Supreme Court, U.S.
FILED
JUN 23 2011
OFFICE OF THE CLERK

PECOS RIVER COMPACT

Report of the River Master

Water Year 2010

Accounting Year 2011

Final Report

June 20, 2011

Neil S. Grigg
River Master of the Pecos River
749 S. Lemay, Ste. A3, PMB 330
Fort Collins, Colorado 80524

Supreme Court, U.S.
FILED
JUN 2 2 2011
OFFICE OF THE CLERK

Supreme Court, U.S.
FILED
JUN 2 2 2011
OFFICE OF THE CLERK

PECOS RIVER COMPACT

Report of the River Master

Water Year 2010

Accounting Year 2011

Final Report

June 20, 2011

Neil S. Grigg
River Master of the Pecos River
749 S. Lemay, Ste. A3, PMB 330
Fort Collins, Colorado 80524

CONTENTS

Map of Pecos River Basin Showing Accounting Reaches

Purpose of the Report and Statement of Shortfall or Overage

Table of Annual and Accumulated Overage or Shortfall

Table 1. General Calculation of Annual Departures, T.A.F. (B.1.a.- d.)

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

Table 3. Flood Inflows, Artesia to Carlsbad (B.4)

Table 4. Flood Inflows, Carlsbad - State Line (B.5.c)

Table 5. Depletion Due to Irrigation above Alamogordo Dam (C.1.a)

Table 6. Depletion Due to Santa Rosa Reservoir Operations (C.1.b)

Table 7. Carlsbad Springs New Water (B.4.c)

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

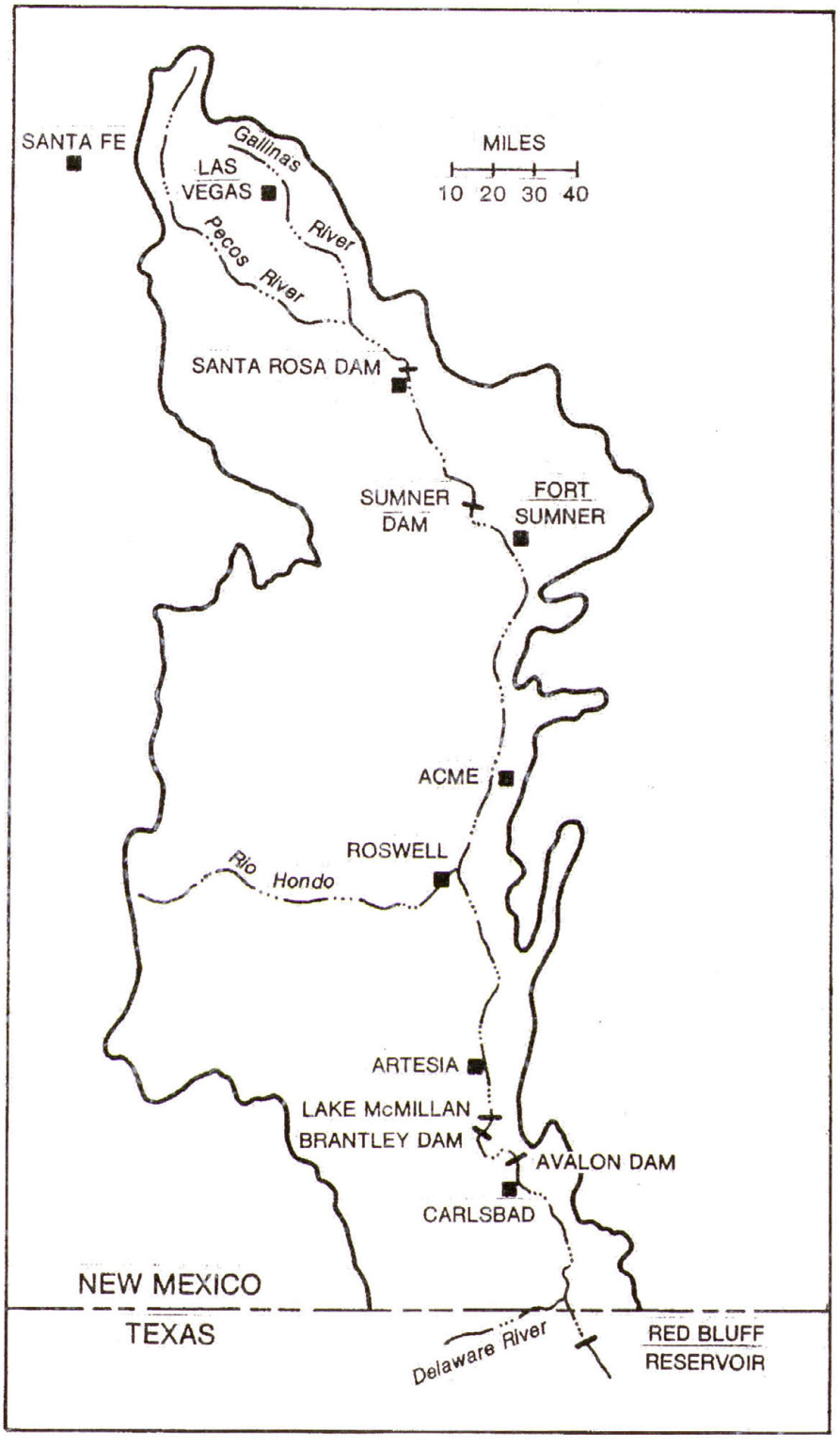
Table 9. Lake Avalon Leakage Lagged (B.4.c.(1)(g))

Table 10. Evaporation Loss at Lake Avalon (B.4.f)

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

Table 12. Data Required for River Master Manual Calculations

Appendix: Response to States' Objections



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 2009 - Accounting Year 2010
June 20, 2011

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 2010 was a shortfall of 500 acre-feet. The accumulated overage since the beginning of Water Year 1987 is 99,600 acre-feet.

Neil S. Grigg
River Master of the Pecos River

Pecos River Compact		
Accumulated Shortfall or Overage		
	June 20, 2011	
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
2002	-3,000	6,900
2003	2,000	8,900
2004	8,300	17,200
2005	24,000	41,200
2006	26,100	67,300
2007	25,200	92,500
2008	6,000	98,500
2009	1,600	100,100
2010	-500	99,600

Table 1. General Calculation of Annual Departures, TAF, WY 2010			
6/20/2011			
	WY 2008	WY 2009	WY 2010
B.1.a. Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	128.4	97.0	116.2
(b) Flood Inflow Alamogordo - Artesia (Table 2)	16.0	7.4	7.9
(c) Flood Inflow Artesia - Carlsbad (Table 3)	11.7	7.8	10.0
(d) Flood Inflow Carlsbad - State Line (Table 4)	3.4	12.5	9.4
Total (annual flood inflow)	159.5	124.7	143.5
(2) Index Inflow (3-year avg)			142.6
B.1.b. 1947 Condition Delivery Obligation			57.0
(Index Outflow)			
B.1.c. Average Historical (Gaged) Outflow			
(1) Annual historical outflow			
(a) Gaged Flow Pecos River at Red Bluff NM	58.0	44.0	60.6
(b) Gaged Flow Delaware River nr Red Bluff NM	1.6	2.7	5.6
(c) Metered diversions Permit 3254 into C-2713	0.0	0.0	0.0
Total Annual Historical Outflow	59.6	46.7	66.2
(2) Average Historical Outflow (3-yr average)			57.5
B.1.d. Annual Departure			0.5
C. Adjustments to Computed Departure			
1. Adjustments for Depletions above Alam Dam			
a. Depletions Due to Irrigation (Table 5)	-0.4	0	0.5
b. Depl fr Operation of Santa Rosa Reservoir (Table 6)	3.0	3.4	4.1
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	131.0	100.4	120.8
(b) Flood Inflow Alamogordo - Artesia	16.0	7.4	7.9
(c) Flood Inflow Artesia - Carlsbad	11.7	7.8	10.0
(d) Flood Inflow Carlsbad - State Line	3.4	12.5	9.4
Total (annual flood inflow)	162.1	128.1	148.1
Recomputed Index Inflow (3-year avg)			146.1
Recomputed 1947 Condition Del Outflow			59.0
(Index Outflow)			
Recomputed Annual Departures			-1.5
Credits to New Mexico			
C.2 Depletions Due to McMillan Dike			1.0
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			-0.5

Table 2. Determination of Flood Inflows, Alamogordo Dam to Artesia (B.3), WY 2010

5/5/2011

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Flow bel Sumner Dam	1.2	1.3	18.8	6.0	7.3	29.4	6.3	6.0	31.2	6.4	0.7	1.6	116.2
FtSumner Irrig Div	0.0	0.0	2.4	5.3	5.6	5.5	5.9	4.8	4.9	5.2	0.0	0.0	39.6
Ft Sumner ID Return	0.8	0.6	1.5	1.7	2.5	2.5	2.5	2.5	2.3	2.1	1.0	0.8	21.0
Flow past FS IDist	2.1	1.9	17.9	2.4	4.2	26.4	2.9	3.7	28.6	3.3	1.8	2.4	97.6
Channel loss	0.2	0.2	3.4	1.4	1.6	5.1	1.0	1.7	4.1	0.9	0.7	0.2	20.5
Residual Flow	1.8	1.7	14.5	1.0	2.6	21.3	1.9	2.0	24.4	2.4	1.1	2.2	77.0
Base Inflow	2.6	2.6	2.6	1.9	1.4	0.4	0.7	0.4	0.5	1.2	2.4	2.5	19.1
River Pump Divers	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.7
Residual, Artesia	4.4	4.3	17.1	2.8	3.9	21.6	2.6	2.3	24.8	3.6	3.5	4.7	95.4
Pecos Flow Artesia	4.3	4.8	15.1	9.3	5.9	7.9	15.3	5.0	11.5	16.2	4.1	4.2	103.3
Flood Inflow, AD-Art	-0.2	0.5	-2.0	6.5	2.0	-13.7	12.8	2.7	-13.3	12.6	0.6	-0.5	7.9

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 2010 (B.4)													
5/5/2011													
	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2
South Seven Rivers	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Rocky Arroyo at Hwy Br	0.0	0.0	0.0	0.0	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.9
Flood Inflow, Art-DS3	0.0	0.0	0.0	0.0	0.0	1.7	0.2	0.0	0.0	0.0	0.0	0.0	1.9
Pecos R at Dam Site 3	1.4	1.3	1.4	10.5	10.9	15.0	3.3	15.3	5.0	14.2	16.6	1.2	96.1
CB Sprgs New Water (from Table 7)	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-9.6
Total Inflow, DS3 - CB	0.6	0.5	0.6	9.6	10.1	14.2	2.5	14.5	4.2	13.4	15.8	0.4	86.5
Evap Loss, Lake Avalon (from Table 10)	0.2	0.2	0.4	0.4	0.6	0.3	0.1	0.4	0.2	0.3	0.2	0.2	3.5
Storage Chg, Lake Avalon (from Table 11)	0.4	0.4	0.2	-1.9	-0.1	0.1	-0.2	0.5	0.2	0.4	-1.3	0.7	-0.5
Carls ID diversions	0.0	0.0	0.0	11.6	10.1	12.5	2.9	13.0	4.4	12.1	0.0	0.0	66.6
93% CID diver	0.0	0.0	0.0	10.8	9.4	11.6	2.7	12.1	4.1	11.3	0.0	0.0	61.9
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	0.3	0.0	0.0	0.0	0.3
Pecos b Dark Canyon	0.9	1.0	1.1	1.0	0.9	0.7	1.4	1.2	2.2	1.6	14.8	1.7	28.5
Pecos R at Carlsbad	0.9	1.0	1.1	1.0	0.9	0.7	1.4	1.2	2.0	1.6	14.8	1.7	28.2
Total Outflow	1.7	1.7	1.7	10.4	10.9	12.9	4.2	14.4	6.6	13.7	13.8	2.6	94.6
Flood Inflow, DS3-CB	1.1	1.1	1.1	0.8	0.7	-1.3	1.7	-0.1	2.4	0.3	-2.0	2.2	8.1
Flood Inflow, Art-CB	1.1	1.1	1.1	0.8	0.7	0.3	1.9	-0.1	2.4	0.3	-2.0	2.2	10.0

Table 4. Summary Table for Computations, Carlsbad to State Line - WY 2010 (B.5)

6/20/2011

	BCB - RB RM	BCB - RB* USGS	Del R USGS	DC
Jan	0.1	0.1	0.0	0.0
Feb	0.2	0.3	0.0	0.0
Mar	0.0	0.0	0.0	0.0
Apr	0.4	0.7	0.0	0.0
May	0.2	0.7	0.0	0.0
Jun	0.3	0.4	1.5	0.0
Jul	2.4	2.6	0.7	0.0
Aug	0.6	0.5	0.0	0.0
Sep	1.4	1.4	1.3	0.3
Oct	0.0	0.4	0.0	0.0
Nov	0.0	0.0	0.0	0.0
Dec	0.0	0.0	0.0	0.0
Total	5.6	7.2	3.5	0.3

Summary of flood inflows, Carlsbad to State Line, TAF

Red Bluff - Carlsbad + Dark C RM calcs)	5.8	**
Delaware River (USGS Computation	3.5	
Total Flood Inflow, Carlsbad to State Line	9.4	

* USGS calculations BCB-RB for comparison only.

** Differs from sum of flood inflows and Dark Canyon flows due to rounding

Table 5. Depletions Due to Irrigation Above Sumner Dam - WY 2010 (C.1.a)								
5/5/2011								
	APR	MAY	JUN	JUL	AUG	SEPT	OCT	TOTAL
Precip Las Vegas FAA AP	0.32	0.86	1.42	3.02	1.25	2.49	2.11	11.47
Eff prec Las Veg FAA AP	0.31	0.83	1.34	2.60	1.19	2.21	1.92	10.40
Precip Pecos Natl Monument	0.31	0.61	0.66	5.20	2.15	1.00	0.63	10.56
Eff Precip Pecos RS	0.30	0.60	0.64	3.88	1.95	0.97	0.62	8.96
Precip Santa Rosa	0.26	0.24	1.86	1.43	2.90	1.80	1.70	10.19
Eff Precip Santa Ro	0.25	0.24	1.71	1.35	2.52	1.66	1.58	9.31
Average eff precip, ft	0.02	0.05	0.10	0.22	0.16	0.13	0.11	0.80
Consumptive use, ft	0.19	0.36	0.36	0.30	0.27	0.18	0.11	1.77
Unit depletion rate (CU less eff precip), ft	0.17	0.31	0.26	0.08	0.11	0.05	0.00	0.98
Acres (most recent inventory)	11529							
Streamflow depletion (actual use), AF	11276							
1947 depletion, AF	10804							
Difference (actual use - 1947 depletion), TAF	0.5							
Adjustment to Gaged Flow, Pecos River below Sumner Dam, TAF =						0.5		

Table 6. Depletions Due to Santa Rosa Reservoir Operations - WY 2010 - (C.1.b)

5/5/2011

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
LS 2001 table (USBR); SRL 1997 tables used (COE)													
Lk Sumner ga ht, avg	55.49	57.24	57.26	53.32	51.91	49.8	49.14	50.24	49.94	49.49	51.84	52.42	
LS content, AF, avg	25522	29101	29143	21514	19163	15980	15061	16613	16180	15544	19052	19991	
LS area, acres, avg	1956	2136	2138	1738	1598	1420	1364	1457	1431	1393	1592	1648	
LS evap, inches	2.93	2.69	7.24	11.66	14.22	15.21	12.08	11.72	11.21	8.17	6.74	5.09	108.96
.77 LS Evap	2.26	2.07	5.57	8.98	10.95	11.71	9.30	9.02	8.63	6.29	5.19	3.92	83.90
LS Precip, inches	0.60	0.92	1.44	0.39	0.94	2.03	4.08	2.29	1.48	1.47	0.00	0.20	15.84
Net LS Evap, inches	1.66	1.15	4.13	8.59	10.01	9.68	5.22	6.73	7.15	4.82	5.19	3.72	68.06
LSum Evaploss, TAF	0.27	0.20	0.74	1.24	1.33	1.15	0.59	0.82	0.85	0.56	0.69	0.51	8.96
L S Rosa ga ht, avg	15.36	15.77	15.25	19.23	30.2	34.34	30.61	35.17	33.82	26.03	25.95	25.91	
LSR content, AF, avg	24543	25110	24393	30347	52407	62989	53408	65263	61593	43034	42868	42784	
LSR area, acres, avg	1368	1402	1359	1644	2428	2703	2459	2772	2671	2095	2088	2084	
LSR evap, inches	3.72	4.98	8.58	8.39	11.81	13.43	10.71	10.68	9.95	6.08	4.84	3.76	96.93
.77 LSR Evap	2.86	3.83	6.61	6.46	9.09	10.34	8.25	8.22	7.66	4.68	3.73	2.90	74.64
LSR precip, inches	0.67	1.51	1.20	0.35	0.62	1.42	1.86	2.55	0.95	0.98	0.06	0.35	12.52
Net LSR Evap, inches	2.19	2.32	5.41	6.11	8.47	8.92	6.39	5.67	6.71	3.70	3.67	2.55	62.12
LSR Evaploss, TAF	0.25	0.27	0.61	0.84	1.71	2.01	1.31	1.31	1.49	0.65	0.64	0.44	11.53
Total evaploss, TAF	0.52	0.48	1.35	2.08	3.05	3.16	1.90	2.13	2.35	1.21	1.33	0.95	20.49
Sum contents, AF	50065	54211	53536	51861	71570	78969	68469	81876	77773	58578	61920	62775	
1947 area, acres	2256	2478	2437	2334	3055	3199	2950	3286	3180	2692	2809	2825	
1947 evaploss, TAF	0.31	0.24	0.84	1.67	2.55	2.58	1.28	1.84	1.90	1.08	1.21	0.88	16.38
current-1947evaploss	0.21	0.24	0.51	0.41	0.50	0.57	0.62	0.28	0.45	0.12	0.11	0.08	4.11
						Annual adjustment for excess evaporation =							4.1

ADJUSTMENT FOR EXCESSIVE STORAGE IN SANTA ROSA RESERVOIR

			2009	2009	2010	2010
			Gage	Storage	Gage	Storage
EndYear Sumner Sto			4254.61	23840	4253.27	21427
EndYear S R Sto			4715.20	24325	4725.87	42701
Sum				48165		64128
Sto Adjustment, AF						0
Adjustm Ex Evap, TAF						4.1
Total Adjustment,TAF						4.1

Storage adjustment
Both equal or less than 129.3 TAF, adjustment is zero
Both greater than 129.3 TAF, subtract previous from current year
Current year less than 129.3 TAF, previous greater than 129.3 TAF, subtract previous year from 129.3 TAF
Current year greater than 129.3 TAF, previous year less than 129.3 TAF, subtract 129.3 TAF from current year

Table 7. Carlsbad Springs New Water WY 2010- (B.4.c)					
5/5/2011					
		TAF	AF/day	cfs	Totals
Pecos R bel DC		28.5	77.9	39.3	39.3
Dark Canyon		0.3	0.8	0.4	0.4
Pecos R bel Lake Av, cfs		17.7	48.4	24.4	24.4
Depletion, cfs					2.0
CID lag seep, cfs (from Table 8)					6.4
Return flow, cfs					1.0
Lake Av lagged seep, cfs (from Table 9)					19.4
PR seepage, cfs					3.0
Carls new water, cfs					-13.3
Carls new wat, TAF					-9.6
Carls new wat monthly, TAF					-0.8

Table 8. Carlsbad Main Canal Seepage Lagged - WY 2010 - [B.4.c.(1)(e)]													
5/5/2011													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
WY 2010													
CID, TAF	0	0	0	11.58	10.06	12.45	2.93	13.02	4.42	12.12	0	0	66.6
days/mo	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs	0	0.0	0.0	194.6	163.6	209.2	47.7	211.7	74.3	197.1	0.0	0.0	91.5
cfs, qtr avg			0.0			188.9			111.6			66.4	
WY 2009		1Q	2Q	3Q	4Q								
FLOWS, cfs				141.7	47.8								
SEVEN %				9.9	3.3								
WY 2010 lagged		1Q	2Q	3Q	4Q								
FLOWS, cfs		0.0	188.9	111.6	66.4								
SEVEN %		0.0	13.2	7.8	4.6								
LAG		2.8	7.2	8.3	7.1	Avg =	6.4	cfs					

Table 9. Lake Avalon Leakage Lagged - WY 2010 - B.4.c.(1)(g)													
5/5/2011													
WY 2010	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
WS NM rept	75.05	75.65	75.93	73.69	73.23	73.19	74.35	73.20	73.70	73.37	73.38	73.56	
ga ht, avg*	18.05	18.65	18.93	16.69	16.23	16.19	17.35	16.20	16.70	16.37	16.38	16.56	
cfs	24.3	27.1	28.5	17.8	15.6	15.4	20.9	15.4	17.8	16.2	16.3	17.2	
days	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs avg	26.6			16.2			18.1			16.6			19.4
2009		1Q	2Q	3Q	4Q								
cfs				15.7	16.5								
2010 lagged		1Q	2Q	3Q	4Q								
cfs		26.6	16.2	18.1	16.6								
lag cfs		21.4	19.7	18.9	17.0	Avg =	19.3	cfs					
* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)													

Table 10. Evaporation Loss at Lake Avalon - WY 2010 - (B.4.f)													
4/9/2011													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOT
Av WS NM Rept	75.05	75.65	75.93	73.69	73.23	73.19	74.35	73.20	73.70	73.37	73.38	73.56	
Avalon ga ht, avg, ft*	18.05	18.65	18.93	16.69	16.23	16.19	17.35	16.20	16.70	16.37	16.38	16.56	
Avg area Avalon, ac**	741	783	802	653	626	623	695	624	654	634	635	646	
Panevap Brantley, in.	4.65	5.60	8.19	11.40	14.92	14.79	9.88	11.96	8.20	7.54	4.80	4.34	106.27
Lakeevap Brantley, in.	3.58	4.31	6.31	8.78	11.49	11.39	7.61	9.21	6.31	5.81	3.70	3.34	81.83
Precip Brantley, in.	0.77	1.23	0.30	0.68	0.23	5.25	5.50	1.34	2.24	0.37	0.00	0.12	18.03
Netevap, inches	2.81	3.08	6.01	8.10	11.26	6.14	2.11	7.87	4.07	5.44	3.70	3.22	63.80
Evaploss Av, TAF	0.17	0.20	0.40	0.44	0.59	0.32	0.12	0.41	0.22	0.29	0.20	0.17	3.53
* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)													
** Based on USBR Area and Capacity Table in effect January 1, 1997													

Table 11. Change in Storage, Lake Avalon - WY 2010 - (B.4.g)

(Gage heights are end of month)

40642

	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
	2009	2010												
WS NM Rept	74.7	75.3	75.8	76.0	73.3	73.2	73.4	73.1	73.9	74.2	74.8	72.9	74.0	
Gage EOM, ft*	17.7	18.3	18.8	19	16.3	16.2	16.4	16.1	16.9	17.2	17.8	15.9	17.0	
Storage, AF**	2275	2718	3106	3266	1333	1271	1397	1209	1722	1925	2347	1086	1789	
Change sto, TAF		0.4	0.4	0.2	-1.9	-0.1	0.1	-0.2	0.5	0.2	0.4	-1.3	0.7	-0.5

* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)

** Based on USBR Area and Capacity Table in effect January 1, 1997

Table 12. Data Required for River Master Manual Calculations, Water Year 2010													
5/5/2011													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
STREAMFLOW GAGING RECORDS, TAF													
Pecos R b Sumner Dam	1.2	1.3	18.8	6.0	7.3	29.4	6.3	6.0	31.2	6.4	0.7	1.6	116.2
Fort Sumner Main C	0.0	0.0	2.4	5.3	5.6	5.5	5.9	4.8	4.9	5.2	0.0	0.0	39.6
Pecos R nr Artesia	4.3	4.8	15.1	9.3	5.9	7.9	15.3	5.0	11.5	16.2	4.1	4.2	103.3
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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2
South Seven Rivers nr Lkwd	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Rocky Arroyo at Hwy Br nr	0.0	0.0	0.0	0.0	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.9
Pecos R at Dam Site 3	1.4	1.3	1.4	10.5	10.9	15.0	3.3	15.3	5.0	14.2	16.6	1.2	96.1
Pecos bel Avalon Dam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.7	0.0	17.7
Carlsbad Main Canal	0.0	0.0	0.0	11.6	10.1	12.5	2.9	13.0	4.4	12.1	0.0	0.0	66.6
Dark Canyon at Carlsbad	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
Pecos below Dark Canyon	0.9	1.0	1.1	1.0	0.9	0.7	1.4	1.2	2.2	1.6	14.8	1.7	28.5
Pecos R at Red Bluff	3.3	3.3	3.1	2.9	2.8	2.0	5.8	3.6	5.4	4.3	19.3	4.9	60.6
Delaware R nr Red Bluff	0.2	0.1	0.1	0.2	0.1	1.6	1.1	0.2	1.6	0.2	0.2	0.2	5.6
GAGE HEIGHTS													
Avalon gage ht, end mo	75.30	75.80	76.00	73.30	73.20	73.40	73.10	73.90	74.20	74.80	72.90	74.00	
Avalon gage ht, avg	75.05	75.65	75.93	73.69	73.23	73.19	74.35	73.20	73.70	73.37	73.38	73.56	
Sumner Lake ga ht, end mo	56.42	57.80	53.81	52.90	50.92	49.48	49.83	50.98	49.32	49.23	51.43	53.27	
Sumner Lake gage ht, avg	55.49	57.24	57.26	53.32	51.91	49.80	49.14	50.24	49.94	49.49	51.84	52.42	
Lake S Rosa ga ht, end mo	15.54	15.90	13.22	26.08	33.98	28.83	33.00	35.67	25.98	26.01	25.88	25.87	
Lake S Rosa ga ht, avg	15.36	15.77	15.25	19.23	30.20	34.34	30.61	35.17	33.82	26.03	25.95	25.91	
PRECIPITATION, INCHES													
Brantley Lake	0.77	1.23	0.30	0.68	0.23	5.25	5.50	1.34	2.24	0.37	0.00	0.12	18.03
Las Vegas FAA AP	0.09	0.36	0.97	0.32	0.86	1.42	3.02	1.25	2.49	2.11	0.01	0.76	13.66
Pecos National Monument	1.28	1.32	2.52	0.31	0.61	0.66	5.2	2.15	1.00	0.63	0.07	2.17	17.92
Santa Rosa	0.64	0.90	1.16	0.26	0.24	1.86	1.43	2.90	1.80	1.70	0.05	0.35	13.29
Lake Santa Rosa	0.67	1.51	1.20	0.35	0.62	1.42	1.86	2.55	0.95	0.98	0.06	0.35	12.52
Sumner Lake*	0.60	0.92	1.44	0.39	0.94	2.03	4.08	2.29	1.48	1.47	0.00	0.20	15.84
	* Note: apparent error in NM report showing total of 15.24 inches at Sumner Lake												
PAN EVAPORATION, INCHES													
Lake Santa Rosa	3.72	4.98	8.58	8.39	11.81	13.43	10.71	10.68	9.95	6.08	4.84	3.76	96.93
Lake Sumner	2.93	2.69	7.24	11.66	14.22	15.21	12.08	11.72	11.21	8.17	6.74	5.09	108.96
Brantley Lake	4.65	5.60	8.19	11.40	14.92	14.79	9.88	11.96	8.20	7.54	4.80	4.34	106.27
OTHER REPORTS													
Base Acme-Art, TAF (USGS)	2.6	2.6	2.6	1.9	1.4	0.4	0.7	0.4	0.5	1.2	2.4	2.5	19.1
Pump depl Ac-Artesia, TAF	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.7
Pumping, C-2713, Brine Part.	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
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 2011

NEW MEXICO'S OBJECTIONS

1. Table 4. Determination of flood Inflows, Carlsbad - State Line WY 2010 [B.5.]:
New Mexico found that the values in Table 4 for Delaware River flood inflows were entered incorrectly. This objection is accepted, and the revised Table 4 is included in the Final Report.

TEXAS'S OBJECTIONS

1. Table 4. Determination of flood Inflows, Carlsbad - State Line WY 2010 [B.5.]:
Texas found an error in the spreadsheet for computation of flood inflows by hydrograph scalping. The error was caused by a one-day transposition of the base flow, and Texas' objection is accepted. The River Master's computation for the revised values for the June – July – August period differed by 0.1 TAF from Texas' computation. A spreadsheet is attached with annotations to show where the changes were made.

FINAL CALCULATED DEPARTURE

The Preliminary Report's Final Calculated Departure was an overage of 1.6 TAF. After considering the states' objections, the Final Determination is an overage of 1.6 TAF.

Change base point from July 25 to July 24

JUN			JUL			AUG			SEP			OCT			NOV	DEC
	Base	Diff		Base	Diff		Base	Diff		Base	Diff		Base	Diff		
28	28	0	55	33	22	105	49.8	55.2	69	52.8	16.3	68	56.7	11.3	70	80
32	28	4	76	33.8	42.2	78	49.5	28.5	69	53.0	16.0	64	56.9	7.1	97	79
34	28	6	120	34.7	85.3	72	49.2	22.8	149	53.3	95.8	57	57	0.0	555	79
38	28	10	180	35.5	144.5	71	49.0	22.0	68	53.5	14.5	58			791	81
42	28	14	163	36.3	126.7	63	48.7	14.3	82	53.8	28.3	65			709	80
42	28	14	106	37.1	68.9	54	48.4	5.6	86	54.0	32.0	70			749	79
47	28	19	71	38.0	33.0	56	48.1	7.9	64	54.3	9.8	85			838	79
48	28	20	187	38.8	148.2	65	47.9	17.1	56	54.5	1.5	83			835	79
45	28	17	153	39.6	113.4	58	47.6	10.4	55	55.0	0.0	74			833	79
39	28	11	109	40.4	68.6	49	47.3	1.7	54	54.9	-0.9	64			835	78
34	28	6	106	41.3	64.7	47	47.0	0.0	67	54.7	12.3	61			750	78
28	28	0	190	42.1	147.9	59		59	68	54.5	13.5	64			618	76
23	28	-5	98	42.9	55.1	51		51	60	54.4	5.6	77			370	75
21	28	-7	97	43.8	53.2	47	47	0	68	54.2	13.8	72			185	76
26	28	-2	87	44.6	42.4	51			54	54	0	64			134	76
28	28	0	67	45.4	21.6	50			55	54.2	0.8	65			114	77
31	28	3	61	46.2	14.8	50			173	54.3	118.7	65			104	77
32	28	4	58	47.1	10.9	51			163	54.5	108.5	64			99	75
31	28	3	56	47.9	8.1	48			132	54.7	77.3	66	66	0.0	94	74
32	28	4	54	48.7	5.3	47			99	54.8	44.2	84	67.2	16.8	92	76
35	28	7	53	49.6	3.4	56			76	55.0	21.0	75	68.4	6.6	92	77
42	28	14	52	50.4	1.6	67			69	55.2	13.8	73	69.6	3.4	91	76
34	28	6	51	51.2	-0.2	59			69	55.3	13.7	73	70.8	2.2	90	75
28	28	0	52	52.0	0.0	59			121	55.5	65.5	72	72	0	89	75
28	28	0	63	51.8	11.243	57			236	55.7	180.3	75			87	76
31	28.8	2.2	85	51.5	33.5	54			133	55.8	77.2	78			85	86
33	29.7	3.3	89	51.2	37.8	56			90	56.0	34.0	80			83	90
33	30.5	2.5	80	50.9	29.1	54			80	56.2	23.8	70			82	88
37	31.3	5.7	105	50.6	54.4	52	52	0	74	56.3	17.7	65			82	88
46	32.1	13.9	92	50.4		59	52.25	6.75	71	56.5	14.5	62			80	93
---	33.0		93	50.1		67	52.5	14.5	---			62			---	88
		175.6		49.8	1447.6			316.7			1069.3			47.4		
		175.6			1447.6			316.7			1069.3			47.4		
		41.3			253.44			20.692			383.55			27.435		
		134.3			1194.1			296.0			685.8			20.0		

REVISED VALUES
in cfs - days