PECOS RIVER COMPACT

Report of the River Master

Water Year 2001

Accounting Year 2002

Final Report

June 26, 2002

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Neil S. Grigg
River Master of the Pecos River
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Fort Collins, Colorado 80524

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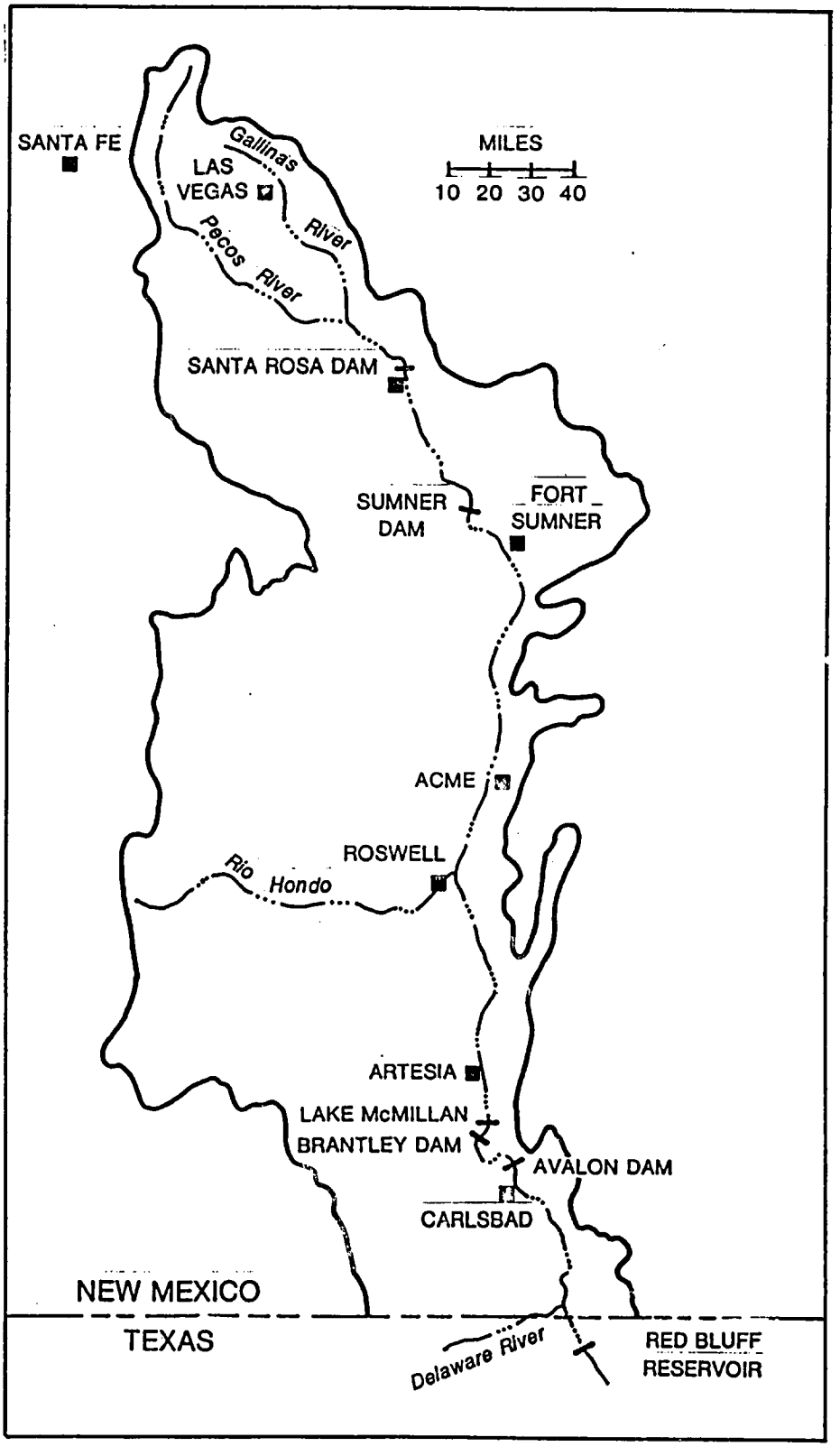

Map of Pecos River Basin Showing Accounting Reaches

PECOS RIVER COMPACT
Supreme Court of the United States
No. 65, Original
Amended Decree

Final Report of the River Master
Water Year 2001 - Accounting Year 2002
June 26, 2002

Purpose of the Report. In its Amended Decree issued March 28, 1988 the Supreme Court of the United States appointed a River Master of the Pecos River and directed him to "... Deliver to the parties a Preliminary Report setting forth the tentative results of the calculations required by Section III.B.1 of this Decree by May 15 of the accounting year..." and to consider "... any written objections to the Preliminary Report submitted by the parties prior to June 15 of the accounting year..." and to deliver "... to the parties a Final Report setting forth the final results of the calculations required by Section III.B.1 of this Decree by July 1 of the accounting year." This is the required Final Report with the determination of:

a. The Article III(a) obligation;

b. Any shortfall or overage, which calculation shall disregard deliveries of water pursuant to an Approved Plan;

c. The net shortfall, if any, after subtracting any overages accumulated in previous years, beginning with water year 1987.

Result of Calculations and Statement of Shortfall or Overage. The results of the calculations in this Final Report show that New Mexico's delivery in Water Year 2001 was a shortfall of 700 acre-feet. The accumulated overage since the beginning of Water Year 1987 is 9,900 acre-feet.

Neil S. Grigg
River Master of the Pecos River

Pecos River Compact		
Accumulated Shortfall or Overage		
	June 26, 2002	
Water Year	Annual Overage or Shortfall, AF	Accumulated Overage or Shortfall, AF
1987	15,400	15,400
1988	23,600	39,000
1989	2,700	41,700
1990	-14,100	27,600
1991	-16,500	11,100
1992	10,900	22,000
1993	6,600	28,600
1994	5,900	34,500
1995	-14,100	20,400
1996	-6,700	13,700
1997	6,100	19,800
1998	1,700	21,500
1999	1,400	22,900
2000	-12,300	10,600
2001	-700	9,900

Table 1. General Calculation of Annual Departures, TAF, WY 2001			
6/25/02			
	1999	2000	2001
B.1.a. Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	96.8	166.1	114.9
(b) Flood Inflow Alamogordo - Artesia (Table 2)	37.4	-4.9	-13.5
(c) Flood Inflow Artesia - Carlsbad (Table 3)	16.1	8.3	4.1
(d) Flood Inflow Carlsbad - State Line (Table 4)	21.9	4.4	1.2
Total (annual flood inflow)	172.2	173.9	106.7
(2) Index Inflow (3-year avg)			150.9
B.1.b. 1947 Condition Delivery Obligation			61.8
(Index Outflow)			
B.1.c. Average Historical (Gaged) Outflow			
Gaged Flow Pecos River at Red Bluff NM	75.2	58.2	43.7
Gaged Flow Delaware River nr Red Bluff NM	6.6	1.0	0.3
(1) Total Annual Historical Outflow	81.8	59.2	44.0
(2) Average Historical Outflow (3-yr average)			61.7
B.1.d. Annual Departure			-0.1
C. Adjustments to Computed Departure			
1. Adjustments for Depletions above Alam Dam			
a. Depletions Due to Irrigation (Table 5)	-3.4	0.9	2.3
b. Depl fr Operation of Santa Rosa Reservoir (Table 6)	3.6	2.4	2.8
c. Transfer of Water Use to Upstream of AD	0	0	0
Recomputed Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	97.0	169.4	120.0
(b) Flood Inflow Alamogordo - Artesia	37.4	-4.9	-13.5
(c) Flood Inflow Artesia - Carlsbad	16.1	8.3	4.1
(d) Flood Inflow Carlsbad - State Line	21.9	4.4	1.2
Total (annual flood inflow)	172.4	177.2	111.8
Recomputed Index Inflow (3-year avg)			153.8
Recomputed 1947 Condition Del Outflow			63.5
(Index Outflow)			
Recomputed Annual Departures			-1.8
Credits to New Mexico			
C.2 Depletions Due to McMillan Dike			1.1
C.3 Salvage Water Analysis			0
C.4 Unappropriated Flood Waters			0
C.5 Texas Water Stored in NM Reservoirs			0
C.6 Beneficial C.U. Delaware River Water			0
Final Calculated Departure, TAF			-0.7

Table 2. Determination of Flood Inflows, Alamogordo Dam to Artesia (B.3)

Water Year 2001

6/25/02

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Flow bel Alamog Dam	0.1	0.4	3.3	6.1	46.6	6.5	30.6	6.0	6.8	5.8	0.7	2.1	114.9
FtSumner Irrig Div	0.0	0.0	2.3	5.5	5.8	5.6	5.7	5.7	5.3	4.7	0.0	0.0	40.6
Ft Sumner ID Return	0.9	0.6	1.5	1.7	2.6	2.6	2.6	2.6	2.4	2.1	1.1	0.9	21.5
Flow past FS IDist	0.9	1.1	2.5	2.3	43.3	3.5	27.5	2.9	3.9	3.2	1.7	3.0	95.9
Channel loss	0.1	0.2	0.7	1.4	6.2	1.4	4.4	1.6	1.0	0.9	0.7	0.3	18.8
Residual Flow	0.8	0.9	1.8	0.9	37.1	2.1	23.1	1.3	2.9	2.3	1.1	2.7	77.1
Base Inflow	4.2	3.7	3.5	2.4	2.2	1.7	0.9	1.0	0.7	1.0	2.1	2.4	25.7
River Pump Divers	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.5
Residual, Artesia	4.9	4.6	5.3	3.3	39.2	3.7	23.9	2.2	3.5	3.3	3.2	5.1	102.3
Pecos Flow Artesia	5.7	4.8	7.3	3.6	30.5	6.6	17.8	1.6	1.3	1.8	3.6	4.4	88.7
Flood Inflow, AD-Art	0.7	0.1	2.0	0.3	-8.7	2.9	-6.2	-0.6	-2.2	-1.5	0.4	-0.7	-13.5

Note: Whenever the computed flow past the District is less than the return flow, set the flow past the District equal to the return flow (Manual, B.3.d).

Table 3. Determination of Flood Inflows, Artesia to Carsbad, WY 2001 (B.4)

6/25/02

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Rio Penasco at Dayton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fourmile Draw nr Lakew	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Seven Rivers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rocky Arroyo at Hwy Br	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flood Inflow, Art-DS3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pecos R at Dam Site 3	1.5	1.6	3.3	13.5	14.5	16.5	12.4	8.5	7.2	6.4	6.6	4.0	96.0
CB Sprgs New Water, T7	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-11.0
Total Inflow, DS3 - CB	0.6	0.7	2.4	12.5	13.6	15.5	11.5	7.6	6.3	5.4	5.7	3.1	85.0
Evap Loss, Lake Avalon, T10	0.2	0.3	0.2	0.5	0.5	0.6	0.6	0.5	0.4	0.4	0.1	0.2	4.4
Storage Chg, Lake Aval, T11	0.5	0.2	-2.2	0.1	0.1	-0.1	0.1	0.0	0.2	0.1	-0.7	0.7	-1.0
Carls ID diversions	0.0	0.0	3.2	11.8	12.1	14.7	11.4	7.1	5.9	5.3	0.0	0.0	71.4
93% CID diver	0.0	0.0	3.0	11.0	11.3	13.6	10.6	6.6	5.5	4.9	0.0	0.0	66.4
Other depletions	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	1.4
Dark Canyon at Csbad	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pecos b Dark Canyon	1.7	2.4	1.4	0.8	0.4	0.4	0.3	0.2	0.2	0.6	6.3	3.1	17.8
Pecos R at Carlsbad	1.7	2.4	1.4	0.8	0.4	0.4	0.3	0.2	0.2	0.6	6.3	3.1	17.8
Total Outflow	2.5	3.1	2.5	12.5	12.3	14.7	11.7	7.5	6.4	6.0	5.9	4.1	89.0
Flood Inflow, DS3-CB	1.9	2.3	0.0	0.0	-1.2	-0.9	0.2	-0.1	0.1	0.6	0.2	1.0	4.0
Flood Inflow, Art-CB	1.9	2.3	0.0	0.0	-1.2	-0.9	0.2	-0.1	0.1	0.6	0.2	1.0	4.1

Table 4. Summary Table for Computations, Carlsbad to State Line - WY 2001

4/20/02

	BCB - RB RM	BCB - RB USGS	Del R USGS	DC
Jan	67	0	2	0
Feb	2	0	1	0
Mar	431	286	10.9	0
Apr	82	194	2.4	0
May	0	71	0	0
Jun	40	171	0	0
Jul	54	119	0	0
Aug	48	81	65.5	0
Sep	425	415	3.4	0
Oct	0	39.7	0	0
Nov	0	33.7	0	0
Dec	0	61.5	0	0
Total	1148	1471.9	85.2	0

Summary of flood inflows, Carlsbad to State Line, TAF

Red Bluff - Carlsbad + Dark C RM calcs)	1.1
Delaware River (USGS Computation	0.1
Total Flood Inflow, Carlsbad to State Line	1.2

Table 5. Depletions Due to Irrigation Above Alamogordo Dam - WY 2001 (C.1.a)								
4/20/02								
	APR	MAY	JUN	JUL	AUG	SEPT	OCT	TOTAL
Precip Las Vegas FAA AP	0.21	0.89	2.08	1.38	2.02	0.44	0.32	7.34
Eff prec Las Veg FAA AP	0.21	0.86	1.89	1.30	1.85	0.43	0.31	6.85
Precip Pecos Natl Monument	0.67	0.74	1.18	2.05	4.71	0.50	0.02	9.87
Eff Precip Pecos RS	0.65	0.72	1.13	1.87	3.69	0.49	0.02	8.57
Precip Santa Rosa	0.28	1.22	3.09	0.66	1.27	1.16	0.35	8.03
Eff Precip Santa Ro	0.27	1.17	2.65	0.64	1.21	1.11	0.34	7.39
Average eff precip, ft	0.03	0.08	0.16	0.11	0.19	0.06	0.02	0.63
Consumptive use, ft	0.19	0.36	0.36	0.30	0.27	0.18	0.11	1.77
CU less eff precip, ft	0.16	0.28	0.20	0.19	0.08	0.12	0.09	1.14
Acres (most recent inventory)	11529							
Streamflow depletion, AF	13101							
1947 depletion, AF	10804							
Difference, TAF	-2.3							
Adjustment to Gaged Flow - Pecos River below Alamogordo Dam =						2.3		

Table 6. Depletions Due to Santa Rosa Reservoir Operations - WY 2001 - (C.1.b)													
6/25/02													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
LS 1989 tables used Jan-Oct; 2001 table used Nov-Dec.													
Lk Sumner ga ht, avg	56.05	57.90	59.51	59.08	54.96	41.88	42.14	41.46	36.95	32.99	37.84	43.37	47.01
LS content, AF, avg	31151	35563	39693	38563	28720	9095	9331	8745	5605	3618	5234	8814	
LS area, acres, avg	2288	2481	2650	2605	2172	896	921	855	582	433	528	807	
LS evap, inches	1.86	3.71	4.04	12.49	11.21	14.30	15.10	11.83	10.25	7.00	2.44	3.03	97.26
.77 LS Evap	1.43	2.86	3.11	9.62	8.63	11.01	11.63	9.11	7.89	5.39	1.88	2.33	74.89
LS Precip, inches	0.73	0.65	1.27	0.03	0.65	0.97	0.61	0.99	0.77	0.34	1.08	0.08	8.17
Net LS Evap, inches	0.70	2.21	1.84	9.59	7.98	10.04	11.02	8.12	7.12	5.05	0.80	2.25	66.72
LSum Evaploss, TAF	0.13	0.46	0.41	2.08	1.44	0.75	0.85	0.58	0.35	0.18	0.04	0.15	7.41
L S Rosa ga ht, avg	4.87	6.58	10.76	17.31	20.65	21.08	2.40	96.37	4.96	6.98	5.98	7.61	17.13
LSR content, AF, avg	13203	14661	18857	27339	32753	33508	11241	7317	13277	15025	14134	15619	
LSR area, acres, avg	825	899	1101	1491	1745	1771	753	534	827	931	853	960	.
LSR evap, inches	3.72	4.98	7.12	9.12	8.93	12.58	12.38	9.39	7.96	6.49	4.13	3.76	90.56
.77 LSR Evap	2.86	3.83	5.48	7.02	6.88	9.69	9.53	7.23	6.13	5.00	3.18	2.90	69.73
LSR precip, inches	1.57	1.03	1.71	0.25	1.29	2.00	0.57	2.60	1.59	0.39	1.60	0.20	14.80
Net LSR Evap, inches	1.29	2.80	3.77	6.77	5.59	7.69	8.96	4.63	4.54	4.61	1.58	2.70	54.93
LSR Evaploss, TAF	0.09	0.21	0.35	0.84	0.81	1.13	0.56	0.21	0.31	0.36	0.11	0.22	5.20
Total evaploss, TAF	0.22	0.67	0.75	2.92	2.26	1.88	1.41	0.78	0.66	0.54	0.15	0.37	12.61
Sum contents, AF	44354	50224	58550	65902	61473	42603	20572	16062	18882	18643	19368	24433	
1947 area, acres	2042	2254	2690	2880	2801	1998	1094	978	1021	1011	1042	1299	
1947 evaploss, TAF	0.12	0.41	0.41	2.30	1.86	1.67	1.00	0.66	0.61	0.43	0.07	0.24	9.79
current-1947evaploss	0.10	0.25	0.34	0.62	0.39	0.21	0.40	0.12	0.05	0.11	0.08	0.12	2.82
						Annual adjustment for excess evaporation =							2.8
ADJUSTMENT FOR EXCESSIVE STORAGE IN SANTA ROSA RESERVOIR													
			2000	2000	2001	2001							
			Gage	Storage	Gage	Storage							
EndYear Sumner Sto			4254.91	28612	4244.92	10158							
EndYear S R Sto			4704.22	12670	4707.98	15977							
Sum				41282		26135							
Sto Adjustment, AF						0							
Adjustm Ex Evap, TAF						2.8							
Total Adjustment,TAF						2.8							

Table 7. Carlsbad Springs New Water WY 2001 - (B.4.c)					
6/25/02					
		TAF	cfs	Totals	
Pecos R bel DC, cfs		17.8	24.6	24.6	
Dark Canyon, cfs		0	0.0	0.0	
Pecos R bel Lake Av,		9.6	13.3	13.3	
Depletion, cfs				2.0	
CID lag seep, cfs (Table 8)				7.1	
Return flow, cfs				1.0	
Lake Av lagged seep, cfs (Table 9)				17.4	
PR seepage, cfs				3.0	
Carls new water, cfs				-15.2	
Carls new wat, TAF				-11.0	
Carls new wat monthly, TAF				-0.9	

Table 8. Carlsbad Main Canal Seepage Lagged - WY 2001 - [B.4.c.(1)(e)]													
6/25/02													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
WY 2001													
CID, TAF	0.0	0.0	3.2	11.8	12.1	14.7	11.4	7.1	5.9	5.3	0.0	0.0	71.4
days/mo	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs	0.0	0.0	51.7	198.6	196.9	246.5	184.9	115.0	99.0	85.5	0.0	0.0	98.2
cfs, qtr avg			17.8			213.9			133.3			28.8	
2000		1Q	2Q	3Q	4Q								
FLOWS, cfs				198.6	33.6								
SEVEN %				13.9	2.4								
2001		1Q	2Q	3Q	4Q								
FLOWS, cfs		17.8	213.9	133.3	28.8								
SEVEN %		1.2	15.0	9.3	2.0								
LAG		3.7	8.3	9.9	6.6	Avg =	7.1	cfs					

Table 9. Lake Avalon Leakage Lagged - WY 2001 - B.4.c.(1)(g)													
6/25/02													
WY 2001	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
WS NM rept	75.44	75.91	73.30	73.06	73.09	72.91	73.16	73.19	73.20	73.44	73.50	72.10	
ga ht, avg*	18.44	18.91	16.30	16.06	16.09	15.91	16.16	16.19	16.20	16.44	16.50	15.10	
cfs	26.1	28.4	15.9	14.8	14.9	14.0	15.2	15.4	15.4	16.6	16.9	10.2	
days	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs avg	23.3			14.6			15.4			14.5			16.9
2000		1Q	2Q	3Q	4Q								
cfs				15.2	18.7								
2001		1Q	2Q	3Q	4Q								
cfs		23.3	14.6	15.4	14.5								
lag cfs		20.4	18.2	16.4	14.8	Avg =	17.4	cfs					
* Computed as WS elev by NM Report minus Gage datum at 3257.0 (USBR datum)													

Table 10. Evaporation Loss at Lake Avalon - WY 2001 - (B.4.f)													
4/20/02													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOT
Av WS NM Rept	75.44	75.91	73.30	73.06	73.09	72.91	73.16	73.19	73.20	73.44	73.50	72.10	
Avalon ga ht, avg, ft*	18.44	18.91	16.30	16.06	16.09	15.91	16.16	16.19	16.20	16.44	16.50	15.10	
Avg area Avalon, ac.	768	815	630	616	617	607	622	623	624	638	642	562	
Panevap Brantley, in.	4.65	5.60	6.09	12.74	13.28	16.85	16.90	13.11	11.42	9.10	4.80	4.34	118.88
Lakeevap Brantley, in.	3.58	4.31	4.69	9.81	10.23	12.97	13.01	10.09	8.79	7.01	3.70	3.34	91.54
Precip Brantley, in.	0.54	0.32	0.58	0.05	0.53	1.48	2.15	0.26	1.14	0.12	1.17	0.00	8.34
Netevap, inches	3.04	3.99	4.11	9.76	9.70	11.49	10.86	9.83	7.65	6.89	2.53	3.34	83.20
Evaploss Av, TAF	0.2	0.3	0.2	0.5	0.5	0.6	0.6	0.5	0.4	0.4	0.1	0.2	4.4
* Computed as WS elev by NM Report minus Gage datum at 3257.0 (USBR datum)													

Table 11. Change in Storage, Lake Avalon - 2001 - (B.4.g)

(Gage heights are end of month)

6/25/02

	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
	2000	2001												
WS NM Rept		75.70	76.00	72.80	73.00	73.10	73.00	73.10	73.10	73.40	73.10	72.40	73.60	
Gage EOM, ft*	18.00	18.70	19.00	15.80	16.00	16.10	16.00	16.10	16.10	16.40	16.10	15.40	16.60	
Storage, AF	2494	3027	3266	1026	1147	1209	1147	1209	1209	1397	1461	790	1525	
Change sto, TAF		0.5	0.2	-2.2	0.1	0.1	-0.1	0.1	0.0	0.2	0.1	-0.7	0.7	-1.0

* Computed as WS elev by NM Report minus Gage datum at 3257.0 (USBR datum)

Table 12. Data Required for River Master Manual Calculations, Water Year 2001													
6/25/02													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
STREAMFLOW GAGING RECORDS, TAF													
Pecos R b Sumner Dam	0.1	0.4	3.3	6.1	46.6	6.5	30.6	6.0	6.8	5.8	0.7	2.1	114.9
Fort Sumner Main C	0.0	0.0	2.3	5.5	5.8	5.6	5.7	5.7	5.3	4.7	0.0	0.0	40.6
Pecos R nr Artesia	5.7	4.8	7.3	3.6	30.5	6.6	17.8	1.6	1.3	1.8	3.6	4.4	88.7
Rio Penasco at Dayton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fourmile Draw nr Lakewood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Seven Rivers nr Lkwd	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rocky Arroyo at Hwy Br nr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pecos R at Dam Site 3	1.5	1.6	3.3	13.5	14.5	16.5	12.4	8.5	7.2	6.4	6.6	4.0	96.0
Pecos bel Avalon Dam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	2.8	9.6
Carlsbad Main Canal	0.0	0.0	3.2	11.8	12.1	14.7	11.4	7.1	5.9	5.3	0.0	0.0	71.4
Dark Canyon at Carlsbad	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pecos below Dark Canyon	1.7	2.4	1.4	0.8	0.4	0.4	0.3	0.2	0.2	0.6	6.3	3.1	17.8
Pecos R at Red Bluff	4.9	4.7	4.5	3.3	2.1	2.0	1.9	1.9	2.0	2.2	8.4	5.7	43.7
Delaware R nr Red Bluff	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3
GAGE HEIGHTS													
Avalon gage ht, end mo	75.70	76.00	72.80	73.00	73.10	73.00	73.10	73.10	73.40	73.10	72.40	73.60	
Avalon gage ht, avg	75.44	75.91	73.30	73.06	73.09	72.91	73.16	73.19	73.20	73.44	73.50	72.10	
Alamogordo ga ht, end mo	57.13	58.69	59.61	58.52	43.44	40.04	42.24	39.92	35.16	31.99	41.98	44.92	
Alamogordo gage ht, avg	56.05	57.90	59.51	59.08	54.96	41.88	42.14	41.46	36.95	32.99	37.84	43.37	
Lake S Rosa ga ht, end mo	5.51	7.59	13.95	20.50	20.50	21.32	87.75	4.08	5.63	6.32	7.24	7.98	
Lake S Rosa ga ht, avg	4.87	6.58	10.76	17.31	20.65	21.08	2.40	96.37	4.96	6.98	5.98	7.61	
PRECIPITATION, INCHES													
Brantley Lake	0.54	0.32	0.58	0.05	0.53	1.48	2.15	0.26	1.14	0.12	1.17	0.00	8.34
Las Vegas FAA AP	0.77	0.85	1.23	0.21	0.89	2.08	1.38	2.02	0.44	0.32	1.40	0.11	11.70
Pecos National Monument	1.20	0.52	0.78	0.67	0.74	1.18	2.05	4.71	0.50	0.02	0.36	0.38	13.11
Santa Rosa	1.09	0.89	2.27	0.28	1.22	3.09	0.66	1.27	1.16	0.35	0.22	0.25	12.75
Lake Santa Rosa	1.57	1.03	1.71	0.25	1.29	2.00	0.57	2.60	1.59	0.39	1.60	0.20	14.80
Sumner Lake	0.73	0.65	1.27	0.03	0.65	0.97	0.61	0.99	0.77	0.34	1.08	0.08	8.17
PAN EVAPORATION, INCHES													
Lake Santa Rosa	3.72	4.98	7.12	9.12	8.93	12.58	12.38	9.39	7.96	6.49	4.13	3.76	90.56
Lake Sumner	1.86	3.71	4.04	12.49	11.21	14.30	15.10	11.83	10.25	7.00	2.44	3.03	97.26
Brantley Lake	4.65	5.60	6.09	12.74	13.28	16.85	16.90	13.11	11.42	9.10	4.80	4.34	118.88
OTHER REPORTS													
Base Acme-Art, TAF (USGS)	4.2	3.7	3.5	2.4	2.2	1.7	0.9	1.0	0.7	1.0	2.1	2.4	25.7
Pump depl Ac-Artesia, TAF	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.5
NM irrig inv, acres (3/9/2000)													11529
NM Transfer water use, TAF													0
NM salvaged water, TAF													0
Texas, water stored NM, TAF	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Texas, use Del water, TAF													

APPENDIX

RIVER MASTER'S RESPONSE TO STATES' OBJECTIONS

RESPONSE TO STATES' OBJECTIONS
Final Report, Accounting Year 2002

NEW MEXICO'S OBJECTIONS

1. Table 12. Data Required for River Master's Manual Calculations, WY 2001:

New Mexico reported errors in River Pumper data for April through November. The data for WY 2001 was not entered on Table 12. The objection is accepted and Table 12 has been revised.

2. Table 11. Change in Storage, Lake Avalon – 2001 – (B.4.g):

New Mexico reported errors in storage values for Lake Avalon for March through December. The objection is accepted and Table 11 has been revised. The total change in storage is shown as –1.0 TAF.

3. Table 9. Lake Avalon Leakage Lagged – 2001 – (B.4.c.1.g):

New Mexico reported two errors on Table 12. The leakage value for December was in error and days shown for February should be 28 rather than 29. The objection is accepted. Table 9 was revised to show a lagged leakage of 17.4 cfs, rather than 17.1 cfs. The difference in 17.4 and 17.5 cfs, reported by New Mexico, appears to be in rounding off of numbers.

4. Table 8. Carlsbad Main Canal Seepage Lagged – 2001 – (B.4.c.1.e):

New Mexico noted that February should be shown with 28 days in Table 8. The objection is accepted, and the table has been revised.

5. Table 7. Carlsbad Springs New Water – 2001 – (B.4.c):

New Mexico reported that Table 7 should be revised to reflect changes in Table 9. The objection is accepted and Table 7 has been revised.

6. Table 6. Depletions due to Santa Rosa Reservoir Operations – 2001 – (C.1.b):

The River Master could not check New Mexico's first objection about gage height for November. The Preliminary Report's gage height figure of 5.98 feet was contained in New Mexico's letter to the River Master of March 15, 2002. The River Master could not find where New Mexico got its figure of 6.84 feet. Also, the calculation is the same with either value. New Mexico's second point is about a calculation of sum of contents using the resulting figures. These objections are rejected.

New Mexico reported an error in the interpolation for the July and November 1947 area calculation. The objection for July is accepted. The objection for November is rejected because it is based on the issue described in the previous paragraph.

Table 8 has been revised and now has the same value reported by New Mexico, 2.8 TAF adjustment.

7. Table 3. Flood Inflow, Artesia to Carlsbad, WY 2001 (B.4):

New Mexico's objections about Table 3 involve carry over of computations from Items 2 and 5 above. The objections are accepted, and Table 3 has been revised. The difference of 0.1 TAF between the River Master's and New Mexico's values is due to rounding.

8. Table 2. Flood Inflow, Alamogordo to Artesia, WY 2001 (B.3):

New Mexico's objection about Table 2 involves carry over of computations from Item 1 above. The objection is accepted, and Table 2 has been revised.

9. Table 1. General Calculations of Annual Departures, TAF, WY 2001:

As a result of New Mexico's objections, Table 1 has been revised to show a shortfall of 0.7 TAF, rather than a shortfall of 1.4 TAF.

TEXAS'S OBJECTIONS

Texas noted differences between the Preliminary Report and USGS data for reservoir content values of Sumner and Santa Rosa lakes. These differences do occur and are explained as follows. The River Master's Manual instructs the River Master to use the latest gage height, area, and content tables to compute reservoir surface areas and contents (see Table 6 of Preliminary Report). From the inception of accounting under the Amended Decree, the procedure has been to obtain average and end-of-month gage heights and to look up surface areas and contents. A few years ago, the procedure was instituted whereby New Mexico obtains the gage data and reports it (see New Mexico's letter to the River Master of March 15, 2002). This procedure saves time and provides a common database for annual accounting. The River Master has observed that data computed this way differs from USGS content data, but does not know how USGS computes the content data. If the procedure is of concern to either state, it is suggested that the states agree on revised procedure.

FINAL CALCULATED DEPARTURE.

The Preliminary Report's Final Calculated Departure was –1.4 TAF. After considering the states' objections, the Final Determination is –0.7 TAF.