687	354
1982	7	687	310
1966	4	674	654
1983	5	673	683
1969	2	671	474
1965	12	668	622
1968	4	642	599
1983	3	641	709
1965	5	638	552
1966	1	636	572
1970	3	632	654
1983	4	630	644
1974	4	627	578
1965	9	616	533
1973	5	614	500
1987	5	613	249
1969	7	604	381
1996	7	591	968
1966	7	563	472
1978	3	550	332
1993	4	543	224
1970	2	540	505
1980	4	535	386
1967	2	534	505
1974	5	531	439
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1967	3	520	486
1988	7	519	304
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1997	5	472	314
1993	5	463	220
1969	9	450	294
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1982	2	426	250
1975	7	417	263
1984	3	406	287
1979	2	402	197
1994	4	401	359
1996	5	400	296
1973	4	397	229
1978	9	397	99

1969	4	392	369
1986	9	392	202
1973	6	379	268
1981	7	379	141
1974	1	378	262
1986	10	375	170
1969	11	373	368
1981	5	371	285
1967	8	369	245
1969	8	369	203
1971	6	365	195
1976	4	364	180
1994	5	357	310
1967	4	357	306
1983	2	347	302
1979	5	346	309
1968	3	344	376
1996	6	341	262
1987	7	341	237
1977	8	337	166
1968	2	336	358

MONTHLY AND ANNUAL DISCHARGE
 REPUBLICAN RIVER AT HARDY
 ACRE-FEET.

*Water Years	(1) 1930			(1) 1931			(1) 1932			1933			1934			1935		
	Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	
October	20200	180500	42600	(1) 4800	4560	66000	83000	24570	12750	28390	30840	111100	5800	30840	111100	5800	30840	
November	24200	54500	42800	(1) 12600	95400	193760	15600	21400	66630	79380	30840	618200	14170	30840	618200	14170	30840	
December	24500	38300	12200	(1) 11900	217000	41700	14500	34030	6780	6780	19150	63210	15230	19150	63210	15230	19150	
January	20500	32700	28200	(1) 14200	27100	37400	55300	52590	1100	1100	30420	74610	19150	30420	74610	19150	30420	
February	28600	45300	5500	(1) 61200	57200	57200	107000	26920	19020	19020	32210	104100	30420	32210	104100	30420	32210	
March	33900	57200	5500	(1) 47800	61400	66000	107000	38290	19020	19020	32210	104100	30420	32210	104100	30420	32210	
April	54000	61400	5500	(1) 33100	61400	66000	107000	28390	19020	19020	32210	104100	30420	32210	104100	30420	32210	
May	86500	95400	42600	(1) 33100	95400	66000	107000	28390	19020	19020	32210	104100	30420	32210	104100	30420	32210	
June	141500	42800	42800	(1) 27600	42800	42800	83000	24570	12750	28390	30840	111100	5800	30840	111100	5800	30840	
July	33900	42800	12200	121000	42800	193760	15600	21400	66630	79380	30840	618200	14170	30840	618200	14170	30840	
August	35800	28200	28200	217000	27100	41700	14500	34030	6780	6780	19150	63210	15230	19150	63210	15230	19150	
September	56000	5500	5500	23200	23200	37400	55300	26920	1100	1100	30420	74610	30420	30420	74610	30420	30420	
Total	205900	499900	151300	185600	415900	183810	275400	207190	106290	147820	971220	1,119,000	1,119,000	1,119,000	1,119,000	1,119,000	1,119,000	1,119,000
Annual	359,600	403,700	530,100	601,500	459,210	406,100	459,210	315,470	315,470	315,470	315,470	315,470	315,470	315,470	315,470	315,470	315,470	315,470

*Water Year Ending September 30
 State Bureau of Irrigation
 A. W. Hall
 4-18-40

(1) Reconstructed Records
 F.B.S.
 12-28-40

MS X 195046 = 359100
 141621 = 359100
 actual - 7 other years =
 587679
 501,300 higher

Total
 436,880
 X 5 MS = 383,454
 X 5 MS = 383,454

MONTHLY AND ANNUAL DISCHARGE
 REPUBLICAN RIVER AT HARDY
 ACRE-FEET.

*Water Years	1936			1937			1938			1939			1940		
	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	Seven Months	Five Months	
October	23580	3740	8530	7560	1200										
November	27010	10870	9000	11030	4200										
December	31540	17580	12970	15650	3800										
January	18890	9950	26250	17500	6600										
February	15020	39000	24650	15280	14600										
March	45040	42820	35730	41090	50400										
April	33360	23410	32160	50740	28000										
May		124200	25540	89660	37710									30500	
June		72660	103500	100200	159800									77300	
July		7270	54510	56810	42800									38100	
August		2150	47050	51000	26580									33000	
September		9870	27670	49940	1910									14200	
Total	194440	216150	147370	258270	149290	346980	158730	248800	114800	193100					
Annual	410,590	405,640	496,270	407,530	307,900										

*Water Year Ending September 30
 State Bureau of Irrigation
 R. H. Willis
 12-17-40

David's first estimate of flood flows

Mean for month (AF)	Actual less monthly mean	Flood volume	
6 76,067	(56,604)		
7 51,356	146,072	146,072	<--- note high runoff in this month, 3201 v average of 835.
8 36,964	15,191		
9 27,260	42,557	42,557	<--- HC evacuating flood storage
10 19,866	57,076	57,076	<--- HC evacuating flood storage
11 16,189	61,663	61,663	<--- HC evacuating flood storage
<u>12</u> 15,068	42,007	<u>42,007</u>	<--- HC evacuating flood storage
14,945	14,207		<--- HC evacuating flood storage
22,387	7,000		<--- HC evacuating flood storage
33,581	36,103		<--- HC evacuating flood storage
33,153	(9,285)		
43,237	(21,280)		
	total	349,374	

RRCL Settlement Draft Confidential

Analysis to determine that amount of flood flows to remove from the compact computations
 David Barfield September 5, 2002

*500 cfs
 -500 cfs
 = 0*

*Σ monthly
 Max = 300 cfs
 = 350,000*

Estimate of flood flows by David's previous method 1981-2000

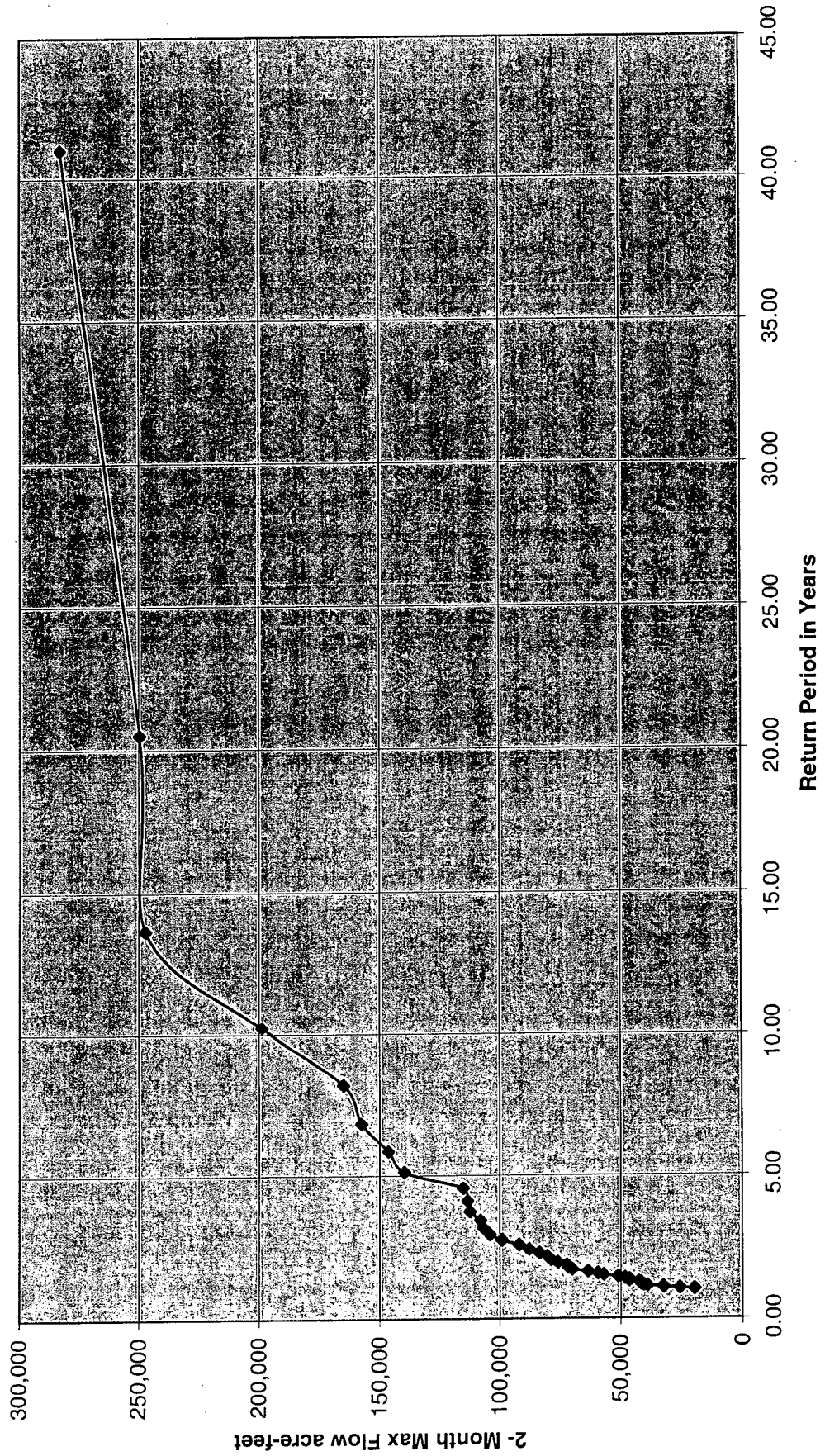
Year	Month	Hardy Flow (cfs)	Hardy Monthly AF	Hardy 2 month running, AF	HC releases Unused for irrigation HC to Hardy (AF)		Flood/Spill flows above 500 cfs AF	Estimate of flood flows by David's previous method 1981-2000 Upper quartile for month (AF)	Actual Hardy less upper quartile estimates DWB Flood volume estimates DWB
					AF	Hardy (AF)			
1993	6	327	19,463	47,939	0	167,428	19,632	166,170	
1993	7	3,210	197,428	216,891	0	22,155	31,258	33,419	
1993	8	848	52,155	249,583	1,896	39,817	18,736	56,972	
1993	9	1,173	69,817	121,972	32,562	46,942	12,845	63,361	
1993	10	1,251	76,942	146,758	59,566	47,852	13,580	66,091	
1993	11	1,308	77,852	154,794	59,504	27,076	11,761	44,094	
1993	12	928	57,076	134,928	35,334		12,982		
Totals, July-December								531,270	350,000

1967	5	202	12,424	33,672	5,542	6,881	41,869	(29,445)	
1967	6	1,979	117,790	130,214	71,370	46,420	19,671	98,119	
1967	7	2,107	129,589	247,379	109,996	19,593	31,321	98,268	
1967	8	369	22,695	152,284	0	22,695	18,774	3,921	
Totals June-July								247,379	196,387

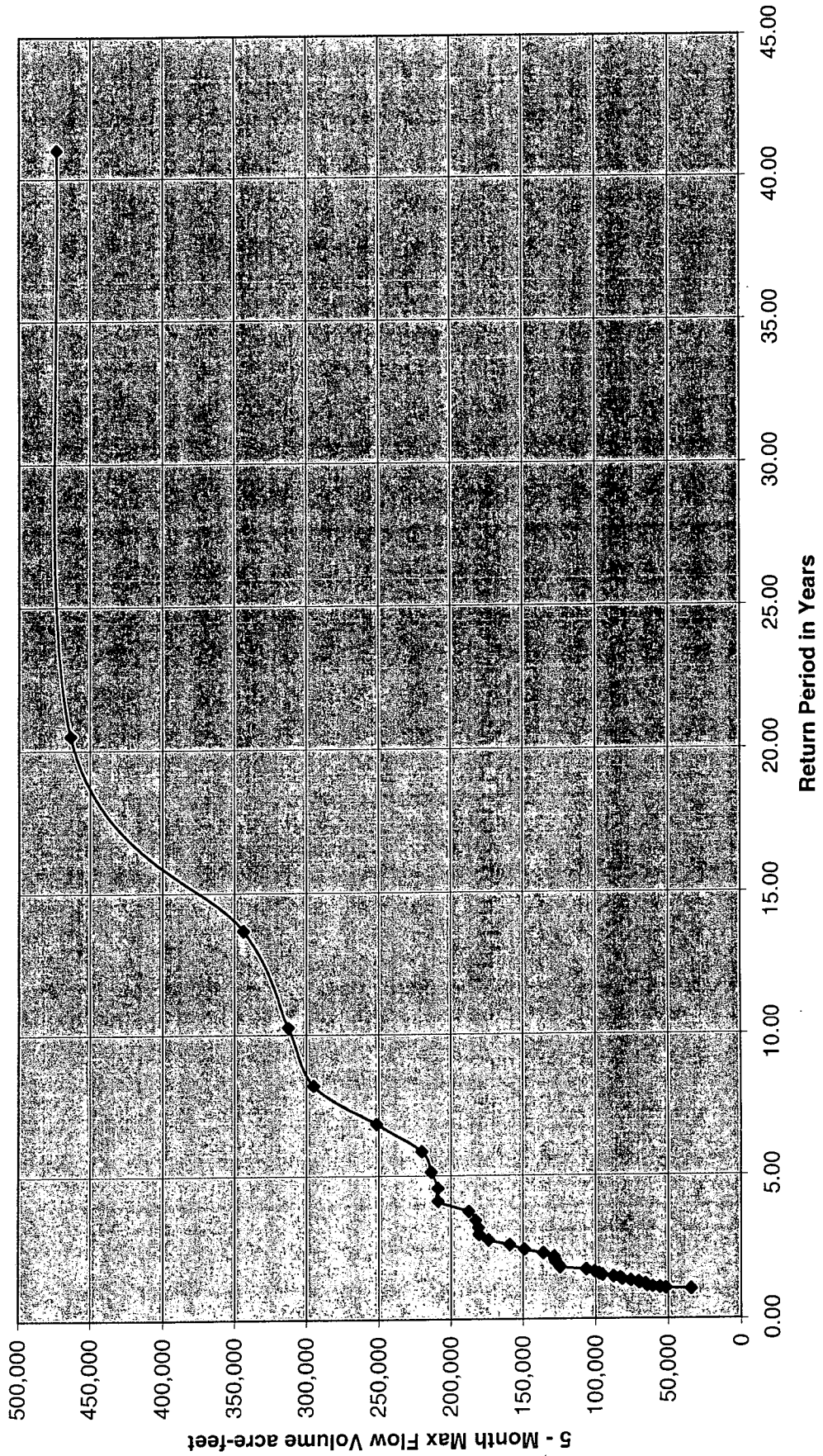
1965	5	638	39,2	51,798	-	39,240	41,869	(2,629)	
1965	6	1,115	66,360	105,604	24,979	41,385	19,671	46,693	
1965	7	1,575	96,869	163,234	57,786	39,083	31,321	65,548	
1965	8	195	11,993	108,862	-	11,993	18,774	(6,781)	
1965	9	616	36,664	48,656	10,001	26,663	12,871	23,793	
1965	10	1,970	121,163	157,827	118,466	2,697	13,608	107,555	
1965	11	1,303	77,555	198,717	56,660	20,895	11,785	65,770	
1965	12	668	41,085	118,639	29,300	11,785	13,008	28,077	
Totals July-November								344,244	255,885

1962	5	368	22,633	57,512	15,107	7,526	41,869	(19,235)	
1962	6	1,618	96,303	118,937	103,934	(7,631)	19,671	76,632	
1962	7	2,795	171,904	268,207	163,111	8,792	31,321	140,583	
1962	8	1,800	110,707	282,611	99,450	11,257	18,774	91,933	
1962	9	977	58,151	168,858	49,174	8,977	12,871	45,280	
1962	10	440	27,062	85,213	11,600	15,462	13,608	13,454	
Totals June-September								437,065	354,428

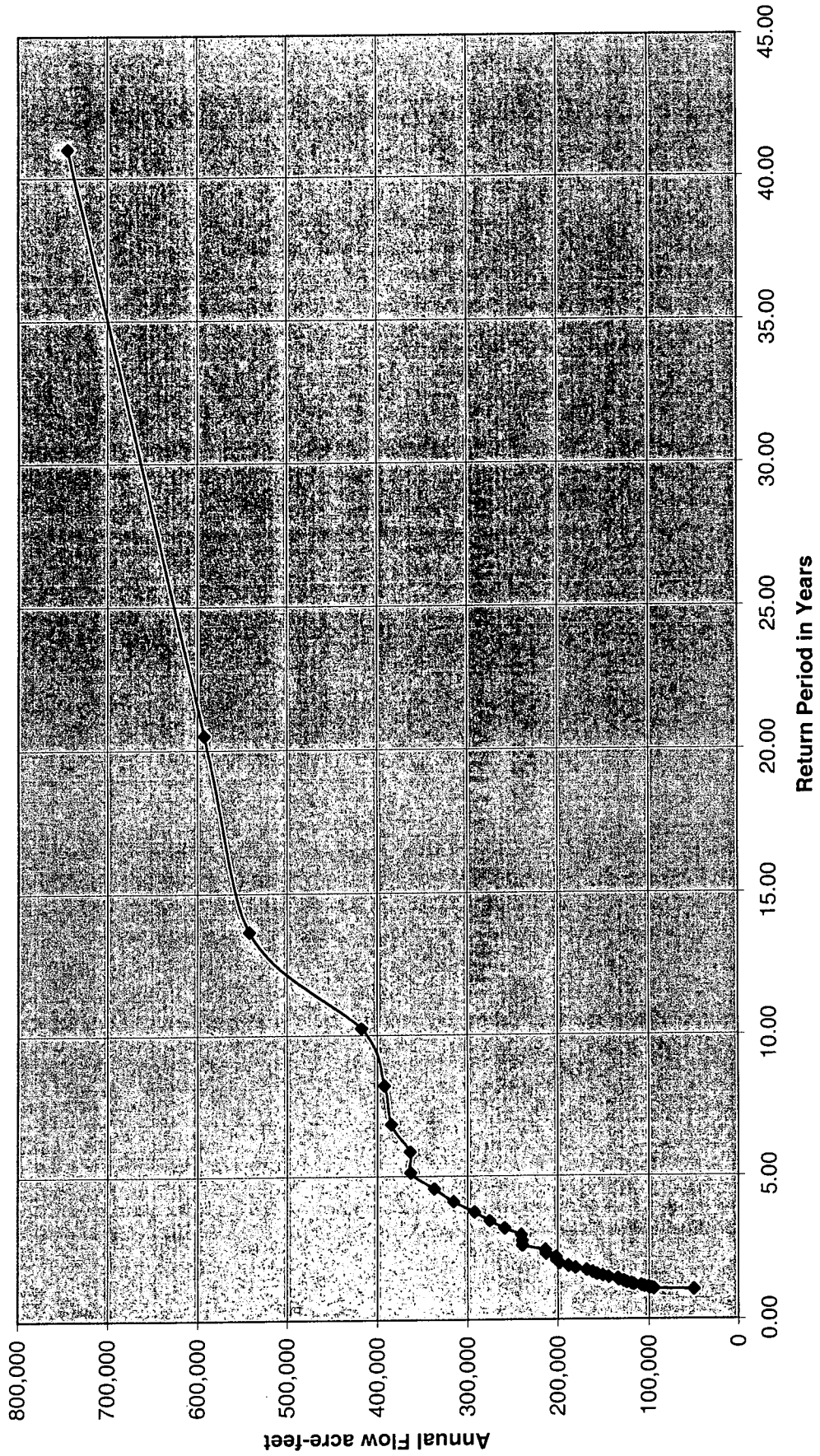
Republican River @ Hardy, NE
1962-2001



**Republican River @ Hardy, NE
1962-2001**



**Republican River @ Hardy, NE
1962 -2001**



Reservoir Spills from January 1993 through May 1994 (Acre-Feet)						
	Bonny	Swanson	Enders	Hugh Butler	Harry Strunk	Keith Sebelius
Jan-93	---	---	---	---	2,680	---
Feb-93	---	---	---	---	4,700	---
Mar-93	---	---	---	---	10,040	---
Apr-93	---	---	---	---	2,310	---
May-93	---	---	---	---	1,950	---
Jun-93	---	---	---	---	3,550	---
Jul-93	---	---	---	---	12,850	---
Aug-93	---	---	---	---	9,650	---
Sep-93	---	---	---	---	4,230	---
Oct-93	---	---	---	---	4,040	---
Nov-93	---	---	---	---	6,400	---
Dec-93	---	---	---	---	4,290	---
Jan-94	---	---	---	---	3,680	---
Feb-94	---	---	---	---	4,090	---
Mar-94	1,980	---	---	1,850	3,910	---
Apr-94	590	---	---	500	2,430	---
May-94	870	3,240	---	1,140	1,490	---

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 Republican River – Guide Rock and Hardy

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0.02 – 50 month event	2000	1750
0.01 – 100 month event	2420	2180
0.005 – 200 month event	2900	2690
0.002 – 500 month event	3640	3500

0.2% July 1993 was 3210 and 2446
 During the 1965-2000 period, the ten-month flows were exceeded 14 times at Guide Rock and 14 times at Hardy.

The USGS Bulletin 17B Method Limits the number of records that can be used, for these analysis, all flows less than 200 were removed. The effect of removing them causes the exceedance values to increase and the results can be seen in the following chart

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0.04 – 25 month event	1020	1630
0.02 – 50 month event	1410	2050
0.01 – 100 month event	1870	2530
0.005 – 200 month event	2420	3070
0.002 – 500 month event	3300	3890

From USGS NWIS

YEAR	Percent Rank		Percentile	Five-Month Maximum	Percent Rank	Percentile	Unuseable Flow Release	
	Total	Rank						
1962	592,220	0.97	684,310	463,191	0.97	469,320	99%	498,805
1963	291,863	0.74	625,433	158,937	0.82	465,402	98%	244,323
1964	132,616	0.26	583,581	64,708	0.13	442,852	97%	153,425
1965	541,401	0.95	563,762	343,550	0.95	396,192	96%	393,991
1966	315,351	0.77	543,942	208,789	0.77	349,532	95%	287,568
1967	416,865	0.92		312,402	0.92			355,832
1968	168,122	0.41		106,423	0.41			152,783
1969	363,265	0.85		208,805	0.79			210,376
1970	201,168	0.51		148,757	0.59			222,979
1971	116,373	0.15		70,484	0.21			83,272
1972	108,253	0.13		51,650	0.03			59,164
1973	362,811	0.82		220,237	0.85			100,638
1974	239,015	0.64		180,659	0.69			194,428
1975	187,922	0.46		125,435	0.46			104,380
1976	100,123	0.08		60,673	0.08			135,992
1977	150,360	0.33		97,580	0.36			79,463
1978	143,560	0.31		70,126	0.18			75,252
1979	201,836	0.54		127,894	0.51			39,714
1980	127,156	0.23		83,057	0.28			98,551
1981	133,329	0.28		81,487	0.26			44,648
1982	275,004	0.72		187,411	0.74			47,544
1983	391,989	0.87		213,648	0.82			244,200
1984	336,597	0.79		251,456	0.87			146,930
1985	212,781	0.56		127,166	0.49			58,007
1986	180,247	0.44		87,601	0.31			88,244
1987	258,548	0.69		180,420	0.67			52,614
1988	123,966	0.21		65,429	0.15			109,520
1989	96,798	0.05		55,727	0.05			64,563
1990	104,878	0.10		75,747	0.23			56,055
1991	49,927	0.00		34,172	0.00			47,237
1992	119,074	0.18		95,347	0.33			22,641
1993	743,187	1.00		473,238	1.00			196,933
1994	239,907	0.67		173,697	0.64			142,131
1995	238,820	0.62		182,742	0.72			144,285
1996	394,151	0.90		295,032	0.90			250,861
1997	213,397	0.59		128,542	0.54			133,106
1998	197,852	0.49		124,489	0.44			95,631
1999	161,326	0.38		100,540	0.38			64,107
2000	94,283	0.03		64,566	0.10			124,367
2001	156,507	0.36		135,727	0.56			55,814
Mean 62-								
2001	237,071			155,939				142,009
Max	743,187			473,238				498,805
Min	49,927			34,172				22,641
SD	148,120.3			104,166.8				105,245

Flood HowMuchToRemove1993 Bleed.xls

From USGS NWIS USGS 06853500 REPUBLICAN R NR HARDY, NE AF

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1962	13,381	16,133	17,923	34,808	22,588	96,109	171,557	110,484	58,034	27,007	12,533	11,662	592,220
1963	9,637	29,605	66,229	40,392	13,074	6,831	5,383	20,869	43,481	24,552	17,939	13,872	291,863
1964	13,442	18,073	10,557	7,900	4,775	10,157	5,696	14,670	27,740	6,445	6,653	6,506	132,616
1965	8,839	13,084	17,002	12,533	39,160	66,231	96,674	11,989	36,590	120,919	77,398	41,002	541,401
1966	39,038	53,666	59,354	40,036	16,695	12,949	34,557	11,908	15,147	10,005	8,554	13,442	315,351
1967	12,706	29,605	31,918	21,206	12,999	117,553	129,328	22,649	16,038	6,997	8,672	7,795	416,865
1968	6,199	18,628	21,115	38,135	17,616	10,930	8,164	14,854	11,048	8,409	7,366	5,659	168,122
1969	6,261	37,200	44,439	23,285	56,777	47,104	37,074	22,649	26,730	12,092	22,156	27,498	363,265
1970	18,107	29,938	38,792	44,550	17,371	8,791	4,358	6,199	5,904	8,716	10,217	8,225	201,168
1971	6,322	11,587	16,143	10,454	10,619	21,681	8,286	5,954	4,918	2,652	8,672	9,084	116,373
1972	7,243	7,484	7,979	7,603	9,698	6,712	12,030	13,381	8,554	6,875	10,811	9,882	108,253
1973	14,117	10,977	19,151	23,982	37,687	22,513	14,547	10,987	86,427	78,075	25,720	19,028	362,811
1974	23,202	43,243	44,378	37,244	32,593	11,345	4,395	12,215	4,497	7,427	9,148	9,330	239,015
1975	9,944	10,977	15,222	10,157	8,348	66,112	25,595	10,435	5,328	6,568	8,494	10,742	187,922
1976	9,514	9,425	9,453	21,622	10,373	9,801	9,330	6,082	3,873	3,186	2,726	4,769	100,123
1977	4,493	9,647	7,488	6,415	7,734	9,920	9,023	20,685	47,579	10,373	9,207	7,795	150,360
1978	5,960	5,483	33,759	14,315	9,637	4,312	8,102	17,248	23,582	6,629	7,781	6,752	143,560
1979	4,634	22,287	57,759	17,701	21,237	8,910	14,915	18,660	5,423	7,488	13,246	9,575	201,836
1980	8,102	10,146	19,151	31,779	11,171	10,811	5,248	8,532	3,635	5,690	5,833	7,059	127,156
1981	7,059	5,992	7,059	2,928	22,772	7,781	23,263	18,107	9,563	7,427	8,732	12,706	133,329
1982	6,199	23,617	16,020	10,157	83,477	31,423	42,168	18,107	12,236	13,013	9,563	9,023	275,004
1983	11,417	19,238	39,345	37,422	41,309	70,686	19,519	13,135	43,956	66,352	15,800	13,811	391,989
1984	30,690	24,338	24,920	64,924	92,070	45,203	11,294	8,777	5,423	3,357	7,247	18,353	336,597
1985	9,330	14,193	12,583	10,870	43,212	11,524	15,591	42,168	14,672	15,284	11,939	11,417	212,781
1986	14,731	11,642	11,969	17,701	14,117	13,187	11,908	16,204	23,285	23,018	10,454	12,030	180,247
1987	10,987	8,870	48,920	59,281	37,626	13,662	20,931	20,624	7,960	7,979	9,801	11,908	258,548
1988	11,601	14,304	11,846	9,088	6,752	3,309	31,856	14,424	4,158	3,333	6,237	7,059	123,966
1989	7,366	8,039	8,532	5,411	2,093	4,402	29,708	10,680	3,659	5,383	6,296	5,230	96,798
1990	7,734	5,333	5,365	8,019	8,839	17,642	11,417	29,831	4,271	2,142	2,138	2,148	104,878
1991	3,922	8,316	4,082	2,323	6,384	13,068	3,333	3,603	909	1,056	1,325	1,608	49,927
1992	2,069	1,497	4,782	3,374	1,817	2,762	57,083	14,915	8,316	7,488	7,544	7,427	119,074
1993	7,059	28,607	97,226	32,254	28,419	19,424	197,030	52,050	69,676	76,786	77,695	56,961	743,187
1994	29,094	29,328	69,544	23,819	21,913	8,019	16,757	8,716	8,316	6,813	8,197	9,391	239,907
1995	7,059	7,263	9,944	10,039	70,648	68,726	18,966	14,363	6,356	6,506	9,682	9,268	238,820
1996	8,593	7,152	9,637	8,613	24,552	20,255	36,276	59,416	76,210	69,789	53,341	20,317	394,151
1997	19,396	16,521	13,995	49,658	28,971	17,582	12,092	11,048	6,356	4,935	14,612	18,230	213,397
1998	15,959	14,747	17,923	46,213	29,647	7,247	16,020	12,583	4,574	8,961	11,702	12,276	197,852
1999	15,591	11,033	10,987	15,206	44,009	19,305	9,698	10,435	3,416	5,745	7,247	8,655	161,326
2000	9,084	7,928	4,646	14,315	5,708	7,781	31,058	5,702	2,293	1,755	2,519	1,492	94,283
2001	2,498	2,844	33,207	12,949	48,183	23,404	17,984	9,023	6,415	0	0	0	156,507
Mean 62-													
2001	11,464	16,448	25,009	22,207	25,552	24,379	30,955	18,858	18,914	17,431	13,880	11,975	237,071
Max	39,038	53,666	97,226	64,924	92,070	117,553	197,030	110,484	86,427	120,919	77,695	56,961	743,187
Min	2,059	1,497	4,082	2,323	1,817	2,762	3,333	3,603	909	0	0	0	49,927
SD	7783.596	11452.03	21562.58	16388.3	21603	26962.08	43259.36	18826.4	22039.04	26479.66	17088.52	10311.99	148120.3