

Table 1

1993 Computed Annual Virgin Water Supply and Original and Annual Adjusted Allocations

(Stop at GR)

Sub-basin and the Original Compact Virgin Water Supply	Computed Annual Virgin Water Supply Republican River Basin 1993 (Acre Feet)			Comparison of Original Compact Allocations and 1993 Adjusted Allocation (Acre Feet)					
	Ground Water	Surface Water	Total Basin	Colorado Compact Alloc.	Kansas Compact Alloc.	Nebraska Compact Alloc.	Total Basin Compact Alloc.	Adj. Alloc.	Alloc.
Prairie Dog Cr.	27600	25370	31970		12600	14590	2100	2430	17020
Sappa Cr.	21400	18870	24580		8800	10110	8800	10110	20220
Beaver Cr.	16500	7430	2090	3300	6400	3690	6700	3870	9460
Medicine Cr.	50800	69420	71410				4600	6470	6470
Red Willow Cr.	21900	24610	26530				4200	5090	5090
Driftwood Cr.	7300	2470	3780		500	260	1200	620	880
Frenchman Rv.	98500	70990	86570				52800	46410	46410
South Fork of the Republican Rv.	57200	11340	39080	25400	23000	15710	800	550	33610
Rock Cr.	11000	0	8020				4400	3210	3210
Buffalo Cr.	7890	950	4700				2600	1550	1550
Arikaree Rv.	19610	7050	15300	15400	1000	780	3300	2570	15360
N.F. Republican Rv. in Colorado	44700	750	35430	10000	7930		11000	8720	16650
N.F. and Main Stem of Republican Rv. incl. Blackwood Cr. in Nebraska*	94500	25210	487840		138000	341090	132000	327710	668800
TOTALS	478900	85840	844730	54100	39190	190300	386230	419310	478900

387,740 at GR

341,088

859860 Compact
 - 668800
 = 191,060
 Gain 201,840

(Stop at Guide rock)

Table 2 1993 Computed Consumptive Use within the Republican River Basin (Acre Feet)

Sub-basin	Colorado		Kansas		Nebraska		Total Basin	
	Ground Water	Surface Water	Ground Water	Surface Water	Ground Water	Surface Water	Ground Water	Surface Water
Prairie Dog Cr.			6600	1020	0	0	6600	1020
			7620	14590*	0	0	2430*	7620
								17020*
Sappa Cr.			2640	20	3240	70	5880	90
			2660	10110*	3310	10110*	3310	5970
								20220*
Beaver Cr.	0	0	2590	20	4840	20	7430	40
			1900*	3690*	2610	3870*	4860	7470
								9460*
Medicine Cr.					2090	240	2330	240
							6470*	2330
								6470*
Red Willow Cr.					1920	460	1920	460
							2380	2380
							5090*	5090*
Driftwood Cr.			0	0	1310	40	1350	40
					260*		620*	880*
								1350
								880*
Frenchman Rv.					15580	12170	27750	12170
							46410*	27750
								46410*
South Fork of the Republican Rv.	6520	8150	14670	80	4680	220	11340	8230
			17350*		15710*		550*	19570
								33610*
Rock Cr.					0	30	30	30
							3210*	3210*
Buffalo Cr.					950	370	1320	370
							1550*	1320
								1550*
Anikaree Rv.	6020	0	6020	0	400	630	7050	0
			12010*		780*		2570*	7050
								15360*
N.F. Republican Rv. in Colorado	750	2770	3520		0	3120	750	5890
			7990*				8720*	6640
								16650*
N.F. and Main Stem of Republican Rv. incl. Blackwood Cr. in Nebraska*			0	0	24940	27200	24940	27200
							52140	52140
					341090*		327710*	688800*
TOTALS	13290	10920	24210	1140	17970	55720	99440	85840
			39190*		386230*		419310*	55780
								141620
								844730*

(* indicates adjusted allocations from Table 1)

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Original and Annual Adjusted Allocations

Sub-basin and the Original Compact Virgin Water Supply	Computed Annual Virgin Water Supply Republican River Basin 1993 (Acre Feet)				Comparison of Original Compact Allocations and 1993 Adjusted Allocation (Acre Feet)							
	Ground Water	Surface Water	Total Basin	Colorado Compac Alloc.	Colorado Adj. Alloc.	Kansas Compac Alloc.	Kansas Adj. Alloc.	Nebraska Compac Alloc.	Nebraska Adj. Alloc.	Total Basin Compac Alloc.	Total Basin Adj. Alloc.	
Prairie Dog Cr.	27600	6600	25370	31970		12600	14590	2100	2430	14700	17020	
Sappa Cr.	21400	5710	18870	24580		8800	10110	8800	10110	17600	20220	
Beaver Cr.	16500	7430	2090	9520	3300	6400	3690	6700	3870	16400	9460	
Medicine Cr.	50800	1990	69420	71410				4600	6470	4600	6470	
Red Willow Cr.	21900	1920	24610	26530				4200	5090	4200	5090	
Driftwood Cr.	7300	1310	2470	3780		500	260	1200	620	1700	880	
Frenchman Rv.	98500	15580	70990	86570				52800	46410	52800	46410	
South Fork of the Republican Rv.	57200	11340	27740	39080	25400	17350	23000	15710	800	550	49200	
Rock Cr.	11000	0	8020	8020				4400	3210	4400	3210	
Buffalo Cr.	7890	950	3750	4700				2600	1550	2600	1550	
Arikaree Rv.	19610	7050	8250	15300	15400	12010	1000	780	3300	2570	19700	
N.F. Republican Rv. in Colorado	44700	750	34680	35430	10000	7930		11000	8720	21000	16650	
N.F. and Main Stem of Republican Rv. incl. Blackwood Cr. in Nebraska*	94500	25230	653670	678900			138000	438530	132000	421330	270000	
TOTALS	478900	85860	949930	1035790	54100	39190	190300	483670	234500	512930	478900	

Table 2

1993 Computed Consumptive Use within the
Republican River Basin (Acre Feet)

Sub-basin	Colorado		Kansas		Nebraska		Total Basin		Total					
	Ground Water	Surface Water	Ground Water	Surface Water	Ground Water	Surface Water	Ground Water	Surface Water						
Prairie Dog Cr.			6600	1020	7620	0	0	6600	1020	7620	17020 *			
Sappa Cr.			2640	20	2660	3240	70	3310	5880	90	5970	20220 *		
Beaver Cr.	0	0	2590	20	2610	4840	20	4860	7430	40	7470	9460 *		
Medicine Cr.					3690 *			2090	240	2330	2090	240	2330	6470 *
Red Willow Cr.						1920	460	2380	1920	460	2380	5090 *		
Driftwood Cr.			0	0	0	1310	40	1350	1310	40	1350	880 *		
Frenchman Rv.					15710 *	15580	12170	27750	15580	12170	27750	46410 *		
South Fork of the Republican Rv.	6520	8150	14670	4600	80	4680	220	0	220	11340	8230	19570	33610 *	
Rock Cr.								0	30	30	0	30	3210 *	
Buffalo Cr.						950	370	1320	950	370	1320	1550 *		
Arikaree Rv.	6020	0	6020	400	0	400	630	0	630	7050	0	7050	15360 *	
N.F. Republican Rv. in Colorado						780 *			2570 *					
N.F. and Main Stem of Republican Rv. incl. Blackwood Cr. in Nebraska*	750	2770	3520	7930 *		0	3120	3120	750	5890	6640	16650 *		
TOTALS	13290	10920	24210	16850	9130	25980	55720	50230	105950	85860	70280	156140	1035790 *	
			39190 *	483670 *				512930 *						

(* indicates adjusted allocations from Table 1)

Replest 9. Wbl.
Stop at G.R.

DRAINAGE BASIN: MAIN STEM OF THE REPUBLICAN RIVER

Discharge at Guiderock(Diversions+passing)	387740
RECORDED DISCHARGES OF TRIBUTARIES	214230
NET EVAPOPORATION HARLAN COUNTY RESE	-7050
CHANGE IN STORAGE HARLAN COUNTY RESEI	247940
NET EVAPOPORATION SWANSON LAKE	4770
CHANGE IN STORAGE SWANSON LAKE	27870
NET EVAP. FROM LOVEWELL RESERVOIR TO F	

(DIVERSIONS)

COURTLAND CANAL - HEADGATE	
COURTLAND CANAL - STATELINE	
COURTLAND CANAL DELIVERED TO LOVEWEI	
REPUBLICAN R. TO COURTLAND CANAL BELC	
COURTLAND CANAL (SW) NEBRASKA	
SUPERIOR CANAL (SW) NEBRASKA	
FRANKLIN PUMP CANAL (SW) NEBRASKA	520
FRANKLIN CANAL (SW) NEBRASKA	7460
NAPONEE CANAL (SW) NEBRASKA	560
CAMBRIDGE CANAL (SW) NEBRASKA	14110
BARTLEY CANAL (SW) NEBRASKA	4110
MEEKER-DRIFTWOOD CANAL (SW) NEBRASKA	24680
IRRIGATION DIVERSION (SW) KANSAS	
IRRIGATION DIVERSION (SW) NEBRASKA	2730
MUNICIPAL DIVERSION (SW) NEBRASKA	0
IRRIGATION DIVERSION (GW) KANSAS	
IRRIGATION DIVERSION (GW) NEBRASKA	29650
MUNICIPAL DIVERSION (GW) NEBRASKA	5110
INDUSTRIAL DIVERSION (GW) NEBRASKA	590
INDUSTRIAL DIVERSION (GW) NEBRASKA (0-RE	0

(TRIBUTARIES - GAGE TO MAIN STEM)

IRRIGATION (SW) PRAIRIE DOG CREEK-NEBRA	0
IRRIGATION (GW) PRAIRIE DOG CREEK-NEBRA	0
IRRIGATION (SW) SAPPA CREEK-NEBRASKA	0
IRRIGATION (GW) SAPPA CREEK-NEBRASKA	230
IRRIGATION (SW) MEDICINE CREEK-NEBRASK/	120
IRRIGATION (GW) MEDICINE CREEK-NEBRASK/	140

(RETURN FLOW)

COURTLAND CANAL:	
DIRECT SUPPLY TO NEBRASKA LANDS	
DIRECT SUPPLY RETURNED TO RIVER	0
TRANSPORTATION LOSS IN NEBRASKA	
TRANSPORTATION LOSS RETURNED TO RIVI	0
TOTAL RETURN FLOW (NEBRASKA)	0
TOTAL RETURN FLOW (KANSAS)	
RETURN AS % OF TOTAL DIVERSIONS:	
SUPERIOR CANAL	73
FRANKLIN PUMP CANAL	73
FRANKLIN CANAL	71
NAPONEE CANAL	57
CAMBRIDGE CANAL	57
BARTLEY CANAL	56
MEEKER-DRIFTWOOD	49
COURTLAND CANAL ABOVE LOVEWE	69
COURTLAND CANAL BELOW LOVEWE	68

COMPUTED RETURN FOR:	
SUPERIOR CANAL	0
FRANKLIN PUMP CANAL	380
FRANKLIN CANAL	5300
NAPONEE CANAL	320
CAMBRIDGE CANAL	8040
BARTLEY CANAL	2300
MEEKER-DRIFTWOOD	9190

RED WILLOW CANAL TO MAIN STEM	1860
CULBERTSON CANAL RETURN TO MAIN STEM	840
CULBERTSON EXTENSION RETURN TO MAIN S	7840
HAIGLER CANAL RETURN TO MAINSTEM	1920

IRRIGATION RETURN FLOW (SW) KANSAS	0
IRRIGATION RETURN FLOW (SW) NEBRASKA	680
MUNICIPAL RETURN FLOW (SW) NEBRASKA	0
IRRIGATION RETURN (SW) TO PRAIRIE DOG CF	0
IRRIGATION RETURN (SW) TO SAPPA CREEK	0
IRRIGATION RETURN (SW) TO MEDICINE CREE	30

IRRIGATION RETURN FLOW (GW) KANSAS	0
IRRIGATION RETURN FLOW (GW) NEBRASKA	7410
MUNICIPAL RETURN FLOW (GW) NEBRASKA	2560
INDUSTRIAL RETURN FLOW (GW) NEBRASKA	440
IRRIGATION RETURN (GW) TO PRAIRIE DOG CF	0
IRRIGATION RETURN (GW) TO SAPPA CREEK	60
IRRIGATION RETURN (GW) TO MEDICINE CREE	40

TOTAL VIRGIN WATER SUPPLY (GW)	25210
TOTAL VIRGIN WATER SUPPLY (SW)	462630
TOTAL VIRGIN WATER SUPPLY (TOTAL)	487840

COMPUTED CUNSUMPTIVE USE

NEBRASKA CANALS FROM HARLAN COUNTY R	8540
90 % RED WILLOW CANAL DIVERSIONS	3810
% OF NET EVAP. HARLAN COUNTY RESERVOIF	0
% OF NET EVAP. HARLAN COUNTY RESERVOIF	100
NET EVAP. HARLAN COUNTY RESERVOIR (KAN	0
NET EVAP. HARLAN COUNTY RESERVOIR (NEE	-7050
NET EVAP. HARRY STRUNK LAKE (NEBRASKA)	1230
90 % NET EVAP. RED WILLOW RESERVOIR (NE	1240
RED WILLOW CANAL RETURN TO MAIN STEM	1860

COURTLAND CANAL	
TRANSPORTATION LOSS	
RETURN FLOW TO RIVER FORM TRANSPORTA	0
CONSUMPTIVE USE - TRANSPORTATION LOSS	0
KANSAS SHARE (%)	
KANSAS SHARE OR LOSS C.U.	0
NEBRASKA SHARE OF LOSS C.U.	0
TOTAL CONSUMPTIVE USE IN NEBRASKA	0

COURTLAND CANAL (KS) ABOVE LOVEWELL RI	0
COURTLAND CANAL RETURN ABOVE LOVEWEI	0
COURTLAND CANAL RETURN BELOW LOVEWE	0

CONSUMPTIVE USE (GW) KANSAS	0
CONSUMPTIVE USE (SW) KANSAS	0
TOTAL CONSUMPTIVE USE (KANSAS)	0

TOTAL RETURN FLOW MEEKER-DRIFTWOOD C	12090
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CONSUMPTIVE USE (GW) NEBRASKA	24940
CONSUMPTIVE USE (SW) NEBRASKA	27200
TOTAL CONSUMPTIVE USE	52140