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SUPREME COURT, U.S.

No. 65, Original

In the Supreme Court of the United States

STATE OF TEXAS, PLAINTIFF

v.

STATE OF NEW MEXICO

ON REVIEW OF THE RIVER MASTER'S 2020 FINAL DETERMINATION

APPENDIX TO CONDITIONAL MOTION FOR REVIEW OF RIVER MASTER'S 2020 FINAL DETERMINATION

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PECOS RIVER COMPACT

Report of the River Master

Water Year 2019

Accounting Year 2020

Preliminary Report

Neil S. Grigg
River Master of the Pecos River
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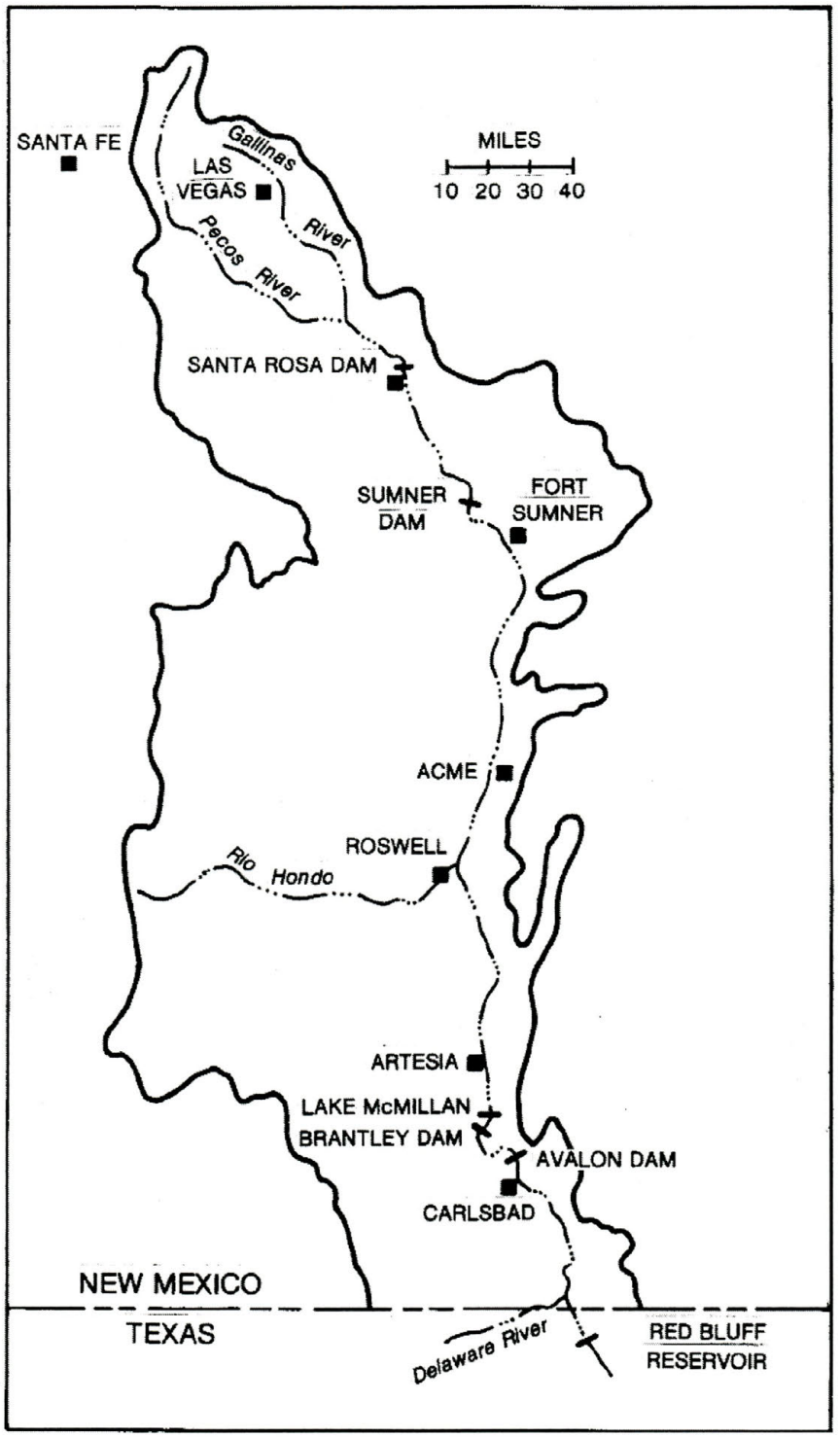


Map of Pecos River Basin Showing Accounting Reaches

Map of Pecos River Basin Showing Accounting Reaches

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

Preliminary Report of the River Master
Water Year 2019 - Accounting Year 2020
May 11, 2020

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 Preliminary 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 2019 was a shortfall of 10,000 acre-feet. The accumulated overage since the beginning of Water Year 1987 is 166,100 acre-feet.

/s/ Neil S. Grigg
Neil S. Grigg

Pecos River Compact		
Accumulated Shortfall or Overage		
	May 7, 2019	
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
2011	500	100,100
2012	1,900	102,000
2013	-6,300	95,700
2014	700	96,400
2015	27,300	123,700
2016	27,200	150,900
2017	19,900	170,800
2018	5,300	176,100
2019	-10,000	166,100

Table 1. General Calculation of Annual Departures in TAF (B.1)			
Water Year	2019		
4/15/2020			
	WY 2017	WY 2018	WY 2019
B.1.a. Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	89.7	97.7	125.8
(b) Flood Inflow Alamogordo - Artesia (Table 2)	33.0	5.3	17.4
(c) Flood Inflow Artesia - Carlsbad (Table 3)	13.1	9.8	10.0
(d) Flood Inflow Carlsbad - State Line (Table 4)	6.2	5.6	8.1
Total (annual flood inflow)	142.0	118.4	161.3
(2) Index Inflow (3-year avg)			140.6
B.1.b. 1947 Condition Delivery Obligation			55.8
(Index Outflow)			
B.1.c. Average Historical (Gaged) Outflow			
(1) Annual historical outflow			
(a) Gaged Flow Pecos River at Red Bluff NM	46.9	42.6	45.8
(b) Gaged Flow Delaware River nr Red Bluff NM	3.3	1.8	0.9
(c) Metered diversions Permit 3254 into C-2713	0.4	0.4	0.4
Total Annual Historical Outflow	50.6	44.8	47.1
(2) Average Historical Outflow (3-yr average)			47.5
B.1.d. Annual Departure			-8.3
C. Adjustments to Computed Departure			
1. Adjustments for Depletions above Alam Dam			
a. Depletions Due to Irrigation (Table 5)	-1.0	0.6	0.4
b. Depl fr Operation of Santa Rosa Reservoir (Table 6)	9.2	0.6	4.5
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	97.9	98.9	130.7
(b) Flood Inflow Alamogordo - Artesia	33.0	5.3	17.4
(c) Flood Inflow Artesia - Carlsbad	13.1	9.8	10.0
(d) Flood Inflow Carlsbad - State Line	6.2	5.6	8.1
Total (annual flood inflow)	150.2	119.6	166.2
Recomputed Index Inflow (3-year avg)			145.3
Recomputed 1947 Condition Del Outflow			58.5
(Index Outflow)			
Recomputed Annual Departures			-11.0
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			-10.0

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

Water Year	2019												
5/11/2020													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Flow bel Sumner Dam	1.0	1.5	4.7	6.9	40.1	6.5	27.4	6.5	25.1	5.2	0.0	0.9	125.8
FtSumner Irrig Div	0.0	0.0	4.6	5.5	6.2	5.8	5.2	5.9	5.7	5.2	0.0	0.0	44.0
Ft Sumner ID Return	0.9	0.7	1.6	1.9	2.8	2.8	2.8	2.8	2.6	2.3	1.2	0.9	23.3
Flow past FS IDist	1.9	2.2	1.8	3.3	36.6	3.4	25.0	3.5	22.0	2.3	1.2	1.8	105.1
Channel loss	0.2	0.2	0.5	1.5	5.4	1.3	4.1	1.7	3.3	0.8	0.6	0.2	19.8
Residual Flow	1.7	1.9	1.2	1.8	31.2	2.1	21.0	1.8	18.7	1.5	0.6	1.6	85.3
Base Inflow	1.7	1.6	1.9	1.5	1.0	0.7	0.5	0.4	-0.1	1.2	2.4	2.9	15.6
River Pump Divers	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Residual, Artesia	3.4	3.5	3.1	3.2	32.2	2.8	21.4	2.2	18.6	2.7	3.0	4.5	100.7
Pecos Flow Artesia	3.8	3.5	4.0	3.5	27.1	7.0	20.7	1.8	14.5	22.0	5.4	4.6	118.1
Flood Inflow, AD-Art	0.3	0.0	0.9	0.3	-5.0	4.3	-0.8	-0.4	-4.1	19.3	2.4	0.1	17.4

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 Carlsbad (B.4)													
Water Year	2019												
5/11/2020													
	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	0.3	0.0	0.0	0.0	0.4	0.0	0.0	0.6
Fourmile Draw nr Lakew	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.8	0.0	0.0	1.1
South Seven Rivers	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.6	0.0	0.0	1.5
Rocky Arroyo at Hwy Br	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.2	1.4	0.0	0.0	2.1
Flood Inflow, Art-DS3	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.4	3.2	0.0	0.0	5.4
Pecos R at Dam Site 3	1.7	1.1	4.4	14.0	10.8	11.5	11.1	14.4	9.5	6.3	0.0	0.1	84.9
CB Sprgs New Water (from Table 7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Inflow, DS3 - CB	1.7	1.1	4.4	14.0	10.8	11.6	11.1	14.4	9.5	6.4	0.0	0.1	85.1
Evap Loss, Lake Avalon (from Table 10)	0.0	0.2	0.3	0.5	0.6	0.5	0.6	0.6	0.5	0.1	0.0	0.0	3.8
Storage Chg, Lake Avalon (from Table 11)	1.1	0.2	0.0	1.0	-0.5	-0.1	0.0	0.1	-0.2	-1.2	-0.4	0.0	0.0
Carls ID diversions	0.0	0.0	3.6	11.4	9.5	9.9	9.5	12.8	8.6	7.2	0.2	0.0	72.6
93% CID diver	0.0	0.0	3.4	10.6	8.8	9.2	8.8	11.9	8.0	6.7	0.2	0.0	67.5
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	1.3	1.0	1.1	1.3	1.5	1.5	1.6	1.5	1.8	1.6	1.5	1.4	17.0
Pecos R at Carlsbad	1.3	1.0	1.1	1.3	1.5	1.5	1.6	1.5	1.8	1.6	1.5	1.4	17.0
Total Outflow	2.4	1.6	4.9	13.5	10.5	11.2	11.2	14.2	10.1	7.3	1.4	1.5	89.7
Flood Inflow, DS3-CB	0.7	0.5	0.4	-0.5	-0.4	-0.3	0.1	-0.2	0.6	0.9	1.4	1.4	4.6
Flood Inflow, Art-CB	0.7	0.5	0.4	-0.5	-0.4	1.5	0.1	-0.2	1.0	4.1	1.4	1.4	10.0

Table 4. Summary Table for Computations, Carlsbad to State Line (B.5)						
Water Year		2019				
4/15/2020						
		BCB - RB		Del R	DC	
		RM				
Jan		0.0		0.0	0.0	
Feb		0.0		0.0	0.0	
Mar		0.3		0.1	0.0	
Apr		0.7		0.0	0.0	
May		0.1		0.0	0.0	
Jun		2.8		0.2	0.0	
Jul		1.3		0.1	0.0	
Aug		0.1		0.0	0.0	
Sep		0.4		0.0	0.0	
Oct		0.8		0.0	0.0	
Nov		1.3		0.0	0.0	
Dec		0.1		0.0	0.0	
Total		7.7		0.3	0.0	
Summary of flood inflows, Carlsbad to State Line, TAF						
Red Bluff - Carlsbad + Dark C RM calcs)						7.7
Delaware River						0.3
Total Flood Inflow, Carlsbad to State Line						8.1

Table 5. Depletions Due to Irrigation Above Sumner Dam (C.1.a)								
Water Year	2019							
4/15/2020								
	APR	MAY	JUN	JUL	AUG	SEPT	OCT	TOTAL
Precip Las Vegas FAA AP	1.59	1.04	0.75	4.23	1.59	1.15	0.86	11.21
Eff prec Las Veg FAA AP	1.48	1.01	0.74	3.45	1.48	1.11	0.83	10.1
Precip Pecos Natl Monument	0.99	1.25	0.72	2.40	2.59	0.83	1.43	10.21
Eff Precip Pecos RS	0.96	1.19	0.70	2.14	2.28	0.81	1.35	9.43
Precip Santa Rosa	0.75	1.19	1.78	2.15	1.90	1.10	0.91	9.78
Eff Precip Santa Ro	0.73	1.14	1.64	1.95	1.75	1.06	0.88	9.15
Average eff precip, ft	0.09	0.09	0.09	0.21	0.15	0.08	0.09	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	0.10	0.27	0.27	0.09	0.12	0.10	0.03	0.97
Acres (most recent inventory)	11529							
Streamflow depletion (actual use), AF	11222							
1947 depletion, AF	10804							
Difference (actual use - 1947 depletion), TAF	0.4							
Adjustment to Gaged Flow, Pecos River below Sumner Dam, TAF =						0.4		

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

Water Year	2019												
4/15/2020													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
LS 2013 table (USBR), add 4,200 feet to value shown; LSR 1997 tables used (COE); Add 4,700 feet to value shown													
Lk Sumner ga ht, avg	58.41	59.57	59.81	58.74	56.49	56.25	54.62	52.86	50.18	49.14	50.06	52.79	
LS content, AF, avg	30261	32829	33379	30976	26338	25876	22884	19902	15876	14495	15711	19789	
LS area, acres, avg	2150	2278	2306	2186	1935	1910	1767	1621	1376	1277	1365	1615	
LS evap, inches	3.66	5.49	6.13	10.97	12.72	14.83	15.14	14.07	11.30	7.39	4.03	3.74	109.48
.77 LS Evap	2.82	4.23	4.72	8.45	9.79	11.42	11.66	10.83	8.70	5.69	3.10	2.88	84.30
LS Precip, inches	0.09	0.01	0.85	1.68	0.62	1.14	1.86	1.06	1.20	1.11	0.74	0.28	10.64
Net LS Evap, inches	2.73	4.22	3.87	6.77	9.17	10.28	9.80	9.77	7.50	4.58	2.36	2.60	73.66
LSum Evaploss, TAF	0.49	0.80	0.74	1.23	1.48	1.64	1.44	1.32	0.86	0.49	0.27	0.35	11.11
L S Rosa ga ht, avg	34.76	34.62	35.05	38.70	41.54	39.47	35.34	32.43	26.48	21.59	21.40	21.47	
LSR content, AF, avg	53382	53022	54136	64207	72774	66466	54896	47570	34683	26179	25888	25995	
LSR area, acres, avg	2587	2576	2610	2902	3133	2964	2633	2404	1932	1545	1527	1534	
LSR evap, inches	3.72	4.98	8.58	8.74	9.76	11.42	12.23	11.35	9.38	6.35	4.88	3.76	95.15
.77 LSR Evap	2.86	3.83	6.61	6.73	7.52	8.79	9.42	8.74	7.22	4.89	3.76	2.90	73.27
LSR precip, inches	0.45	0.11	1.42	0.75	1.19	1.78	2.15	1.90	1.10	0.91	1.47	0.09	13.32
Net LSR Evap, inches	2.41	3.72	5.19	5.98	6.33	7.01	7.27	6.84	6.12	3.98	2.29	2.81	59.95
LSR Evaploss, TAF	0.52	0.80	1.13	1.45	1.65	1.73	1.59	1.37	0.99	0.51	0.29	0.36	12.39
Total evaploss, TAF	1.01	1.60	1.87	2.68	3.13	3.37	3.04	2.69	1.85	1.00	0.56	0.71	23.50
Sum contents, AF	83643	85851	87515	95183	99112	92342	77780	67472	50559	40674	41599	45784	
1947 area, acres	3339	3400	3453	3669	3774	3593	3130	2916	2268	1949	1972	2079	
1947 evaploss, TAF	0.76	1.20	1.11	2.07	2.89	3.08	2.56	2.38	1.42	0.74	0.39	0.45	19.03
current-1947evaploss	0.25	0.40	0.76	0.61	0.25	0.29	0.48	0.32	0.43	0.26	0.17	0.26	4.47
						Annual adjustment for excess evaporation =							4.5
ADJUSTMENT FOR EXCESSIVE STORAGE IN SANTA ROSA RESERVOIR													
			2018	2018	2019	2019							
			Gage	Storage	Gage	Storage							
EndYear Sumner Sto			4257.59	28535	4253.79	21446							
EndYear S R Sto			4734.76	53382	4721.49	26026							
Sum				81917		47472							
Sto Adjustment, TAF						0.0							
Adjustm Ex Evap, TAF						4.5							
Total Adjustment,TAF						4.5							

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 [B.4.c.(2)]					
Water Year	2019				
4/13/2020					
		TAF	AF/day	cfs	Totals
Pecos R bel DC		17.0	46.6	23.5	23.5
Dark Canyon		0.0	0.0	0.0	0.0
Pecos R bel Lake Avalon		0.0	0.0	0.0	0.0
Depletion, cfs					2.0
CID lag seep, cfs (from Table 8)					6.9
Return flow, cfs					1.0
Lake Av lagged seep, cfs (from Table 9)					14.4
PR seepage, cfs					3.0
Carls new water, cfs					0.26
Carls new wat, TAF					0.2
Carls new wat monthly, TAF					0.0

Table 8. Carlsbad Main Canal Seepage Lagged [B.4.c.(2)(e)]													
Water Year	2019												
4/13/2020													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
WY 2019													
CID, TAF	0	0	3.6	11.4	9.5	9.9	9.5	12.8	8.6	7.2	0.2	0.0	72.6
days/mo	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs	0	0	58.8	191.7	154.1	166.2	154.5	207.6	145.0	116.9	2.8	0.0	99.8
cfs, qtr avg			20.2			170.5			169.3			40.3	
WY 2018		1Q	2Q	3Q	4Q								
FLOWS, cfs				150.6	27.6								
SEVEN %				10.5	1.9								
WY 2019 lagged		1Q	2Q	3Q	4Q								
FLOWS, cfs		20.2	170.5	169.3	40.3								
SEVEN %		1.4	11.9	11.9	2.8								
LAG		3.1	6.8	10.1	7.3	Avg =	6.9	cfs					

Table 9. Lake Avalon Leakage Lagged [B.4.c.(2)(g)]													
Water Year	2019												
4/13/2020													
WY 2019	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Elev NM rept	64.1	73.2	73.5	74.2	74.0	74.3	74.2	73.8	74.1	74.3	60.9	60.0	
ga ht, avg*	7.1	16.2	16.5	17.2	17.0	17.3	17.2	16.8	17.1	17.3	3.9	3.0	
cfs	0.0	15.5	17.0	20.3	19.4	20.6	20.2	18.1	19.6	20.8	0.0	0.0	
days	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs avg	10.7			20.1			19.3			7.0			14.3
WY 2018		1Q	2Q	3Q	4Q								
cfs				22.7	6.6								
WY 2019 lagged		1Q	2Q	3Q	4Q								
cfs		10.7	20.1	19.3	7.0								
lag cfs		11.3	14.7	18.1	13.3	Avg =	14.4	cfs					
* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)													

Table 10. Evaporation Loss at Lake Avalon [B.4.d.(1)]

Water Year	2019												
4/13/2020													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOT
Av WS NM Rept	64.14	73.21	73.54	74.21	74.02	74.28	74.19	73.75	74.07	74.32	60.92	60.00	
Avalon ga ht, avg, ft*	7.14	16.21	16.54	17.21	17.02	17.28	17.19	16.75	17.07	17.32	3.92	3.00	
Avg area Avalon, ac**	0.00	596.00	634.00	711.00	690.00	719.00	709.00	659.00	696.00	723.00	0.00	0.00	
Panevap Brantley, in.	4.65	5.60	7.15	11.06	13.75	14.63	14.29	14.47	11.56	6.94	4.80	4.34	113.24
Lakeevap Brantley, in.	3.58	4.31	5.51	8.52	10.59	11.27	11.00	11.14	8.90	5.34	3.70	3.34	87.19
Precip Brantley, in.	0.06	0.00	0.60	0.33	0.00	2.63	1.02	0.57	1.14	3.69	1.22	0.10	11.36
Netevap, inches	3.52	4.31	4.91	8.19	10.59	8.64	9.98	10.57	7.76	1.65	2.48	3.24	75.83
Evaploss Av, TAF	0.00	0.21	0.26	0.49	0.61	0.52	0.59	0.58	0.45	0.10	0.00	0.00	3.80

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

** Based on 2006 USBR Area and Capacity Table

Table 11. Change in Storage, Lake Avalon [B.4.d.(2)]														
(Gage heights are end of month)														
Water Year	2020													
5/11/2020														
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
	2018	2019												
WS NM Rept	60.0	73.0	73.4	73.4	74.8	74.1	74.0	74.0	74.1	73.8	71.6	60.0	60.0	
Gage EOM, ft*	3.0	16.0	16.4	16.4	17.8	17.1	17.0	17.0	17.1	16.8	14.6	3.0	3.0	
Storage, AF**	0	1085.0	1323.0	1323.0	2300.0	1784.0	1715.0	1715.0	1784.0	1580.0	382.0	0.0	0.0	
Change sto, TAF		1.1	0.2	0.0	1.0	-0.5	-0.1	0.0	0.1	-0.2	-1.2	-0.4	0.0	0.0
* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)														
** Based on 2006 USBR Area and Capacity Table														

Table 12. Data Required for River Master Manual Calculations													
Water Year 2019													
4/13/2020	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
STREAMFLOW GAGING RECORDS, TAF													
Pecos R b Sumner Dam	1.0	1.5	4.7	6.9	40.1	6.5	27.4	6.5	25.1	5.2	0.0	0.9	125.8
Fort Sumner Main C	0.0	0.0	4.6	5.5	6.2	5.8	5.2	5.9	5.7	5.2	0.0	0.0	44.0
Pecos R nr Artesia	3.8	3.5	4.0	3.5	27.1	7.0	20.7	1.8	14.5	22.0	5.4	4.6	118.1
Rio Penasco at Dayton	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0	0.6
Fourmile Draw nr Lakewood	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.8	0.0	0.0	1.1
South Seven Rivers nr Lkwd	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.6	0.0	0.0	1.5
Rocky Arroyo at Hwy Br nr	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.2	1.4	0.0	0.0	2.1
Pecos R at Dam Site 3	1.7	1.1	4.4	14.0	10.8	11.5	11.1	14.4	9.5	6.3	0.0	0.1	84.9
Pecos bel Avalon Dam	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
Carlsbad Main Canal	0.0	0.0	3.6	11.4	9.5	9.9	9.5	12.8	8.6	7.2	0.2	0.0	72.6
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	1.3	1.0	1.1	1.3	1.5	1.5	1.6	1.5	1.8	1.6	1.5	1.4	17.0
Pecos R at Red Bluff	3.7	2.8	2.9	4.1	3.3	5.6	4.3	3.3	3.6	4.5	3.9	3.7	45.8
Delaware R nr Red Bluff	0.1	0.1	0.2	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.9
GAGE HEIGHTS													
Avalon gage ht, end mo	73.0	73.4	73.4	74.8	74.1	74.0	74.0	74.1	73.8	71.6	60.0	60.0	
Avalon gage ht, avg	64.1	73.2	73.5	74.2	74.0	74.3	74.2	73.8	74.1	74.3	60.9	60.0	
Sumner Lake ga ht, end mo	59.1	60.0	59.6	57.9	56.7	55.5	54.0	51.6	49.5	48.5	51.5	53.8	
Sumner Lake gage ht, avg	58.4	59.6	59.8	58.7	56.5	56.3	54.6	52.9	50.2	49.1	50.1	52.8	
Lake S Rosa ga ht, end mo	34.7	34.5	36.3	42.2	36.4	41.0	32.4	32.4	21.7	21.4	21.5	21.5	
Lake S Rosa ga ht, avg	34.8	34.6	35.0	38.7	41.5	39.5	35.3	32.4	26.5	21.6	21.4	21.5	
PRECIPITATION, INCHES													
Brantley Lake	0.06	0.00	0.60	0.33	0.00	2.63	1.02	0.57	1.14	3.69	1.22	0.10	11.36
Las Vegas FAA AP	0.33	0.04	1.08	1.59	1.04	0.75	4.23	1.59	1.15	0.86	0.69	0.44	13.79
Pecos National Monument	1.07	0.41	1.49	0.99	1.25	0.72	2.40	2.59	0.83	1.43	1.44	2.17	16.79
Santa Rosa	0.45	0.11	1.42	0.75	1.19	1.78	2.15	1.90	1.10	0.91	1.47	0.09	13.32
Lake Santa Rosa	0.45	0.11	1.42	0.75	1.19	1.78	2.15	1.90	1.10	0.91	1.47	0.09	13.32
Sumner Lake	0.09	0.01	0.85	1.68	0.62	1.14	1.86	1.06	1.20	1.11	0.74	0.28	10.64
PAN EVAPORATION, INCHES													
Lake Santa Rosa	3.72	4.98	8.58	8.74	9.76	11.42	12.23	11.35	9.38	6.35	4.88	3.76	95.15
Lake Sumner	3.66	5.49	6.13	10.97	12.72	14.83	15.14	14.07	11.30	7.39	4.03	3.74	109.48
Brantley Lake	4.65	5.60	7.15	11.06	13.75	14.63	14.29	14.47	11.56	6.94	4.80	4.34	113.24
OTHER REPORTS													
Base Acme-Art, TAF (USGS)	1.7	1.6	1.9	1.5	1.0	0.7	0.5	0.4	-0.1	1.2	2.4	2.9	
Pump depl Ac-Artesia, TAF	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Pumping, C-2713, Malaga B													0.4
NM irrig inv, acres (3/9/2000)													11529
NM Transfer water use, TAF													
NM salvaged water, TAF													0.00
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	0.0
Texas, use Del water, TAF													

APPENDIX

FLOOD INFLOW
CARLSBAD TO RED BLUFF

Hydrograph scalping to support Table 4

	2019 Water year										Scalped Totals		
	5/5/19		PR AT RED BLUFF				PR BELOW DC AT CBD				PRRB	PRBDC	FIF
	Day	Yr Day	Q	Base	Diff		Q	Base	Diff				
JAN	1	1	62.5				20.2						
	2	2	62.2				20.6						
	3	3	59.6				20.9						
	4	4	62.5				20.3						
	5	5	64.8				20.1						
	6	6	65.8				21.5						
	7	7	65.4				19.8						
	8	8	65.1				19.9						
	9	9	64.7				19.8						
	10	10	63.4				21.4						
	11	11	63.5				22.1						
	12	12	64				20.6						
	13	13	63.9				20.4						
	14	14	61.9				20.5						
	15	15	61				20.9						
	16	16	61.8				21.6						
	17	17	56.9				19.9						
	18	18	54.6				22.2						
	19	19	48.8				18.4						
	20	20	57.2				20.7						
	21	21	59.6				21.4						
	22	22	57.7				21.6						
	23	23	56.1				18.5						
	24	24	54.5				19.8						
	25	25	49.9				19.7						
	26	26	53.8				20.3						
	27	27	58.5				20.2						
	28	28	62.2				20.1						
	29	29	58.1				18.9						
	30	30	51.7				19.9						
	31	31	53.9				20.2				0	0	0
FEB	1	32	59.8				19.6						
	2	33	62.1				19.8						
	3	34	60.2				19.9						
	4	35	53.6				19.6						
	5	36	51.5				19.9						
	6	37	51.2				20.3						
	7	38	50.6				17.9						
	8	39	52.9				17.8						
	9	40	51.3				18.3						
	10	41	48.4				19.1						
	11	42	42				20.3						
	12	43	41.9				16.6						
	13	44	54.6				18.9						
	14	45	56.2				18.8						
	15	46	54.2				19.0						
	16	47	49.7				18.6						
	17	48	48.1				17.4						
	18	49	47				17.0						
	19	50	50.7				17.8						
	20	51	48.2				17.2						
	21	52	46.8				17.7						
	22	53	52.6				19.2						
	23	54	56				15.3						
	24	55	49.5				16.0						
	25	56	47.4				17.4						
	26	57	49				17.5						
	27	58	48.3				17.4						
	28	59	41.8				17.5				0	0	0
MAR	1	60	45.8				17.7						
	2	61	50.4				17.7						
	3	62	49.8				17.6						
	4	63	48.5				17.2						
	5	64	40.8				17						
	6	65	39				16.9						
	7	66	43.4				17.8						
	8	67	50.1				17.8						
	9	68	49.8				16.5						

Hydrograph scalping to support Table 4

	10	69	42.8	42.8	0		16.6						
	11	70	50.4	41.9	9		16.4	16.4	0				
	12	71	69.5	40.9	29		40.1	15.5	25				
	13	72	72.9	39.9	33		22.9	14.9	8				
	14	73	58	38.9	19		14.2	14.2	0				
	15	74	80.3	37.9	42		17.2						
	16	75	60.3	36.9	23		18.4						
	17	76	41	35.9	5		18.3						
	18	77	34.9	34.9	0		18.4						
	19	78	41.7				18.2						
	20	79	45.8				18.4						
	21	80	42.7				18.2						
	22	81	34.7				19.1						
	23	82	35.3				18.2						
	24	83	40.7				18.2						
	25	84	45				17.3						
	26	85	37.5				17.3						
	27	86	30.7				18.2						
	28	87	39.2				18.4						
	29	88	43.1				18.5						
	30	89	42				16.7						
	31	90	36.6				16.7				160	33	128
APR	1	91	31.2				18.1						
	2	92	26.1				18.6						
	3	93	37.5				19.2						
	4	94	46.6				18.5						
	5	95	46				19.4						
	6	96	39.2				19.5						
	7	97	36				19.7						
	8	98	39.5				19.7						
	9	99	40.6				20.1						
	10	100	41.8				21.5						
	11	101	48.3				18.7						
	12	102	54.2				21.4						
	13	103	49.4				21.8						
	14	104	51.6				21.7						
	15	105	58.2				21.3						
	16	106	78.7				21						
	17	107	69.7				21.5						
	18	108	56.9				20						
	19	109	58.9				20.1						
	20	110	56.7				20.7						
	21	111	60.7				20.7	20.7	0				
	22	112	71.2	71.2	0		34.4	21	13				
	23	113	240	71.5	168		28.6	22	7				
	24	114	178	71.9	106		22.7	22.7	0				
	25	115	126	72.2	54		24.1						
	26	116	103	72.5	30		23.1						
	27	117	82.6	72.9	10		24						
	28	118	73.1	73.1	0		23.7						
	29	119	72.9				24						
	30	120	80.8				23.5				369	20	349
MAY	1	121	82.2				23.5						
	2	122	78				22.4						
	3	123	72.5				23.8						
	4	124	64.9				23.4						
	5	125	61.2				24.3						
	6	126	59.3				24						
	7	127	57.2				24.3						
	8	128	51.7				24						
	9	129	70				23.5						
	10	130	59.9				23.1						
	11	131	65	65	0		24.8						
	12	132	75.9	61.4	15		25						
	13	133	69.2	57.8	11		24.3						
	14	134	54.4	54.2	0		24.7						
	15	135	50.6	50.6	0		24.4						
	16	136	48.2				27.6						
	17	137	47.4				25.9						
	18	138	41				25						
	19	139	44.5				25.4						
	20	140	46.9				27.3						
	21	141	46.1				20.6						

Hydrograph scalping to support Table 4

	22	142	44.2				22.5						
	23	143	51.4				23.2						
	24	144	44.1				21.9						
	25	145	41.2				22.8						
	26	146	43.4				23.1						
	27	147	44.4				23.4						
	28	148	39.7				22.8						
	29	149	43.5				22.8						
	30	150	39				22.6						
	31	151	35.2				22.9				26	0	26
JUN	1	152	44.7	44.7	0		23.6	24	0				
	2	153	851	45.5	805		24.6	24	1				
	3	154	282	46.4	236		32.2	24	9				
	4	155	149	47.2	102		27.2	24	4				
	5	156	122	48.1	74		35	24	12				
	6	157	92.1	48.9	43		24	24	1				
	7	158	94.2	49.8	44		23.3	24	0				
	8	159	86.1	50.6	35		24.5						
	9	160	68.3	51.5	17		23.6						
	10	161	61.4	52.3	9		21.1						
	11	162	58.1	53.2	5		22.9						
	12	163	54	54	0		22.9						
	13	164	57.6				22.9						
	14	165	54				23.8						
	15	166	51.7	51.7	0		23.7						
	16	167	56.3	50.4	6		23.7						
	17	168	67.2	49.0	18		24.2						
	18	169	65.5	47.7	18		24.5						
	19	170	46.3	46.3	0		24.5						
	20	171	44.9				23.8						
	21	172	43.2				24.5						
	22	173	37.9				24.4						
	23	174	30.5				24.4						
	24	175	28.6				23.9						
	25	176	27.1				24.5						
	26	177	48.8				24.3						
	27	178	58.9				24						
	28	179	55.7				23.6						
	29	180	47.4				24.1						
	30	181	54.9				23.7				1413	25	1387
JUL	1	182	60				21.4						
	2	183	52.5				21.9						
	3	184	41.9				21.5						
	4	185	33.6				21.6						
	5	186	38.4	38.4	0		22						
	6	187	74.5	39.186	35		23.1						
	7	188	81.9	39.971	42		24.2						
	8	189	84	40.757	43		22.3						
	9	190	81	41.543	39		22						
	10	191	64.1	42.329	22		21.8						
	11	192	58.3	43.114	15		28.6						
	12	193	62.2	43.9	18		22.3						
	13	194	65.2	44.686	21		21.2						
	14	195	73.6	45.471	28		21.3						
	15	196	79.9	46.257	34		21.1						
	16	197	72.1	47.043	25		21.4						
	17	198	57.6	47.829	10		25.5						
	18	199	52.7	48.614	4		28.9						
	19	200	49.5	49.5	0		28.8	28.8	0				
	20	201	46.1				28.9	28.133	1				
	21	202	41.8	41.8	0		32.9	27.467	5				
	22	203	81.5	43.675	38		70.7	26.8	44				
	23	204	110	45.55	64		50.6	26.133	24				
	24	205	173	47.425	126		26.1	25.467	1				
	25	206	146	49.3	97		24.8	24.8	0				
	26	207	94.1	51.175	43		24.2						
	27	208	67.3	53.05	14		24						
	28	209	54.1	54.925	-1		24.6						
	29	210	56.9	56.9	0		25.3						
	30	211	51.2				24.5						
	31	212	48.3				24.6				717	75	642
AUG	1	213	46.3	46.3	0		27.5						
	2	214	55.1	47.0	8		24						

Hydrograph scalping to support Table 4

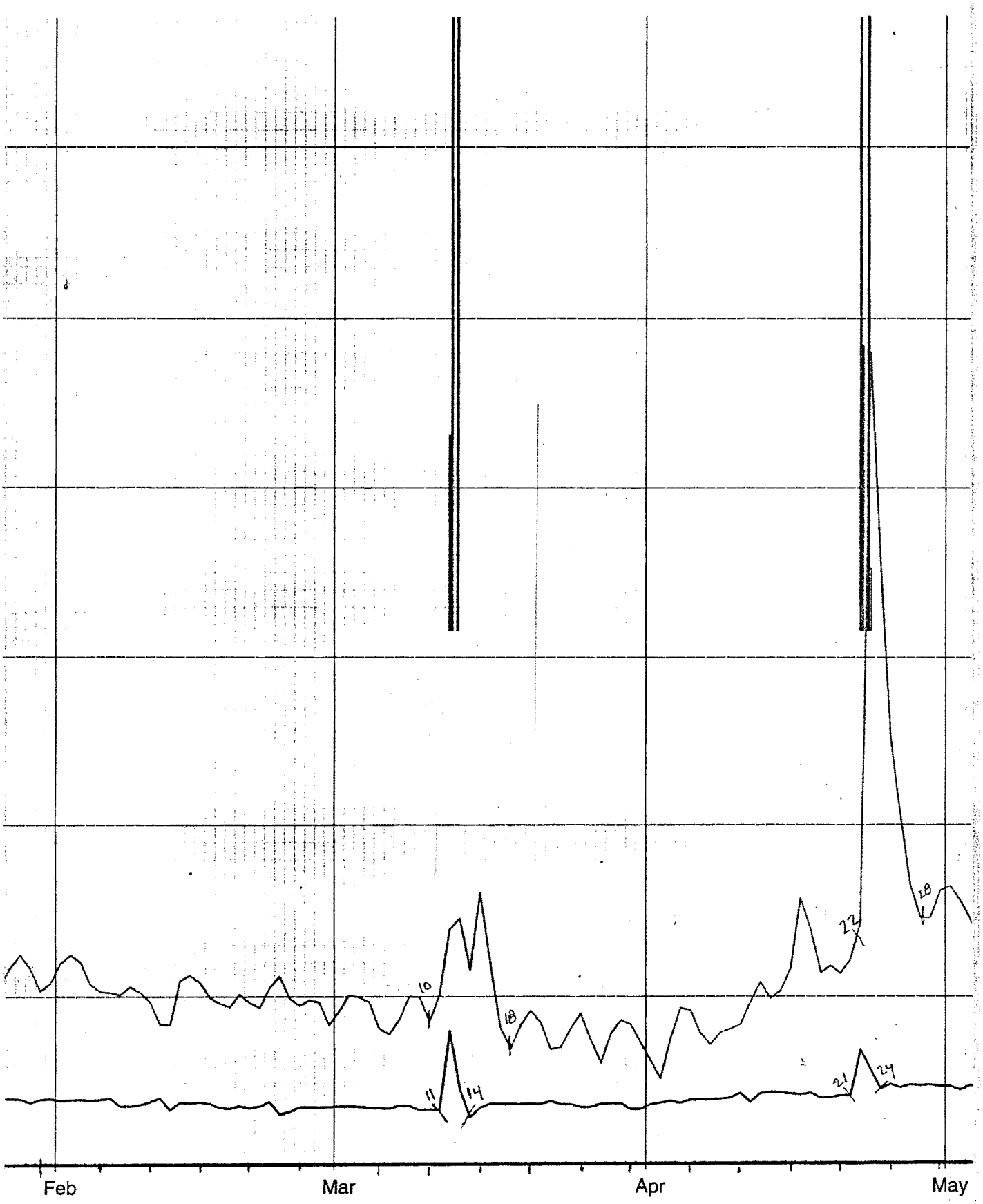
	3	215	56.2	47.6	9		27.1					
	4	216	48.9	48.9	0		23.7					
	5	217	64.5				24.3					
	6	218	84.2				24.4					
	7	219	57.1				24.6					
	8	220	48.5				24.7					
	9	221	48.1				24.4					
	10	222	48.2				24.3					
	11	223	53.1				26.2					
	12	224	53.3				25.7					
	13	225	51.3				30.1					
	14	226	54.2				26.1					
	15	227	51.8				26.4					
	16	228	48.5	48.5	0		25.9					
	17	229	56.5	49.5	7		24.3					
	18	230	53	50.5	3		24.7					
	19	231	55.3	51.5	4		23.9					
	20	232	63.2	52.4	11		22.6					
	21	233	56.5	53.4	3		22.6					
	22	234	54.4	54.4	0		23.2					
	23	235	42.7				23.1					
	24	236	47.4				23.3					
	25	237	53.6				23.5					
	26	238	55.5				24.1					
	27	239	56.7				24.6					
	28	240	51.8				23.3					
	29	241	56.7				22.7					
	30	242	57.9				23.5					
	31	243	56.3				26.5			44	0	44
SEP	1	244	56.1				27.8					
	2	245	55.9				26					
	3	246	54.4				27.6					
	4	247	57.4				24.9					
	5	248	52.9				26.2					
	6	249	53.9				24.7					
	7	250	54.4				23.1					
	8	251	48.9				26.5					
	9	252	48.4				27.4					
	10	253	41.4	41.4	0		27.9					
	11	254	42.2	41.857	0		28.4					
	12	255	70.5	42.314	28		28.8					
	13	256	84.3	42.771	42		28.6					
	14	257	64	43.229	21		28.4					
	15	258	53.5	43.686	10		28.3					
	16	259	47.5	44.143	3		29					
	17	260	44.6	44.6	0		29.7					
	18	261	49.1				29.3					
	19	262	47.8				29.7					
	20	263	51.9				28.8	28.8	0			
	21	264	57.2	57.2	0		59	27.171	32			
	22	265	62.9	57.567	5		27.1	27.1	0			
	23	266	102	57.933	44		23.9					
	24	267	107	58.3	49		24.6					
	25	268	85.5	58.667	27		24.7					
x	26	269	68	59.033	9		24.4					
x	27	270	59.4	59.4	0		24.5					
x	28	271	75.7	59.0	17		26.7	26.7	0			
	29	272	70.6	58.7	12		33.4	27.025	6			
	30	273	62.9	58.3	5		70.1	27.35	43	271	81	190
OCT	1	274	113	58.0	55		35.9	27.675	8			
	2	275	166	57.6	108		28	28	0			
	3	276	162	57.2	105		28.2					
	4	277	103	56.9	46		26.4					
	5	278	80	56.5	23		27.2					
	6	279	71.7	56.2	16		27					
	7	280	68.4	55.8	13		26					
	8	281	66.3	55.4	11		26.2					
	9	282	64.4	55.1	9		26.3					
	10	283	61.8	54.7	7		26.4					
	11	284	56.7	54.4	2		23.6					
	12	285	54	54	0		24.9					
	13	286	57.6				25.8					
	14	287	54.5				25.8					

Hydrograph scalping to support Table 4

	15	288	54.3				26						
	16	289	57.5				24.7						
	17	290	55.5				25.5						
	18	291	54.3				27.8						
	19	292	55				28.4						
	20	293	57.6				24.6						
	21	294	56.7				23.6						
	22	295	67.8				23.7						
	23	296	64.7				24.9						
	24	297	62.8				26						
	25	298	68.3				21.7						
	26	299	68.1				24.7						
	27	300	80.2				25.1						
	28	301	90.6				24.8						
	29	302	89				24.6						
	30	303	70.6				24.8						
	31	304	56.9				24.4				396	8	387
NOV	1	305	79.9				25.6						
	2	306	98.2				24.5						
	3	307	101				28.3						
	4	308	92.8				26						
	5	309	71.7				25.4						
	6	310	58.7				27.4						
	7	311	63				27.8						
	8	312	65.9				25						
	9	313	62.8				25.8						
	10	314	65				26						
	11	315	62.7				24.9						
	12	316	61.4				23.2						
	13	317	58.8				25.9						
	14	318	57.5				25.1						
	15	319	57.7				25						
	16	320	59.2				25.7						
	17	321	60.5				24.9						
	18	322	59.8				25.4						
	19	323	58.9				25.3						
	20	324	59.1	59.1	66		25.4						
	21	325	60.1	59.3	63		25.3						
	22	326	61.4	59.3	65		23.8						
	23	327	63	59.3	63		23.7						
	24	328	65.1	59.3	61		24.2						
	25	329	62.5	59.3	59		23.8						
x	26	330	61.2	59.3	58		22.9						
x	27	331	59.5	59.5	58		26.7						
x	28	332	66.1	59.8	59		24.9						
	29	333	64.8	60.1	61		24.4						
	30	334	70.5	60.4	60		23.3				671	0	671
DEC	1	335	66.5	60.7	59		23						
	2	336	64	61	0		23.4						
	3	337	61.3	61.3	1		23.8						
	4	338	62.4				23.5						
	5	339	64.9				23.5						
	6	340	64.5				22.5						
	7	341	63.4				23						
	8	342	61.5				23.8						
	9	343	61.1				23.3						
	10	344	62.4				22.8						
	11	345	61.4				22.8						
	12	346	64.1				23.1						
	13	347	63.6				22.9						
	14	348	62.7				23.1						
	15	349	63.2				23.1						
	16	350	58.3				21.7						
	17	351	50				20.8						
	18	352	54.4				21.5						
	19	353	55				22						
	20	354	50.6				21.9						
	21	355	57				21.3						
	22	356	59.1				21.7						
	23	357	60.2				21.8						
	24	358	61.4				22.1						
	25	359	63.2				22.1						
	26	360	63.4				21.9						

Hydrograph scalping to support Table 4

	27	361	63.7				22.4						
	28	362	63.3				21.5						
	29	363	60.3				20.2						
	30	364	56.5				20.6						
	31	365	54.3				20.6				60	0	60
Total, cfs-days			23107		4126		8571.5		242		4126	242	3884
Totals	RB	BDC	Diff, c-d	Diff TAF									
Jan	0.0	0.0	0.0	0.0									
Feb	0.0	0.0	0.0	0.0									
Mar	160.1	32.6	127.5	0.3									
Apr	368.6	19.6	349.0	0.7									
May	26.1	0.0	26.1	0.1									
Jun	1412.7	25.4	1387.3	2.8									
Jul	717.3	75.2	642.1	1.3									
Aug	44.0	0.0	44.0	0.1									
Sep	271.1	81.0	190.1	0.4									
Oct	395.5	8.2	387.3	0.8									
Nov	671.3	0.0	671.3	1.3									
Dec	59.7	0.0	59.7	0.1									
cfs-d	4126.4	242.0	3884.4	7.7									
TAF	8.2	0.5	7.7	7.7									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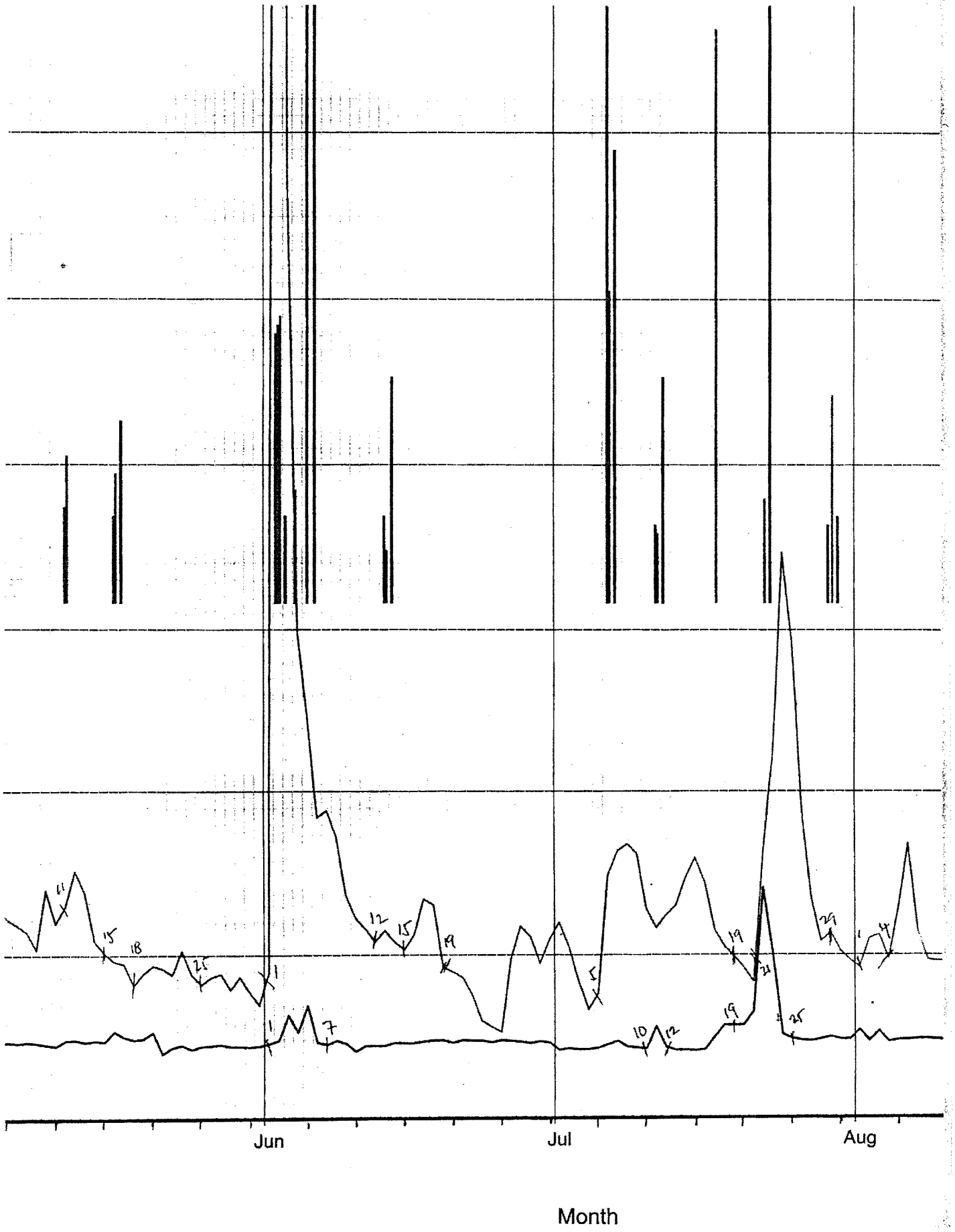
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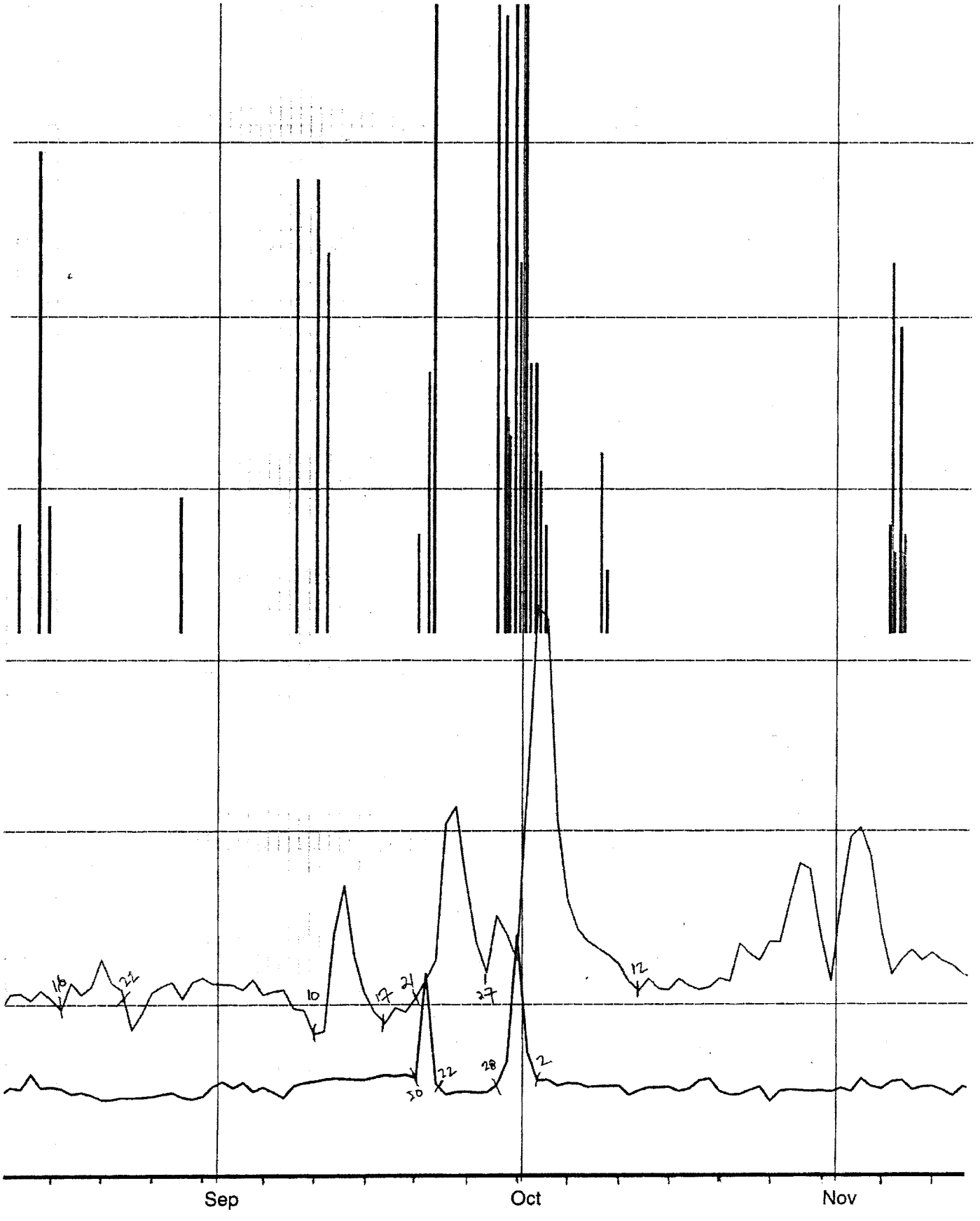
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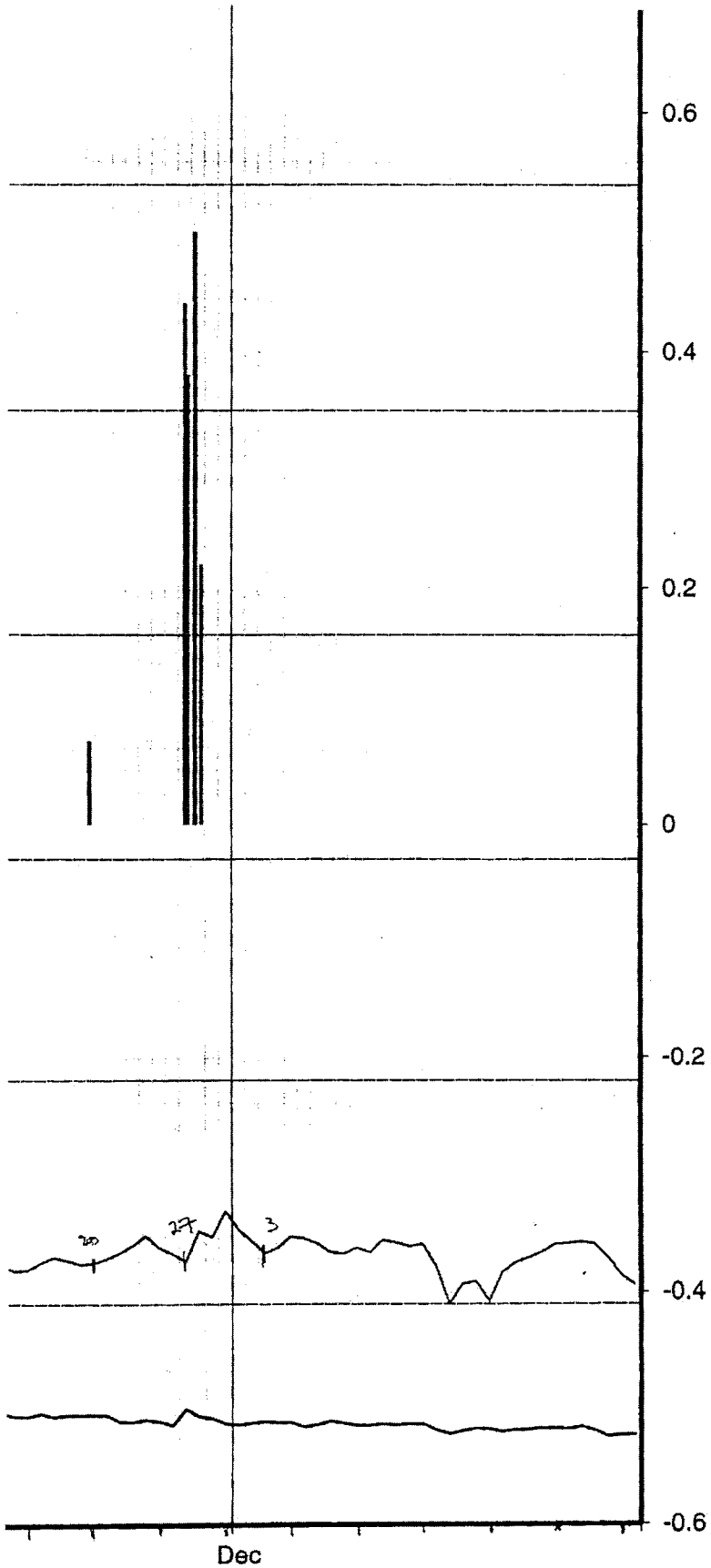
0.6
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0.2
0
-0.2
-0.4
-0.6
Dec

NEW MEXICO INTERSTATE STREAM COMMISSION

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June 12, 2020

Via Overnight Delivery

Dr. Neil S. Grigg
River Master of the Pecos River
905 Edwards Street
Fort Collins, Colorado 80524

Re: State of New Mexico's Response to the May 11, 2020 Preliminary Report, Pecos River Compact, Report of the River Master, Water Year 2019, Accounting Year 2020

Dear Dr. Grigg:

Enclosed is the original of the State of New Mexico's Objections to the Preliminary Report of the River Master for Water Year 2019. Thank you for your consideration of the enclosed materials.

Sincerely,

/s/ Nathaniel Chakeres
Nathaniel Chakeres
NMISC Attorney

cc: Dr. Scott Van Winkle
Ms. J. Amber Ahmed, Esq.
Ms. Hannah Riseley-White

NEW MEXICO'S OBJECTIONS TO THE PRELIMINARY REPORT OF THE RIVER MASTER OF THE PECOS RIVER FOR THE WATER YEAR 2019

New Mexico submits the following objections and comments to the Pecos River Master's (River Master) Preliminary Report for the Water Year 2019 (Preliminary Report).

I. Table 4. USGS Pecos River at Red Bluff, NM Flood Inflow Calculations for November and December

The Preliminary Report Table 4 flood inflow calculations for the Pecos River at Red Bluff Gage (USGS Gage 08407500) appear to be incorrect for November 20 through December 3. These calculations are included in the appendix of the report (on page 22 of 27 in the PDF file) and are inconsistent with the scalping values provided. The table below includes the flood inflow values for the months of November and December as calculated in the Preliminary Report in comparison with corrected values determined by New Mexico using the hydrograph scalping values provided by the River Master.

Table 1: November and December Flood Inflows at the Pecos River at Red Bluff Gage

Month	Preliminary Report *(TAF)*	New Mexico's Corrections *(TAF)*
November	1.3	0.01
December	0.1	0.0

These errors increase New Mexico's delivery obligation in Water Year 2019, and in the upcoming two accounting years due to the three-year averaging, by approximately 200 acre-feet. Therefore, correction of this error results in a decrease in New Mexico's annual departure of approximately 200 acre-feet.

II. Accumulated Shortfall or Overage Table

New Mexico notes that the Accumulated Overage in the Preliminary Report contains a onetime credit of 16,600 acre-feet for Water Year 2017 attributable to New Mexico's storage of waters for Texas in Water Years 2014 and 2015. The one-time credit is currently the subject of a Motion for Review filed by Texas in the Supreme Court. New Mexico reserves all rights to receive the full credit to which it is entitled under the Compact related to its storage of waters at Texas's request.

Thank you for your consideration of New Mexico's comments.

Respectfully submitted on this 12th day of June, 2020:

/s/ Hannah Riseley-White
Hannah Riseley-White
Technical Representative for the State of New Mexico

No. 65, Original

IN THE
SUPREME COURT OF THE UNITED STATES
OCTOBER TERM, 2019

STATE OF TEXAS, Plaintiff,

v.

STATE OF NEW MEXICO, Defendant.

Before the River Master:

Neil S. Grigg

TEXAS' RESPONSE TO THE
PECOS RIVER MASTER'S PRELIMINARY REPORT
FOR WATER YEAR 2019/ACCOUNTING YEAR 2020

TO THE RIVER MASTER OF THE PECOS RIVER:

The State of Texas has reviewed the River Master's Preliminary Report for Water Year 2019. Texas' comments and objections are contained in Exhibit 1, titled "Texas' Comments/Objections," which is attached here and incorporated fully herein for all purposes. Texas respectfully requests that the River Master make the changes outlined in Exhibit 1.

Respectfully submitted on June 15, 2020.

/s/ J. Amber Ahmed

J. AMBER AHMED
Texas State Bar No. 24080756

Assistant Attorney General
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Environmental Protection Division
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Amber.Ahmed@oag.texas.gov

ATTORNEY FOR THE
STATE OF TEXAS

/s/ Scott Van Winkle

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Compact Hydrologist

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TECHNICAL REPRESENTATIVE
FOR THE STATE OF TEXAS

CERTIFICATE OF SERVICE

On June 15, 2020, a true and correct copy of Texas' Response to the Pecos River Master's Preliminary Report for Water Year 2019/Accounting Year 2020 was sent by email and FedEx/Certified Mail, Return Receipt Requested to the following:

Dr. Neil S. Grigg
River Master of the Pecos River
905 Edwards Street
Fort Collins, Colorado 80524
Neil.Grigg@colostate.edu *overnight via FedEx*

Nathaniel Chakeres, OSE
Legal Advisor, Pecos River Compact Commission
New Mexico Interstate Stream Commission
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Nathaniel.Chakeres@state.nm.us *CMRRR# 7008 2810 0000 1187 5394*

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/s/ J. Amber Ahmed
J. Amber Ahmed
Assistant Attorney General

EXHIBIT 1

TEXAS' COMMENTS/OBJECTIONS
Water Year 2019 - Accounting Year 2020

Texas' comments and objections to the River Master's Preliminary Report dated May 11, 2020, are described below. These calculations and comments do not take into consideration the open dispute over WY2014 and WY2015 accounting concerning reservoir losses and unappropriated flood flows. Texas continues to reserve its current and future rights to its objections and assertions in this open dispute.

1. Table 4. Summary Table for Computations, Carlsbad to State Line (B.5), TAF for WY2019:

Scalped Flood Flows for Carlsbad to Red Bluff

The River Master's Preliminary Report's calculation for the Carlsbad to Red Bluff reach did not subtract the baseflow from the flood-flow for the months of November and December 2019. *See* Appendix – Flood Inflow Carlsbad to Red Bluff (Hydrograph scalping to support Table 4) and Table 4, included as Exhibit A and Exhibit B below. This discrepancy resulted in 1.30 TAF and 0.1 TAF being calculated for November and December, respectively. Texas' calculation of the Carlsbad to Red Bluff inflows is 0.1 TAF for November and 0.0 TAF for December. Applying these corrections to a revised Table 4, the total inflows from Carlsbad to Red Bluff is 6.6 TAF instead of the 7.7 TAF reported in the River Master's Preliminary Report. [1]*See* Exhibit C.

Delaware River

The River Master's Preliminary Report's calculation for the Delaware River reach incorrectly adds the monthly totals for 2019 as 0.3 TAF. *See* Table 4, included as Exhibit B below. Texas' calculation of the inflows of the Delaware River is 0.4 TAF. Applying this correction to a revised Table 4, shown as Exhibit C below, the total inflow from the Delaware River is 0.4 TAF, instead of the 0.3 TAF reported by the River Master's Preliminary Report.

Applying these corrections to a revised Table 4, shown as Exhibit C below, the total inflow for Carlsbad to State Line is 7.0 TAF, instead of the 8.1 TAF reported in the River Master's Preliminary Report.

---

[1] Additionally, as reported, the River Master's Preliminary Report's values for BCB to RB, on Table 4, add up to 7.9 TAF, not 7.7 TAF; and the values for the Delaware River add up to 0.4 TAF, not 0.3 TAF. This would give a total of 8.3 TAF for the Total Flood Inflow, Carlsbad to State Line that would carry over to Table 1, not the 8.1 TAF, as reported. However, if the corrections from Texas' scalping calculation above are implemented, the corrected value for BCB to RB will be 6.6 TAF; and 0.4 TAF for the Delaware River, giving a total Inflow, Carlsbad to State Line of 7.0 TAF.

2. Table 1. General Calculation of Annual Departures in TAF for WY2019:

Implementing the corrections from the revised Table 4 into a revised Table 1, the Final Calculated Departure is -9.9TAF. *See* Exhibit D.

Exhibit A

Hydrograph scalping to support Table 4

	15	288	54.3				26						
	16	289	57.5				24.7						
	17	290	55.5				25.5						
	18	291	54.3				27.8						
	19	292	55				28.4						
	20	293	57.6				24.6						
	21	294	56.7				23.6						
	22	295	67.8				23.7						
	23	296	64.7				24.9						
	24	297	62.8				26						
	25	298	68.3				21.7						
	26	299	68.1				24.7						
	27	300	80.2				25.1						
	28	301	90.6				24.8						
	29	302	89				24.6						
	30	303	70.6				24.8						
	31	304	56.9				24.4				396	8	387
NOV	1	305	79.9				25.6						
	2	306	98.2				24.5						
	3	307	101				28.3						
	4	308	92.8				26						
	5	309	71.7				25.4						
	6	310	58.7				27.4						
	7	311	63				27.8						
	8	312	65.9				25						
	9	313	62.8				25.8						
	10	314	65				26						
	11	315	62.7				24.9						
	12	316	61.4				23.2						
	13	317	58.8				25.9						
	14	318	57.5				25.1						
	15	319	57.7				25						
	16	320	59.2				25.7						
	17	321	60.5				24.9						
	18	322	59.8				25.4						
	19	323	58.9				25.3						
	20	324	59.1	59.1	66		25.4						
	21	325	60.1	59.3	63		25.3						
	22	326	61.4	59.3	65		23.8						
	23	327	63	59.3	63		23.7						
	24	328	65.1	59.3	61		24.2						
	25	329	62.5	59.3	59		23.8						
x	26	330	61.2	59.3	58		22.9						
x	27	331	59.5	59.5	58		26.7						
x	28	332	66.1	59.8	59		24.9						
	29	333	64.8	60.1	61		24.4						
	30	334	70.5	60.4	60		23.3				671	0	671
DEC	1	335	68.5	60.7	59		23						
	2	336	64	61	0		23.4						
	3	337	61.3	61.3	1		23.8						
	4	338	62.4				23.5						
	5	339	64.9				23.5						
	6	340	64.5				22.5						
	7	341	63.4				23						
	8	342	61.5				23.8						
	9	343	61.1				23.3						
	10	344	62.4				22.8						
	11	345	61.4				22.8						
	12	346	64.1				23.1						
	13	347	63.6				22.9						
	14	348	62.7				23.1						
	15	349	63.2				23.1						
	16	350	58.3				21.7						
	17	351	50				20.8						
	18	352	54.4				21.5						
	19	353	55				22						
	20	354	50.6				21.9						
	21	355	57				21.3						
	22	356	59.1				21.7						
	23	357	60.2				21.8						
	24	358	61.4				22.1						
	25	359	63.2				22.1						
	26	360	63.4				21.9						

Exhibit B

Table 4. Summary Table for Computations, Carlsbad to State Line (B.5)						
Water Year		2019				
4/15/2020						
		BCB - RB		Del R	DC	
		RM				
Jan		0.0		0.0	0.0	
Feb		0.0		0.0	0.0	
Mar		0.3		0.1	0.0	
Apr		0.7		0.0	0.0	
May		0.1		0.0	0.0	
Jun		2.8		0.2	0.0	
Jul		1.3		0.1	0.0	
Aug		0.1		0.0	0.0	
Sep		0.4		0.0	0.0	
Oct		0.8		0.0	0.0	
Nov		1.3		0.0	0.0	
Dec		0.1		0.0	0.0	
Total		7.7		0.3	0.0	
Summary of flood inflows, Carlsbad to State Line, TAF						
Red Bluff - Carlsbad + Dark C RM calcs)						7.7
Delaware River						0.3
Total Flood Inflow, Carlsbad to State Line						8.1

Exhibit C

Table 4. (Revised) Summary Table for Computations, Carlsbad to State Line (B.5)								
Water Year		2019						
		BCB -RB		Del R	DC			
		RM	TX					
Jan		0.0	0.0	0.0	0.0			
Feb		0.0	0.0	0.0	0.0			
Mar		0.3	0.3	0.1	0.0			
Apr		0.7	0.7	0.0	0.0			
May		0.1	0.1	0.0	0.0			
Jun		2.8	2.8	0.2	0.0			
Jul		1.3	1.3	0.1	0.0			
Aug		0.1	0.1	0.0	0.0			
Sep		0.4	0.4	0.0	0.0			
Oct		0.8	0.8	0.0	0.0			
Nov		1.3	0.1	0.0	0.0			
Dec		0.1	0.0	0.0	0.0			
Total		7.9	6.6	0.4	0.0			
Summary of flood inflows, Carlsbad to State Line, TAF								
Red Bluff - Carlsbad + Dark C (RM calcs)							7.9	
Delaware River							0.4	
Total Flood Inflow, Carlsbad to State Line							8.3	

Table 1. General Calculation of Annual Departures [B.1] **Exhibit D**

Water Year 2019

Calculation Item	RM Final	RM Final	TX Review	RM Prelim	RM Prelim Revised
	2017	2018	2019	2019	2019
B.1.a. Index Inflows					
(1) Annual flood inflow					
(a) Gaged flow Pecos R blw Sumner Dam (Table 12)	89.7	97.7	125.8	125.8	125.8
(b) Flood inflow Sumner Dam to Artesia (Table 2)	33.0	5.3	17.4	17.4	17.4
(c) Flood inflow Artesia to Carlsbad (Table 3)	13.1	9.8	10.0	10.0	10.0
(d) Flood inflow Carlsbad to State Line (Table 4)	6.2	5.6	7.0	8.1	7.0
Total annual flood inflow	142.0	118.4	160.2	161.3	160.2
(2) Index inflow (3-year average)	221.0	210.9	140.2	140.6	140.2
B.1.b. 1947- Condition Delivery Obligation (Index	106.3	99.4	55.6	55.8	55.6
B.1.c. Average Historical (Gaged) Outflow					
(1) Annual historical outflow					
(a) Gaged flow Pecos R at Red Bluff, NM (Table 12)	46.9	42.6	45.8	45.8	45.8
(b) Gaged flow Delaware R nr Red Bluff, NM (Table 12)	3.3	1.8	0.9	0.9	0.9
(c) Annual diversions for C-2713, SWS (Table 12)	0.4	0.4	0.4	0.4	0.4
Total annual historical outflow	50.6	44.8	47.1	47.1	47.1
(2) Average historical outflow (3-year average)	121.7	127.8	47.5	47.5	47.5
B.1.d. Annual Departure	15.4	28.4	-8.1	-8.3	-8.1
C. Adjustments to Computed Departure					
(1) Adjustments for depletions above Sumner Dam					
(a) Depletions due to irrigation (Table 5)	1.0	0.6	0.5	0.4	0.4
(b) Depl from operation of Santa Rosa Reservoir (Table 6)	9.2	0.6	4.4	4.5	4.5
(c) Transfer of water use to u/s of Sumner Dam (Table 12)	0.0	0.0	0.0	0.0	0.0
C.1. Recomputed Index Inflows					
(1) Annual flood inflow					
(a) Gaged flow Pecos R blw Sumner Dam	97.9	98.9	130.7	130.7	130.7
(b) Flood inflow Sumner Dam to Artesia	33.0	5.3	17.4	17.4	17.4
(c) Flood inflow Artesia to Carlsbad	13.1	9.8	10.0	10.0	10.0
(d) Flood inflow Carlsbad to State Line	6.2	5.6	7.0	8.1	7.0
Total annual flood inflow	150.2	119.6	165.1	166.2	165.1
Recomputed index inflow (3-year average)	228.4	213.1	145.0	145.3	145.0
C.1.c. Recomputed 1947-Condition Delivery Obligation	111.4	100.9	58.3	58.6	58.3
(Recomputed Index Outflow)					
Recomputed Annual Departures	10.3	26.9	-10.8	-11.0	-10.8
C. Adjustments to Computed Departure					
C.2. Depletions due to McMillan Dike	1.5	1.4	1.0	1.0	1.0
C.3. Salvage water analysis (Table 12)	0.0	0.0	0.0	0.0	0.0
C.4. Unappropriated flood waters	0.0	0.0	0.0	0.0	0.0
C.5. Texas water stored in NM reservoirs (Table 12)	0.0	0.0	0.0	0.0	0.0
C.6. Beneficial CU of Delaware River water (Table 12)	0.0	0.0	0.0	0.0	0.0
Final Calculated Departure, TAF	**11.9**	**28.4**	**-9.9**	**-10.0**	**-9.9**

PECOS RIVER COMPACT

Report of the River Master

Water Year 2019

Accounting Year 2020

Final Report

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

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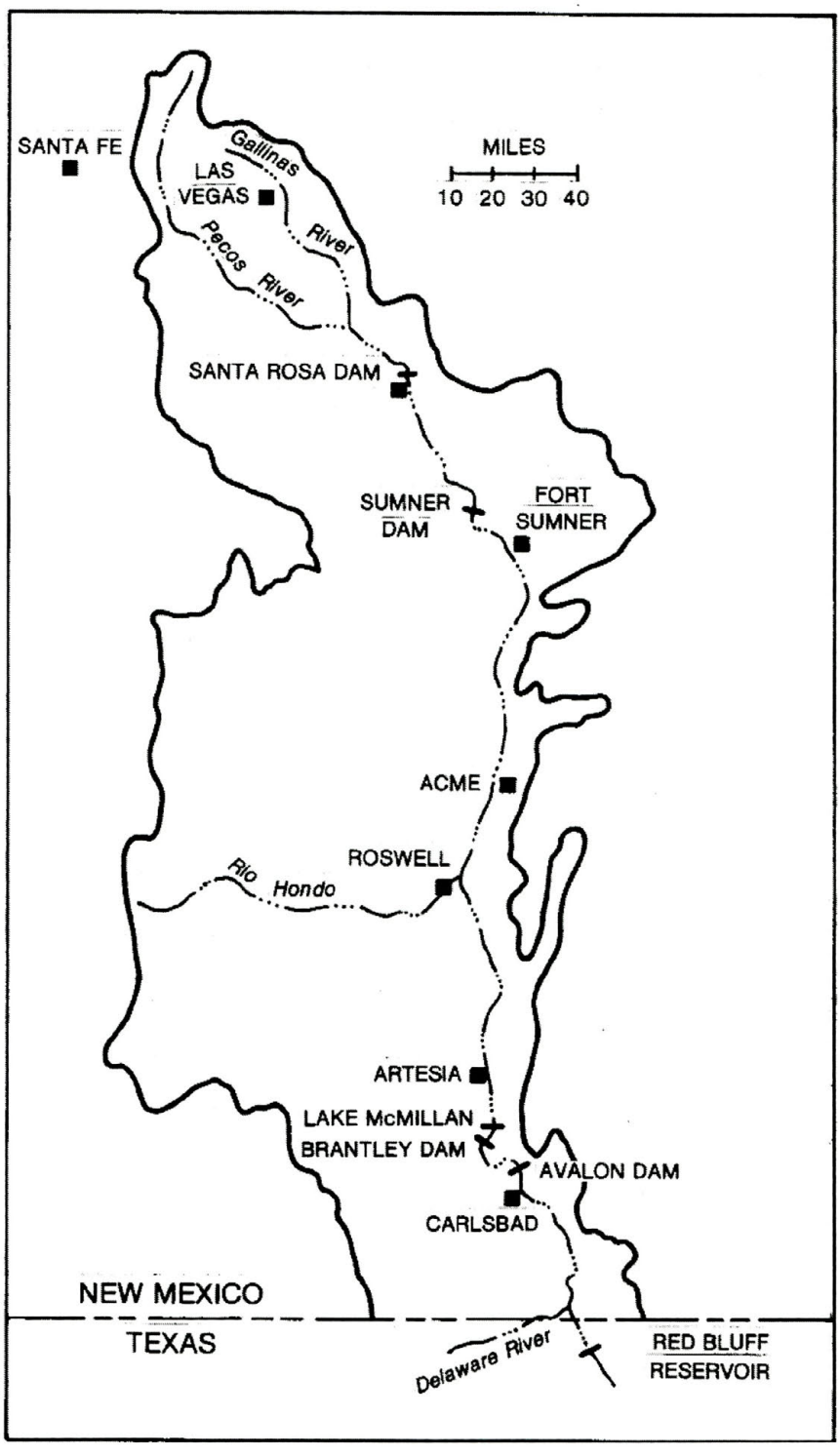

Map of Pecos River Basin Showing Accounting Reaches

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

Final Report of the River Master
Water Year 2019 - Accounting Year 2020
June 24, 2020

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 2019 was a shortfall of 9,800 acre-feet. The accumulated overage since the beginning of Water Year 1987 is 166,300 acre-feet.

/s/ Neil S. Grigg
Neil S. Grigg
River Master of the Pecos River

Pecos River Compact		
Accumulated Shortfall or Overage		
	May 7, 2019	
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
2011	500	100,100
2012	1,900	102,000
2013	-6,300	95,700
2014	700	96,400
2015	27,300	123,700
2016	27,200	150,900
2017	19,900	170,800
2018	5,300	176,100
2019	-9,800	166,300

Table 1. General Calculation of Annual Departures in TAF (B.1)			
Water Year	2019		
6/24/2020			
	WY 2017	WY 2018	WY 2019
B.1.a. Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	89.7	97.7	125.8
(b) Flood Inflow Alamogordo - Artesia (Table 2)	33.0	5.3	17.4
(c) Flood Inflow Artesia - Carlsbad (Table 3)	13.1	9.8	10.0
(d) Flood Inflow Carlsbad - State Line (Table 4)	6.2	5.6	6.7
Total (annual flood inflow)	142.0	118.4	159.9
(2) Index Inflow (3-year avg)			140.1
B.1.b. 1947 Condition Delivery Obligation			55.6
(Index Outflow)			
B.1.c. Average Historical (Gaged) Outflow			
(1) Annual historical outflow			
(a) Gaged Flow Pecos River at Red Bluff NM	46.9	42.6	45.8
(b) Gaged Flow Delaware River nr Red Bluff NM	3.3	1.8	0.9
(c) Metered diversions Permit 3254 into C-2713	0.4	0.4	0.4
Total Annual Historical Outflow	50.6	44.8	47.1
(2) Average Historical Outflow (3-yr average)			47.5
B.1.d. Annual Departure			-8.1
C. Adjustments to Computed Departure			
1. Adjustments for Depletions above Alam Dam			
a. Depletions Due to Irrigation (Table 5)	-1.0	0.6	0.4
b. Depl fr Operation of Santa Rosa Reservoir (Table 6)	9.2	0.6	4.5
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	97.9	98.9	130.7
(b) Flood Inflow Alamogordo - Artesia	33.0	5.3	17.4
(c) Flood Inflow Artesia - Carlsbad	13.1	9.8	10.0
(d) Flood Inflow Carlsbad - State Line	6.2	5.6	6.7
Total (annual flood inflow)	150.2	119.6	164.8
Recomputed Index Inflow (3-year avg)			144.9
Recomputed 1947 Condition Del Outflow			58.3
(Index Outflow)			
Recomputed Annual Departures			-10.8
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			-9.8

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

Water Year	2019												
5/11/2020													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Flow bel Sumner Dam	1.0	1.5	4.7	6.9	40.1	6.5	27.4	6.5	25.1	5.2	0.0	0.9	125.8
FtSumner Irrig Div	0.0	0.0	4.6	5.5	6.2	5.8	5.2	5.9	5.7	5.2	0.0	0.0	44.0
Ft Sumner ID Return	0.9	0.7	1.6	1.9	2.8	2.8	2.8	2.8	2.6	2.3	1.2	0.9	23.3
Flow past FS IDist	1.9	2.2	1.8	3.3	36.6	3.4	25.0	3.5	22.0	2.3	1.2	1.8	105.1
Channel loss	0.2	0.2	0.5	1.5	5.4	1.3	4.1	1.7	3.3	0.8	0.6	0.2	19.8
Residual Flow	1.7	1.9	1.2	1.8	31.2	2.1	21.0	1.8	18.7	1.5	0.6	1.6	85.3
Base Inflow	1.7	1.6	1.9	1.5	1.0	0.7	0.5	0.4	-0.1	1.2	2.4	2.9	15.6
River Pump Divers	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Residual, Artesia	3.4	3.5	3.1	3.2	32.2	2.8	21.4	2.2	18.6	2.7	3.0	4.5	100.7
Pecos Flow Artesia	3.8	3.5	4.0	3.5	27.1	7.0	20.7	1.8	14.5	22.0	5.4	4.6	118.1
Flood Inflow, AD-Art	0.3	0.0	0.9	0.3	-5.0	4.3	-0.8	-0.4	-4.1	19.3	2.4	0.1	17.4

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 Carlsbad (B.4)													
Water Year	2019												
5/11/2020													
	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	0.3	0.0	0.0	0.0	0.4	0.0	0.0	0.6
Fourmile Draw nr Lakew	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.8	0.0	0.0	1.1
South Seven Rivers	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.6	0.0	0.0	1.5
Rocky Arroyo at Hwy Br	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.2	1.4	0.0	0.0	2.1
Flood Inflow, Art-DS3	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.4	3.2	0.0	0.0	5.4
Pecos R at Dam Site 3	1.7	1.1	4.4	14.0	10.8	11.5	11.1	14.4	9.5	6.3	0.0	0.1	84.9
CB Sprgs New Water (from Table 7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Inflow, DS3 - CB	1.7	1.1	4.4	14.0	10.8	11.6	11.1	14.4	9.5	6.4	0.0	0.1	85.1
Evap Loss, Lake Avalon (from Table 10)	0.0	0.2	0.3	0.5	0.6	0.5	0.6	0.6	0.5	0.1	0.0	0.0	3.8
Storage Chg, Lake Avalon (from Table 11)	1.1	0.2	0.0	1.0	-0.5	-0.1	0.0	0.1	-0.2	-1.2	-0.4	0.0	0.0
Carls ID diversions	0.0	0.0	3.6	11.4	9.5	9.9	9.5	12.8	8.6	7.2	0.2	0.0	72.6
93% CID diver	0.0	0.0	3.4	10.6	8.8	9.2	8.8	11.9	8.0	6.7	0.2	0.0	67.5
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	1.3	1.0	1.1	1.3	1.5	1.5	1.6	1.5	1.8	1.6	1.5	1.4	17.0
Pecos R at Carlsbad	1.3	1.0	1.1	1.3	1.5	1.5	1.6	1.5	1.8	1.6	1.5	1.4	17.0
Total Outflow	2.4	1.6	4.9	13.5	10.5	11.2	11.2	14.2	10.1	7.3	1.4	1.5	89.7
Flood Inflow, DS3-CB	0.7	0.5	0.4	-0.5	-0.4	-0.3	0.1	-0.2	0.6	0.9	1.4	1.4	4.6
Flood Inflow, Art-CB	0.7	0.5	0.4	-0.5	-0.4	1.5	0.1	-0.2	1.0	4.1	1.4	1.4	10.0

Table 4. Summary Table for Computations, Carlsbad to State Line (B.5)						
Water Year		2019				
6/24/2020						
		BCB - RB		Del R	DC	
		RM				
Jan		0.0		0.0	0.0	
Feb		0.0		0.0	0.0	
Mar		0.3		0.1	0.0	
Apr		0.7		0.0	0.0	
May		0.1		0.0	0.0	
Jun		2.8		0.2	0.0	
Jul		1.3		0.1	0.0	
Aug		0.1		0.0	0.0	
Sep		0.4		0.0	0.0	
Oct		0.8		0.0	0.0	
Nov		0.1		0.0	0.0	
Dec		0.0		0.0	0.0	
Total		6.4		0.3	0.0	
Summary of flood inflows, Carlsbad to State Line, TAF						
Red Bluff - Carlsbad + Dark C RM calcs)						6.4
Delaware River						0.3
Total Flood Inflow, Carlsbad to State Line						6.7

Table 5. Depletions Due to Irrigation Above Sumner Dam (C.1.a)								
Water Year	2019							
4/15/2020								
	APR	MAY	JUN	JUL	AUG	SEPT	OCT	TOTAL
Precip Las Vegas FAA AP	1.59	1.04	0.75	4.23	1.59	1.15	0.86	11.21
Eff prec Las Veg FAA AP	1.48	1.01	0.74	3.45	1.48	1.11	0.83	10.1
Precip Pecos Natl Monument	0.99	1.25	0.72	2.40	2.59	0.83	1.43	10.21
Eff Precip Pecos RS	0.96	1.19	0.70	2.14	2.28	0.81	1.35	9.43
Precip Santa Rosa	0.75	1.19	1.78	2.15	1.90	1.10	0.91	9.78
Eff Precip Santa Ro	0.73	1.14	1.64	1.95	1.75	1.06	0.88	9.15
Average eff precip, ft	0.09	0.09	0.09	0.21	0.15	0.08	0.09	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	0.10	0.27	0.27	0.09	0.12	0.10	0.03	0.97
Acres (most recent inventory)	11529							
Streamflow depletion (actual use), AF	11222							
1947 depletion, AF	10804							
Difference (actual use - 1947 depletion), TAF	0.4							
Adjustment to Gaged Flow, Pecos River below Sumner Dam, TAF =						0.4		

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

Water Year	2019												
4/15/2020													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
LS 2013 table (USBR), add 4,200 feet to value shown; LSR 1997 tables used (COE); Add 4,700 feet to value shown													
Lk Sumner ga ht, avg	58.41	59.57	59.81	58.74	56.49	56.25	54.62	52.86	50.18	49.14	50.06	52.79	
LS content, AF, avg	30261	32829	33379	30976	26338	25876	22884	19902	15876	14495	15711	19789	
LS area, acres, avg	2150	2278	2306	2186	1935	1910	1767	1621	1376	1277	1365	1615	
LS evap, inches	3.66	5.49	6.13	10.97	12.72	14.83	15.14	14.07	11.30	7.39	4.03	3.74	109.48
.77 LS Evap	2.82	4.23	4.72	8.45	9.79	11.42	11.66	10.83	8.70	5.69	3.10	2.88	84.30
LS Precip, inches	0.09	0.01	0.85	1.68	0.62	1.14	1.86	1.06	1.20	1.11	0.74	0.28	10.64
Net LS Evap, inches	2.73	4.22	3.87	6.77	9.17	10.28	9.80	9.77	7.50	4.58	2.36	2.60	73.66
LSum Evaploss, TAF	0.49	0.80	0.74	1.23	1.48	1.64	1.44	1.32	0.86	0.49	0.27	0.35	11.11
L S Rosa ga ht, avg	34.76	34.62	35.05	38.70	41.54	39.47	35.34	32.43	26.48	21.59	21.40	21.47	
LSR content, AF, avg	53382	53022	54136	64207	72774	66466	54896	47570	34683	26179	25888	25995	
LSR area, acres, avg	2587	2576	2610	2902	3133	2964	2633	2404	1932	1545	1527	1534	
LSR evap, inches	3.72	4.98	8.58	8.74	9.76	11.42	12.23	11.35	9.38	6.35	4.88	3.76	95.15
.77 LSR Evap	2.86	3.83	6.61	6.73	7.52	8.79	9.42	8.74	7.22	4.89	3.76	2.90	73.27
LSR precip, inches	0.45	0.11	1.42	0.75	1.19	1.78	2.15	1.90	1.10	0.91	1.47	0.09	13.32
Net LSR Evap, inches	2.41	3.72	5.19	5.98	6.33	7.01	7.27	6.84	6.12	3.98	2.29	2.81	59.95
LSR Evaploss, TAF	0.52	0.80	1.13	1.45	1.65	1.73	1.59	1.37	0.99	0.51	0.29	0.36	12.39
Total evaploss, TAF	1.01	1.60	1.87	2.68	3.13	3.37	3.04	2.69	1.85	1.00	0.56	0.71	23.50
Sum contents, AF	83643	85851	87515	95183	99112	92342	77780	67472	50559	40674	41599	45784	
1947 area, acres	3339	3400	3453	3669	3774	3593	3130	2916	2268	1949	1972	2079	
1947 evaploss, TAF	0.76	1.20	1.11	2.07	2.89	3.08	2.56	2.38	1.42	0.74	0.39	0.45	19.03
current-1947evaploss	0.25	0.40	0.76	0.61	0.25	0.29	0.48	0.32	0.43	0.26	0.17	0.26	4.47
						Annual adjustment for excess evaporation =							4.5
ADJUSTMENT FOR EXCESSIVE STORAGE IN SANTA ROSA RESERVOIR													
			2018	2018	2019	2019							
			Gage	Storage	Gage	Storage							
EndYear Sumner Sto			4257.59	28535	4253.79	21446							
EndYear S R Sto			4734.76	53382	4721.49	26026							
Sum				81917		47472							
Sto Adjustment, TAF						0.0							
Adjustm Ex Evap, TAF						4.5							
Total Adjustment,TAF						4.5							

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 [B.4.c.(2)]					
Water Year	2019				
4/13/2020					
		TAF	AF/day	cfs	Totals
Pecos R bel DC		17.0	46.6	23.5	23.5
Dark Canyon		0.0	0.0	0.0	0.0
Pecos R bel Lake Avalon		0.0	0.0	0.0	0.0
Depletion, cfs					2.0
CID lag seep, cfs (from Table 8)					6.9
Return flow, cfs					1.0
Lake Av lagged seep, cfs (from Table 9)					14.4
PR seepage, cfs					3.0
Carls new water, cfs					0.26
Carls new wat, TAF					0.2
Carls new wat monthly, TAF					0.0

Table 8. Carlsbad Main Canal Seepage Lagged [B.4.c.(2)(e)]													
Water Year	2019												
4/13/2020													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
WY 2019													
CID, TAF	0	0	3.6	11.4	9.5	9.9	9.5	12.8	8.6	7.2	0.2	0.0	72.6
days/mo	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs	0	0	58.8	191.7	154.1	166.2	154.5	207.6	145.0	116.9	2.8	0.0	99.8
cfs, qtr avg			20.2			170.5			169.3			40.3	
WY 2018		1Q	2Q	3Q	4Q								
FLOWS, cfs				150.6	27.6								
SEVEN %				10.5	1.9								
WY 2019 lagged		1Q	2Q	3Q	4Q								
FLOWS, cfs		20.2	170.5	169.3	40.3								
SEVEN %		1.4	11.9	11.9	2.8								
LAG		3.1	6.8	10.1	7.3	Avg =	6.9	cfs					

Table 9. Lake Avalon Leakage Lagged [B.4.c.(2)(g)]													
Water Year	2019												
4/13/2020													
WY 2019	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Elev NM rept	64.1	73.2	73.5	74.2	74.0	74.3	74.2	73.8	74.1	74.3	60.9	60.0	
ga ht, avg*	7.1	16.2	16.5	17.2	17.0	17.3	17.2	16.8	17.1	17.3	3.9	3.0	
cfs	0.0	15.5	17.0	20.3	19.4	20.6	20.2	18.1	19.6	20.8	0.0	0.0	
days	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs avg	10.7			20.1			19.3			7.0			14.3
WY 2018		1Q	2Q	3Q	4Q								
cfs				22.7	6.6								
WY 2019 lagged		1Q	2Q	3Q	4Q								
cfs		10.7	20.1	19.3	7.0								
lag cfs		11.3	14.7	18.1	13.3	Avg =	14.4	cfs					
* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)													

Table 10. Evaporation Loss at Lake Avalon [B.4.d.(1)]													
Water Year	2019												
4/13/2020													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOT
Av WS NM Rept	64.14	73.21	73.54	74.21	74.02	74.28	74.19	73.75	74.07	74.32	60.92	60.00	
Avalon ga ht, avg, ft*	7.14	16.21	16.54	17.21	17.02	17.28	17.19	16.75	17.07	17.32	3.92	3.00	
Avg area Avalon, ac**	0.00	596.00	634.00	711.00	690.00	719.00	709.00	659.00	696.00	723.00	0.00	0.00	
Panevap Brantley, in.	4.65	5.60	7.15	11.06	13.75	14.63	14.29	14.47	11.56	6.94	4.80	4.34	113.24
Lakeevap Brantley, in.	3.58	4.31	5.51	8.52	10.59	11.27	11.00	11.14	8.90	5.34	3.70	3.34	87.19
Precip Brantley, in.	0.06	0.00	0.60	0.33	0.00	2.63	1.02	0.57	1.14	3.69	1.22	0.10	11.36
Netevap, inches	3.52	4.31	4.91	8.19	10.59	8.64	9.98	10.57	7.76	1.65	2.48	3.24	75.83
Evaploss Av, TAF	0.00	0.21	0.26	0.49	0.61	0.52	0.59	0.58	0.45	0.10	0.00	0.00	3.80
* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)													
** Based on 2006 USBR Area and Capacity Table													

Table 11. Change in Storage, Lake Avalon [B.4.d.(2)]														
(Gage heights are end of month)														
Water Year	2020													
5/11/2020														
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
	2018	2019												
WS NM Rept	60.0	73.0	73.4	73.4	74.8	74.1	74.0	74.0	74.1	73.8	71.6	60.0	60.0	
Gage EOM, ft*	3.0	16.0	16.4	16.4	17.8	17.1	17.0	17.0	17.1	16.8	14.6	3.0	3.0	
Storage, AF**	0	1085.0	1323.0	1323.0	2300.0	1784.0	1715.0	1715.0	1784.0	1580.0	382.0	0.0	0.0	
Change sto, TAF		1.1	0.2	0.0	1.0	-0.5	-0.1	0.0	0.1	-0.2	-1.2	-0.4	0.0	0.0
* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)														
** Based on 2006 USBR Area and Capacity Table														

Table 12. Data Required for River Master Manual Calculations													
Water Year 2019													
4/13/2020	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
STREAMFLOW GAGING RECORDS, TAF													
Pecos R b Sumner Dam	1.0	1.5	4.7	6.9	40.1	6.5	27.4	6.5	25.1	5.2	0.0	0.9	125.8
Fort Sumner Main C	0.0	0.0	4.6	5.5	6.2	5.8	5.2	5.9	5.7	5.2	0.0	0.0	44.0
Pecos R nr Artesia	3.8	3.5	4.0	3.5	27.1	7.0	20.7	1.8	14.5	22.0	5.4	4.6	118.1
Rio Penasco at Dayton	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0	0.6
Fourmile Draw nr Lakewood	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.8	0.0	0.0	1.1
South Seven Rivers nr Lkwd	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.6	0.0	0.0	1.5
Rocky Arroyo at Hwy Br nr	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.2	1.4	0.0	0.0	2.1
Pecos R at Dam Site 3	1.7	1.1	4.4	14.0	10.8	11.5	11.1	14.4	9.5	6.3	0.0	0.1	84.9
Pecos bel Avalon Dam	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
Carlsbad Main Canal	0.0	0.0	3.6	11.4	9.5	9.9	9.5	12.8	8.6	7.2	0.2	0.0	72.6
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	1.3	1.0	1.1	1.3	1.5	1.5	1.6	1.5	1.8	1.6	1.5	1.4	17.0
Pecos R at Red Bluff	3.7	2.8	2.9	4.1	3.3	5.6	4.3	3.3	3.6	4.5	3.9	3.7	45.8
Delaware R nr Red Bluff	0.1	0.1	0.2	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.9
GAGE HEIGHTS													
Avalon gage ht, end mo	73.0	73.4	73.4	74.8	74.1	74.0	74.0	74.1	73.8	71.6	60.0	60.0	
Avalon gage ht, avg	64.1	73.2	73.5	74.2	74.0	74.3	74.2	73.8	74.1	74.3	60.9	60.0	
Sumner Lake ga ht, end mo	59.1	60.0	59.6	57.9	56.7	55.5	54.0	51.6	49.5	48.5	51.5	53.8	
Sumner Lake gage ht, avg	58.4	59.6	59.8	58.7	56.5	56.3	54.6	52.9	50.2	49.1	50.1	52.8	
Lake S Rosa ga ht, end mo	34.7	34.5	36.3	42.2	36.4	41.0	32.4	32.4	21.7	21.4	21.5	21.5	
Lake S Rosa ga ht, avg	34.8	34.6	35.0	38.7	41.5	39.5	35.3	32.4	26.5	21.6	21.4	21.5	
PRECIPITATION, INCHES													
Brantley Lake	0.06	0.00	0.60	0.33	0.00	2.63	1.02	0.57	1.14	3.69	1.22	0.10	11.36
Las Vegas FAA AP	0.33	0.04	1.08	1.59	1.04	0.75	4.23	1.59	1.15	0.86	0.69	0.44	13.79
Pecos National Monument	1.07	0.41	1.49	0.99	1.25	0.72	2.40	2.59	0.83	1.43	1.44	2.17	16.79
Santa Rosa	0.45	0.11	1.42	0.75	1.19	1.78	2.15	1.90	1.10	0.91	1.47	0.09	13.32
Lake Santa Rosa	0.45	0.11	1.42	0.75	1.19	1.78	2.15	1.90	1.10	0.91	1.47	0.09	13.32
Sumner Lake	0.09	0.01	0.85	1.68	0.62	1.14	1.86	1.06	1.20	1.11	0.74	0.28	10.64
PAN EVAPORATION, INCHES													
Lake Santa Rosa	3.72	4.98	8.58	8.74	9.76	11.42	12.23	11.35	9.38	6.35	4.88	3.76	95.15
Lake Sumner	3.66	5.49	6.13	10.97	12.72	14.83	15.14	14.07	11.30	7.39	4.03	3.74	109.48
Brantley Lake	4.65	5.60	7.15	11.06	13.75	14.63	14.29	14.47	11.56	6.94	4.80	4.34	113.24
OTHER REPORTS													
Base Acme-Art, TAF (USGS)	1.7	1.6	1.9	1.5	1.0	0.7	0.5	0.4	-0.1	1.2	2.4	2.9	
Pump depl Ac-Artesia, TAF	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Pumping, C-2713, Malaga B													0.4
NM irrig inv, acres (3/9/2000)													11529
NM Transfer water use, TAF													
NM salvaged water, TAF													0.00
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	0.0
Texas, use Del water, TAF													

APPENDIX

RESPONSE TO STATES' OBJECTIONS

RESPONSE TO STATES' OBJECTIONS
Final Report, Accounting Year 2020

NEW MEXICO OBJECTIONS
I. Table 4. Summary Table for Computations, Carlsbad to State Line (B.5)

NM noted that the Preliminary Report failed to subtract base flow from the Red Bluff scalped flow for November and December. Texas noted the same error. The states' recalculations were close, and Table 4 of the Final Report has been corrected with a value of 0.1 TAF for November and 0 TAF for December.

II. Accumulated Shortfall or Overage Table

NM noted that the Table of Annual and Accumulated Overage or Shortfall contains a one-time credit of 16,600 AF for Water Year 2017 that is the subject of a motion by Texas before the U.S. Supreme Court. This same observation was addressed in the AY2019 report, and no changes in this Final Report are required to respond to this issue at this time.

TEXAS OBJECTIONS

I. Table 4. Summary Table for Computations, Carlsbad to State Line (B.5)

Scalped Flood Flows for Carlsbad to Red Bluff
This objection has been accepted, see NM Objection I above.

Delaware River
Texas objected to the River Master's total inflow of 0.3 TAF and proposed 0.4 TAF based on its computation. The River Master checked USGS's original computation and noted that it was 346 AF, so this objection is rejected.

2. Table 1. General Calculation of Annual Departures in TAF for WY 2019
The final departure has been modified as a result of changes noted above in Tables 1 and 4.

(Texas's opening statement about reserving its rights in the open dispute before the Supreme Court is acknowledged.)

FINAL CALCULATED DEPARTURE
The Preliminary Report had a Final Calculated Departure as a shortfall of 10.0 TAF. After considering the states' objections, the Final Determination is a shortfall of 9.8 TAF.