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# PECOS RIVER COMPACT

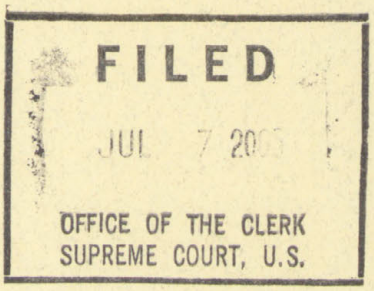
## Report of the River Master

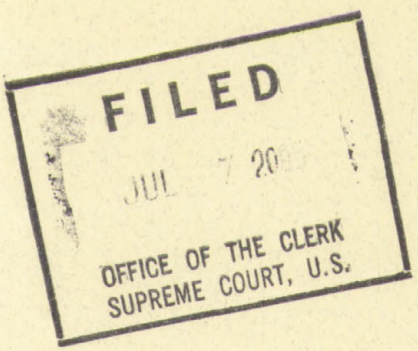
## Water Year 2004

## Accounting Year 2005

## Final Report

June 27, 2005




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

# PECOS RIVER COMPACT

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June 27, 2005

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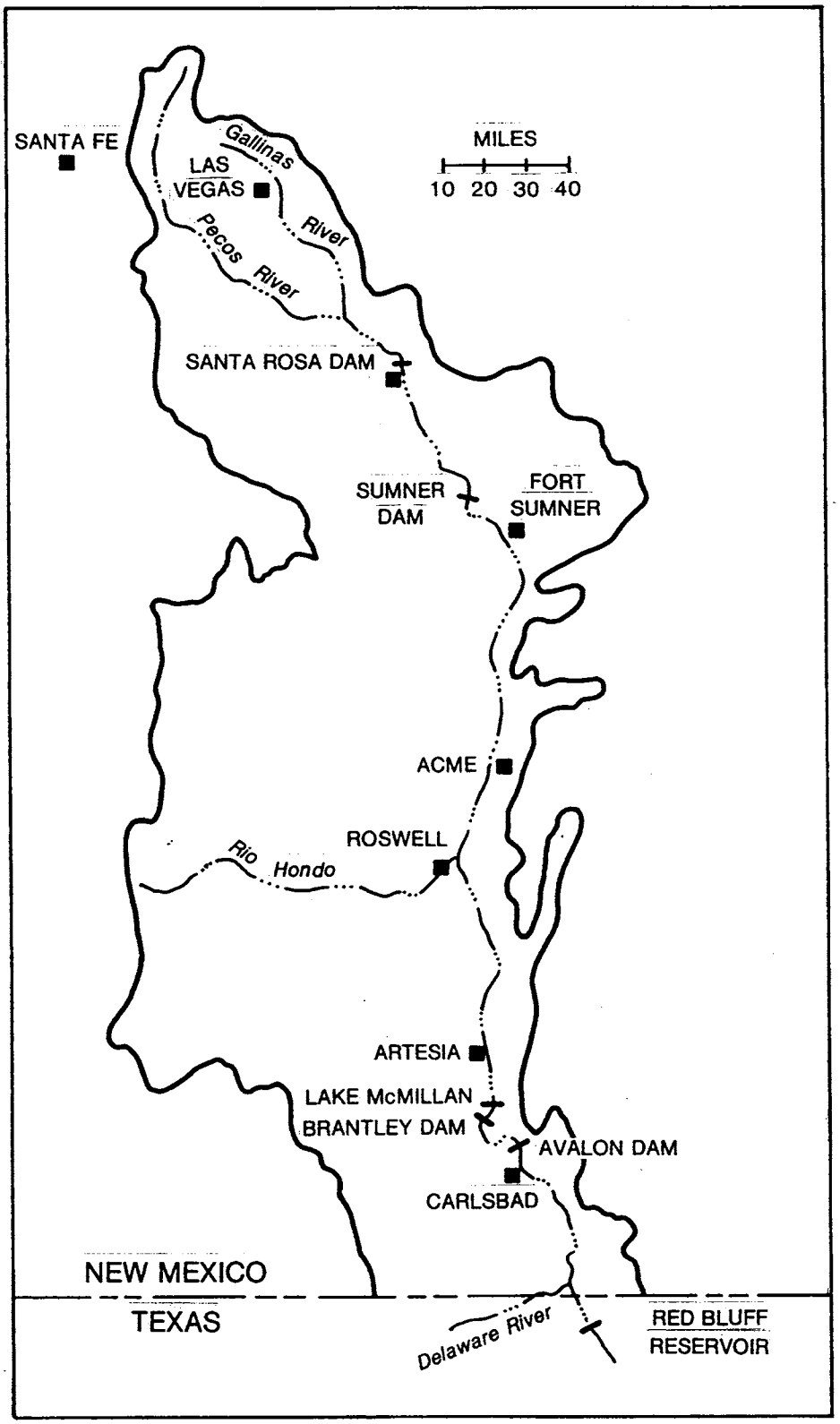
## CONTENTS


SANTA FE
LAS VEGAS
Gallinas River
Pecos River
MILES
10 20 30 40
SANTA ROSA DAM
SUMNER DAM
FORT SUMNER
ACME
ROSWELL
Rio Hondo
ARTESIA
LAKE McMILLAN
BRANTLEY DAM
AVALON DAM
CARLSBAD
NEW MEXICO
TEXAS
Delaware River
RED BLUFF RESERVOIR

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

Final Report of the River Master
Water Year 2004 - Accounting Year 2005
June 21, 2005

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:

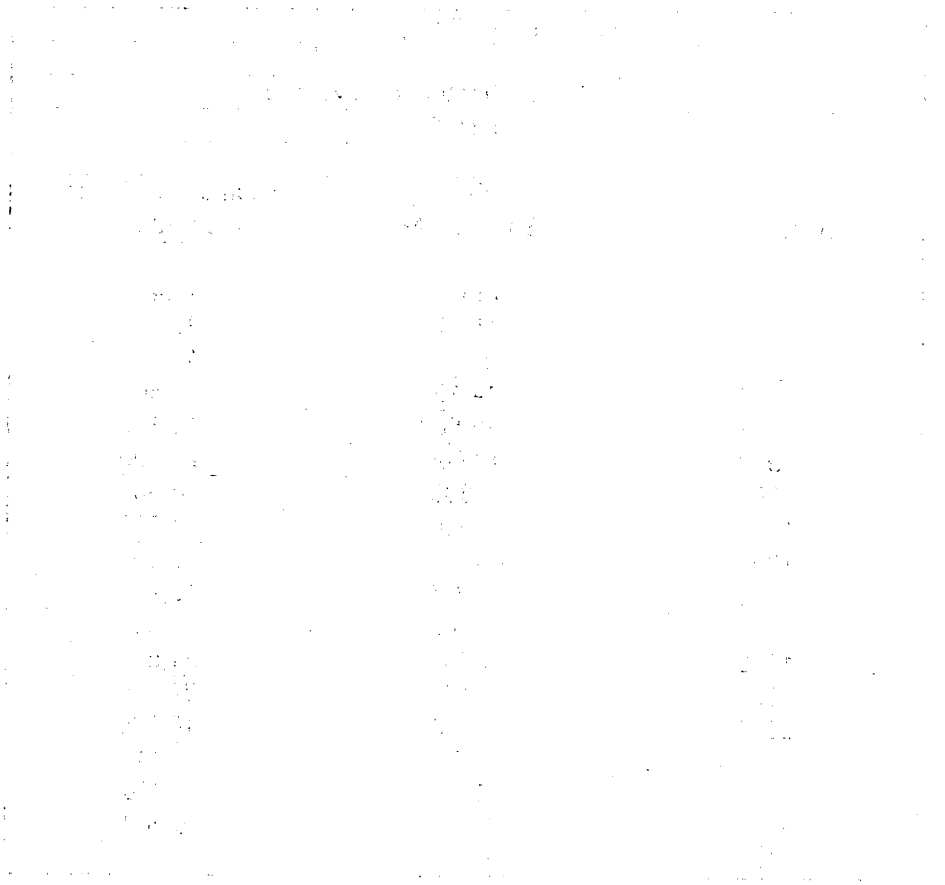
a. The Article III(a) obligation;

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 2004 was an overage of 8,300 acre-feet. The accumulated overage since the beginning of Water Year 1987 is 17,200 acre-feet.

Neil S. Grigg
River Master of the Pecos River



| Pecos River Compact | | |
|---|---|---|
| | | |
| **Accumulated Shortfall or Overage** | | |
| | June 27, 2005 | |
| | | |
| 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 |

| Table 1. General Calculation of Annual Departures, TAF, WY 2004 | | | |
|---|---|---|---|
| 6/26/2005 | | | |
| | WY 2002 | WY 2003 | WY 2004 |
| B.1.a. Index Inflows | | | |
| (1) Annual flood inflow | | | |
| (a) Gaged flow Pecos R bel Alamogordo Dam | 69.6 | 69.0 | 95.2 |
| (b) Flood Inflow Alamogordo - Artesia (Table 2) | 15.8 | -1.3 | 41.5 |
| (c) Flood Inflow Artesia - Carlsbad (Table 3) | 20.0 | 6.3 | 66.3 |
| (d) Flood Inflow Carlsbad - State Line (Table 4) | 6.9 | 2.2 | 62.6 |
| Total (annual flood inflow) | 112.3 | 76.2 | 265.6 |
| (2) Index Inflow (3-year avg) | | | 151.4 |
| | | | |
| B.1.b. 1947 Condition Delivery Obligation | | | 62.0 |
| (Index Outflow) | | | |
| | | | |
| B.1.c. Average Historical (Gaged) Outflow | | | |
| (1) Annual historical outflow | | | |
| (a) Gaged Flow Pecos River at Red Bluff NM | 39.7 | 22.4 | 125.2 |
| (b) Gaged Flow Delaware River nr Red Bluff NM | 2.5 | 1.3 | 19.5 |
| (c) Metered diversions Permit 3254 into C-2713 (awaiting report) | | 0.5 | 0.6 |
| Total Annual Historical Outflow | 42.2 | 24.2 | 145.3 |
| (2) Average Historical Outflow (3-yr average) | | | 70.6 |
| | | | |
| B.1.d. Annual Departure | | | 8.5 |
| | | | |
| C. Adjustments to Computed Departure | | | |
| 1. Adjustments for Depletions above Alam Dam | | | |
| a. Depletions Due to Irrigation (Table 5) | 1.5 | 3.3 | -1.7 |
| b. Depl fr Operation of Santa Rosa Reservoir (Table 6) | 0.4 | 1.6 | 1.5 |
| 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 | 71.5 | 73.9 | 95.0 |
| (b) Flood Inflow Alamogordo - Artesia | 15.8 | -1.3 | 41.5 |
| (c) Flood Inflow Artesia - Carlsbad | 20.0 | 6.3 | 66.3 |
| (d) Flood Inflow Carlsbad - State Line | 6.9 | 2.2 | 62.6 |
| Total (annual flood inflow) | 114.2 | 81.1 | 265.4 |
| Recomputed Index Inflow (3-year avg) | | | 153.6 |
| | | | |
| Recomputed 1947 Condition Del Outflow | | | 63.3 |
| (Index Outflow) | | | |
| | | | |
| Recomputed Annual Departures | | | 7.3 |
| | | | |
| 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 | | | 8.3 |

Table 2. Determination of Flood Inflows, Alamogordo Dam to Artesia (B.3), WY 2004

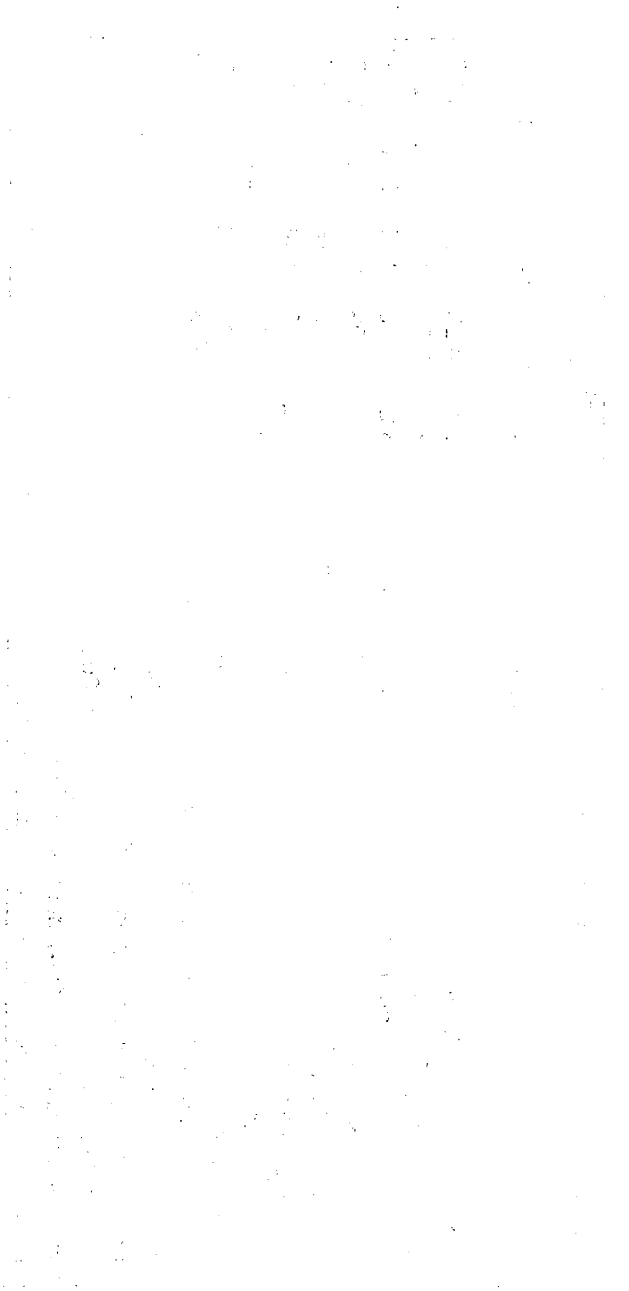
6/26/2005

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow bel Sumner Dam | 1.8 | 2.3 | 23.7 | 3.1 | 6.4 | 5.5 | 4.7 | 3.7 | 38.5 | 4.6 | 0.5 | 0.5 | 95.2 |
| FtSumner Irrig Div | 0.0 | 1.0 | 5.1 | 2.5 | 5.4 | 5.2 | 4.2 | 2.4 | 5.5 | 3.8 | 0.0 | 0.0 | 35.1 |
| Ft Sumner ID Return | 0.7 | 0.6 | 1.3 | 1.5 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.9 | 0.9 | 0.7 | 18.6 |
| Flow past FS IDist | 2.6 | 1.8 | 19.9 | 2.1 | 3.2 | 2.5 | 2.7 | 3.5 | 35.0 | 2.6 | 1.5 | 1.3 | 78.7 |
| Channel loss | 0.2 | 0.2 | 3.7 | 1.3 | 1.5 | 1.2 | 1.0 | 1.7 | 4.9 | 0.8 | 0.6 | 0.2 | 17.5 |
| Residual Flow | 2.3 | 1.6 | 16.1 | 0.7 | 1.7 | 1.3 | 1.7 | 1.9 | 30.1 | 1.8 | 0.8 | 1.1 | 61.3 |
| Base Inflow | 3.6 | 3.5 | 3.8 | 2.7 | 2.4 | 1.6 | 1.4 | 1.7 | 1.4 | 3.6 | 5.0 | 6.0 | 36.6 |
| River Pump Divers | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Residual, Artesia | 5.9 | 5.1 | 19.9 | 3.4 | 4.0 | 2.9 | 3.0 | 3.5 | 31.5 | 5.4 | 5.9 | 7.1 | 97.6 |
| Pecos Flow Artesia | 5.2 | 5.6 | 21.1 | 13.2 | 3.9 | 2.3 | 4.1 | 4.7 | 21.3 | 39.8 | 9.7 | 8.2 | 139.1 |
| Flood Inflow, AD-Art | -0.7 | 0.5 | 1.1 | 9.9 | -0.1 | -0.6 | 1.1 | 1.2 | -10.2 | 34.4 | 3.8 | 1.1 | 41.5 |

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).

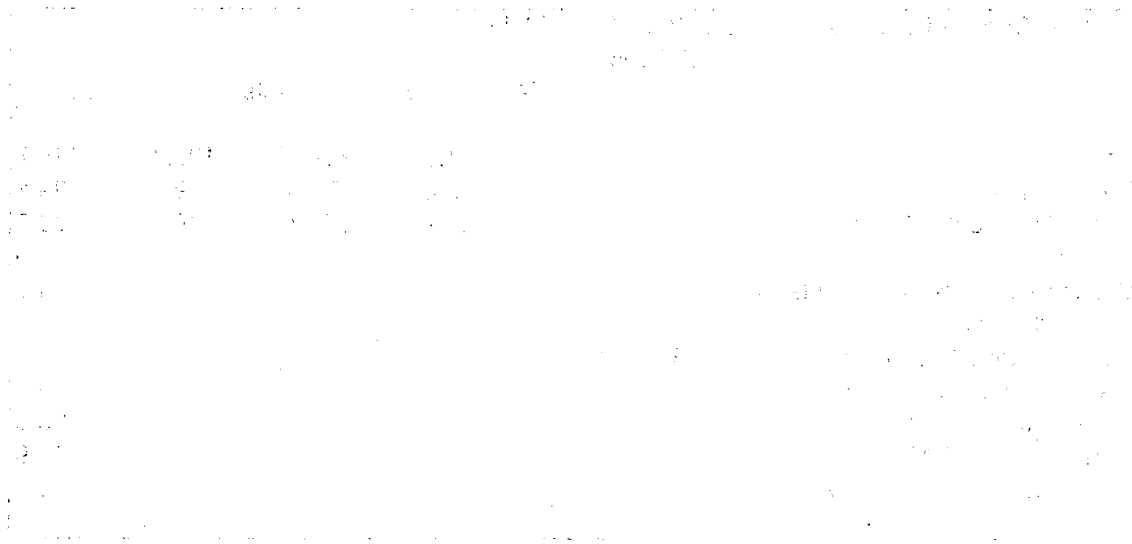
| Table 3. Determination of Flood Inflows, Artesia to Carsbad, WY 2004 (B.4) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/26/2005 | | | | | | | | | | | | | |
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOT |
| Rio Penasco at Dayton | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 |
| Fourmile Draw nr Lakew | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.5 |
| South Seven Rivers | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.5 |
| Rocky Arroyo at Hwy Br | 0.0 | 0.0 | 0.0 | 15.6 | 0.0 | 0.0 | 3.1 | 0.1 | 0.3 | 0.1 | 0.0 | 0.0 | 19.3 |
| Flood Inflow, Art-DS3 | 0.0 | 0.0 | 0.0 | 16.4 | 0.0 | 0.3 | 3.3 | 0.2 | 0.4 | 0.1 | 0.1 | 0.0 | 20.9 |
| Pecos R at Dam Site 3 | 1.2 | 1.0 | 1.4 | 4.7 | 13.7 | 10.5 | 11.9 | 6.0 | 7.1 | 5.0 | 20.2 | 1.1 | 83.8 |
| CB Sprgs New Water (from Table 7) | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -1.2 | -14.9 |
| Total Inflow, DS3 - CB | -0.1 | -0.2 | 0.1 | 3.4 | 12.4 | 9.3 | 10.7 | 4.8 | 5.8 | 3.7 | 19.0 | -0.1 | 68.9 |
| Evap Loss, Lake Avalon (from Table 10) | 0.2 | 0.2 | 0.3 | 0.0 | 0.5 | 0.5 | 0.4 | 0.4 | 0.2 | 0.3 | 0.0 | 0.1 | 3.2 |
| Storage Chg, Lake Aval (from Table 11) | 0.6 | 0.4 | 0.5 | -1.8 | 0.0 | 0.5 | 2.3 | -2.9 | 0.1 | 2.9 | -3.6 | 0.7 | -0.3 |
| Carls ID diversions | 0.0 | 0.0 | 0.0 | 2.8 | 13.0 | 9.9 | 9.2 | 8.2 | 6.6 | 0.9 | 0.0 | 0.0 | 50.6 |
| 93% CID diver | 0.0 | 0.0 | 0.0 | 2.6 | 12.1 | 9.2 | 8.5 | 7.7 | 6.1 | 0.8 | 0.0 | 0.0 | 47.1 |
| 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 | 27.4 | 0.0 | 0.0 | 0.7 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 28.4 |
| Pecos b Dark Canyon | 0.5 | 0.5 | 0.6 | 47.0 | 1.3 | 1.3 | 2.6 | 2.7 | 2.0 | 2.2 | 28.9 | 1.7 | 91.3 |
| Pecos R at Carlsbad | 0.5 | 0.5 | 0.6 | 19.6 | 1.3 | 1.3 | 1.9 | 2.6 | 1.9 | 2.2 | 28.9 | 1.7 | 62.9 |
| Total Outflow | 1.3 | 1.2 | 1.5 | 20.5 | 14.0 | 11.7 | 13.3 | 8.0 | 8.4 | 6.3 | 25.4 | 2.6 | 114.3 |
| Flood Inflow, DS3-CB | 1.4 | 1.5 | 1.3 | 17.1 | 1.6 | 2.5 | 2.6 | 3.3 | 2.6 | 2.6 | 6.4 | 2.7 | 45.5 |
| Flood Inflow, Art-CB | 1.4 | 1.5 | 1.3 | 33.5 | 1.6 | 2.8 | 5.9 | 3.4 | 3.0 | 2.7 | 6.5 | 2.7 | 66.3 |

| Table 4. Summary Table for Computations, Carlsbad to State Line - WY 2004 (B.5) | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6/26/2005 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | BCB - RB | BCB - RB* | Del R | DC | | | |
| | RM | USGS | USGS | | | | |
| Jan | 0 | 0 | 0 | 0 | | | |
| Feb | 13 | 11.9 | 0 | 0 | | | |
| Mar | 49 | 17.9 | 10.9 | 0 | | | |
| Apr | 1200 | 876.5 | 2676 | 27440 | | | |
| May | 75 | 27.8 | 10.1 | 0 | | | |
| Jun | 474 | 298 | 452 | 0 | | | |
| Jul | 1677 | 1505 | 887 | 718 | | | |
| Aug | 228 | 169 | 2674 | 66 | | | |
| Sep | 8547 | 6875 | 5449 | 131 | | | |
| Oct | 4743 | 4235 | 4778 | 1.7 | | | |
| Nov | 0 | 0 | 234 | 0 | | | |
| Dec | 42 | 33.7 | 0 | 0 | | | |
| Total | 17049 | 14050 | 17171 | 28357 | | | |
| * - Average of two USGS estimates is shown | | | | | | | |
| | | | | | | | |
| Summary of flood inflows, Carlsbad to State Line, TAF | | | | | | | |
| | | | | | | | |
| Red Bluff - Carlsbad + Dark C RM calcs) | | | | | 45.4 | | |
| Delaware River (USGS Computation | | | | | 17.2 | | |
| **Total Flood Inflow, Carlsbad to State Line** | | | | | 62.6 | | |



| Table 5. Depletions Due to Irrigation Above Sumner Dam - WY 2004 (C.1.a) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4/23/2005 | | | | | | | | |
| | APR | MAY | JUN | JUL | AUG | SEPT | OCT | TOTAL |
| | | | | | | | | |
| Precip Las Vegas FAA AP | 1.35 | 0.07 | 1.53 | 2.75 | 3.28 | 2.27 | 2.51 | 13.76 |
| Eff prec Las Veg FAA AP | 1.28 | 0.07 | 1.43 | 2.41 | 2.79 | 2.04 | 2.23 | 12.25 |
| Precip Pecos Natl Monument | 4.23 | 0.00 | 1.80 | 3.21 | 2.20 | 2.11 | 2.56 | 16.11 |
| Eff Precip Pecos RS | 3.45 | 0.00 | 1.66 | 2.74 | 1.99 | 1.92 | 2.26 | 14.02 |
| Precip Santa Rosa | 3.58 | 0.00 | 0.96 | 2.81 | 1.73 | 3.76 | 3.45 | 16.29 |
| Eff Precip Santa Ro | 3.01 | 0.00 | 0.93 | 2.45 | 1.60 | 3.14 | 2.92 | 14.05 |
| Average eff precip, ft | 0.22 | 0.00 | 0.11 | 0.21 | 0.18 | 0.20 | 0.21 | 1.12 |
| 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 | 0.00 | 0.36 | 0.25 | 0.09 | 0.09 | 0.00 | 0.00 | 0.79 |
| Acres (most recent inventory) | 11529 | | | | | | | |
| Streamflow depletion (actual use), AF | 9085 | | | | | | | |
| 1947 depletion, AF | 10804 | | | | | | | |
| Difference (actual use - 1947 depletion), TAF | -1.7 | | | | | | | |
| Adjustment to Gaged Flow, Pecos River below Sumner Dam, TAF = | | | | | | -1.7 | | |

| Table 6. Depletions Due to Santa Rosa Reservoir Operations - WY 2004 - (C.1.b) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/26/2005 | | | | | | | | | | | | | |
| | 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 | 47.36 | 50.49 | 37.02 | 39.73 | 39.45 | 33.77 | 31.59 | 33.99 | 36.75 | 47.39 | 50.49 | 53.30 | |
| LS content, AF, avg | 12772 | 16980 | 4812 | 6289 | 6126 | 3342 | 2528 | 3432 | 4678 | 12808 | 16980 | 21479 | |
| LS area, acres, avg | 1200 | 1478 | 502 | 588 | 579 | 405 | 342 | 411 | 493 | 1203 | 1478 | 1736 | |
| LS evap, inches | 4.71 | 3.57 | 6.91 | 6.50 | 13.59 | 11.46 | 11.02 | 9.35 | 9.41 | 5.17 | 2.72 | 2.74 | 87.15 |
| .77 LS Evap | 3.63 | 2.75 | 5.32 | 5.01 | 10.46 | 8.82 | 8.49 | 7.20 | 7.25 | 3.98 | 2.09 | 2.11 | 67.11 |
| LS Precip, inches | 0.00 | 2.19 | 0.48 | 4.31 | 0.00 | 2.36 | 3.52 | 2.49 | 1.42 | 2.61 | 1.14 | 0.15 | 20.67 |
| Net LS Evap, inches | 3.63 | 0.56 | 4.84 | 0.70 | 10.46 | 6.46 | 4.97 | 4.71 | 5.83 | 1.37 | 0.95 | 1.96 | 46.44 |
| LSum Evaploss, TAF | 0.36 | 0.07 | 0.20 | 0.03 | 0.50 | 0.22 | 0.14 | 0.16 | 0.24 | 0.14 | 0.12 | 0.28 | 2.47 |
| L S Rosa ga ht, avg | 91.46 | 81.76 | 79.33 | 12.40 | 25.05 | 27.07 | 28.25 | 30.79 | 25.95 | 17.32 | 18.86 | 19.07 | |
| LSR content, AF, avg | 5139 | 2492 | 2085 | 20754 | 41020 | 45253 | 47899 | 54049 | 41978 | 27564 | 29761 | 30101 | |
| LSR area, acres, avg | 369 | 193 | 144 | 1209 | 2016 | 2171 | 2242 | 2475 | 2050 | 1501 | 1616 | 1632 | . |
| LSR evap, inches | 3.72 | 5.16 | 8.52 | 6.34 | 11.4 | 11.16 | 10.83 | 9.57 | 7.99 | 5.37 | 4.83 | 3.76 | 88.65 |
| .77 LSR Evap | 2.86 | 3.97 | 6.56 | 4.88 | 8.78 | 8.59 | 8.34 | 7.37 | 6.15 | 4.13 | 3.72 | 2.90 | 68.26 |
| LSR precip, inches | 0.34 | 2.33 | 0.52 | 4.43 | 0.20 | 0.82 | 2.98 | 2.64 | 1.59 | 3.62 | 1.74 | 0.41 | 21.62 |
| Net LSR Evap, inches | 2.52 | 1.64 | 6.04 | 0.45 | 8.58 | 7.77 | 5.36 | 4.73 | 4.56 | 0.51 | 1.98 | 2.49 | 46.64 |
| LSR Evaploss, TAF | 0.08 | 0.03 | 0.07 | 0.05 | 1.44 | 1.41 | 1.00 | 0.98 | 0.78 | 0.06 | 0.27 | 0.34 | 6.49 |
| Total evaploss, TAF | 0.44 | 0.10 | 0.27 | 0.08 | 1.95 | 1.62 | 1.14 | 1.14 | 1.02 | 0.20 | 0.38 | 0.62 | 8.97 |
| Sum contents, AF | 17911 | 19472 | 6897 | 27043 | 47146 | 48595 | 50427 | 57481 | 46656 | 40372 | 46741 | 51580 | |
| 1947 area, acres | 1000 | 1047 | 600 | 1444 | 2123 | 2185 | 2261 | 2642 | 2022 | 1937 | 2105 | 2316 | |
| 1947 evaploss, TAF | 0.30 | 0.05 | 0.24 | 0.08 | 1.85 | 1.18 | 0.94 | 1.04 | 0.98 | 0.22 | 0.17 | 0.38 | 7.43 |
| current-1947evaploss | 0.14 | 0.05 | 0.03 | 0.00 | 0.09 | 0.45 | 0.21 | 0.10 | 0.04 | -0.02 | 0.22 | 0.24 | 1.54 |
| | | | | | | Annual adjustment for excess evaporation = | | | | | | | 1.5 |
| ADJUSTMENT FOR EXCESSIVE STORAGE IN SANTA ROSA RESERVOIR | | | | | | | | | | | | | |
| | | | 2003 | 2003 | 2004 | 2004 | | | | | | | |
| | | | Gage | Storage | Gage | Storage | | | | | | | |
| EndYear Sumner Sto | | | 4246.19 | 11440 | 4253.30 | 21479 | | | | | | | |
| EndYear S R Sto | | | 4691.27 | 5069 | 4719.08 | 30101 | | | | | | | |
| Sum | | | | 16509 | | 51580 | | | | | | | |
| Sto Adjustment, AF | | | | | | 0 | | | | | | | |
| Adjustm Ex Evap, TAF | | | | | | 1.5 | | | | | | | |
| Total Adjustment,TAF | | | | | | 1.5 | | | | | | | |



| Table 7. Carlsbad Springs New Water WY 2004 - (B.4.c) | | | | | |
|---|---|---|---|---|---|
| 6/26/2005 | | | | | |
| | | TAF | AF/day | cfs | Totals |
| | | | | | |
| Pecos R bel DC | | 91.3 | 249.4 | 125.7 | 125.7 |
| Dark Canyon | | 28.4 | 77.5 | 39.1 | 39.1 |
| Pecos R bel Lake Av, cfs | | 57.7 | 157.7 | 79.5 | 79.5 |
| Depletion, cfs | | | | | 2.0 |
| CID lag seep, cfs (from Table 8) | | | | | 4.8 |
| Return flow, cfs | | | | | 1.0 |
| Lake Av lagged seep, cfs (from Table 9) | | | | | 21.0 |
| PR seepage, cfs | | | | | 3.0 |
| Carls new water, cfs | | | | | -20.6 |
| Carls new wat, TAF | | | | | -14.9 |
| Carls new wat monthly, TAF | | | | | -1.2 |
| | | | | | |

| Table 8. Carlsbad Main Canal Seepage Lagged - WY 2004 - [B.4.c.(1)(e)] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/25/2005 | | | | | | | | | | | | | |
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTAL |
| | | | | | | | | | | | | | |
| WY 2004 | | | | | | | | | | | | | |
| CID, TAF | 0 | 0 | 0 | 2.83 | 12.99 | 9.92 | 9.18 | 8.23 | 6.58 | 0.896 | 0 | 0 | 50.6 |
| days/mo | 31 | 29 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 366 |
| cfs | 0.0 | 0.0 | 0.0 | 47.6 | 211.3 | 166.7 | 149.3 | 133.8 | 110.6 | 14.6 | 0.0 | 0.0 | 69.5 |
| cfs, qtr avg | | | 0.0 | | | 142.6 | | | 131.5 | | | 4.9 | |
| | | | | | | | | | | | | | |
| WY 2003 | | 1Q | 2Q | 3Q | 4Q | | | | | | | | |
| FLOWS, cfs | | | | 73.2 | 10.4 | | | | | | | | |
| SEVEN % | | | | 5.1 | 0.7 | | | | | | | | |
| WY 2004 | | 1Q | 2Q | 3Q | 4Q | | | | | | | | |
| FLOWS, cfs | | 0.0 | 142.6 | 131.5 | 4.9 | | | | | | | | |
| SEVEN % | | 0.0 | 10.0 | 9.2 | 0.3 | | | | | | | | |
| LAG | | 1.1 | 5.1 | 7.9 | 4.9 | Avg = | 4.8 | cfs | | | | | |

| Table 9. Lake Avalon Leakage Lagged - WY 2004 - B.4.c.(1)(g) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/25/2005 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| WY 2004 | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOT |
| | | | | | | | | | | | | | |
| WS NM rept | 74.34 | 75.03 | 75.68 | 76.41 | 73.40 | 73.46 | 74.23 | 74.74 | 73.24 | 76.80 | 74.07 | 72.97 | |
| ga ht, avg* | 17.34 | 18.03 | 18.68 | 19.41 | 16.40 | 16.46 | 17.23 | 17.74 | 16.24 | 19.80 | 17.07 | 15.97 | |
| cfs | 20.9 | 24.2 | 27.3 | 30.8 | 16.4 | 16.7 | 20.4 | 22.8 | 15.6 | 32.6 | 19.6 | 14.3 | |
| days | 31 | 29 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 365 |
| cfs avg | 24.1 | | | 21.2 | | | 19.6 | | | 22.2 | | | 21.8 |
| | | | | | | | | | | | | | |
| 2003 | | 1Q | 2Q | 3Q | 4Q | | | | | | | | |
| cfs | | | | 16.9 | 16.9 | | | | | | | | |
| | | | | | | | | | | | | | |
| 2004 | | 1Q | 2Q | 3Q | 4Q | | | | | | | | |
| | | | | | | | | | | | | | |
| cfs | | 24.1 | 21.2 | 19.6 | 22.2 | | | | | | | | |
| lag cfs | | 20.5 | 21.5 | 20.9 | 21.2 | Avg = | 21.0 | cfs | | | | | |
| * Computed as WS elev by NM Report minus Gage datum at 3257.0 (USBR datum) | | | | | | | | | | | | | |

| Table 10. Evaporation Loss at Lake Avalon - WY 2004 - (B.4.f) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/25/2005 | | | | | | | | | | | | | |
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOT |
| Av WS NM Rept | 74.34 | 75.03 | 75.68 | 76.41 | 73.40 | 73.46 | 74.23 | 74.73 | 73.24 | 76.80 | 74.07 | 72.97 | |
| Avalon ga ht, avg, ft* | 17.34 | 18.03 | 18.68 | 19.41 | 16.40 | 16.46 | 17.23 | 17.73 | 16.24 | 19.80 | 17.07 | 15.97 | |
| Avg area Avalon, ac** | 694 | 739 | 785 | 837 | 636 | 640 | 687 | 719 | 626 | 865 | 677 | 610 | |
| Panevap Brantley, in. | 4.65 | 5.8 | 7.68 | 8.43 | 14.66 | 13.98 | 13.72 | 11.7 | 8.86 | 7.27 | 4.8 | 4.34 | 105.89 |
| Lakeevap Brantley, in. | 3.58 | 4.47 | 5.91 | 6.49 | 11.29 | 10.76 | 10.56 | 9.01 | 6.82 | 5.60 | 3.70 | 3.34 | 81.54 |
| Precip Brantley, in. | 0.24 | 1.02 | 1.56 | 6.7 | 1.13 | 0.9 | 3.81 | 2.09 | 3.2 | 0.86 | 4.03 | 0.62 | 26.16 |
| Netevap, inches | 3.34 | 3.45 | 4.35 | -0.21 | 10.16 | 9.86 | 6.75 | 6.92 | 3.62 | 4.74 | -0.33 | 2.72 | 55.38 |
| Evaploss Av, TAF | 0.2 | 0.2 | 0.3 | 0.0 | 0.5 | 0.5 | 0.4 | 0.4 | 0.2 | 0.3 | 0.0 | 0.1 | 3.2 |
| * Computed as WS elev by NM Report minus Gage datum at 3257.0 (USBR datum) | | | | | | | | | | | | | |
| ** Based on USBR Area and Capacity Table in effect January 1, 1997 | | | | | | | | | | | | | |

Table 11. Change in Storage, Lake Avalon - WY 2004 - (B.4.g)

(Gage heights are end of month)

4/23/2005

| | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2003 | 2004 | | | | | | | | | | | | |
| WS NM Rept | 73.90 | 74.70 | 75.30 | 75.90 | 73.40 | 73.40 | 74.20 | 77.17 | 73.40 | 73.60 | 77.35 | 72.40 | 73.50 | |
| Gage EOM, ft* | 16.90 | 17.70 | 18.30 | 18.90 | 16.40 | 16.40 | 17.20 | 20.17 | 16.40 | 16.60 | 20.35 | 15.40 | 16.50 | |
| Storage, AF** | 1722 | 2275 | 2718 | 3185 | 1397 | 1397 | 1925 | 4259 | 1397 | 1525 | 4421 | 790 | 1461 | |
| Change sto, TAF | | 0.6 | 0.4 | 0.5 | -1.8 | 0.0 | 0.5 | 2.3 | -2.9 | 0.1 | 2.9 | -3.6 | 0.7 | -0.3 |

* Computed as WS elev by NM Report minus Gage datum at 3257.0 (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 2004 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/26/2005 | | | | | | | | | | | | | |
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTAL |
| | | | | | | | | | | | | | |
| STREAMFLOW GAGING RECORDS, TAF | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Pecos R b Sumner Dam | 1.8 | 2.3 | 23.7 | 3.1 | 6.4 | 5.5 | 4.7 | 3.7 | 38.5 | 4.6 | 0.5 | 0.5 | 95.2 |
| Fort Sumner Main C | 0.0 | 1.0 | 5.1 | 2.5 | 5.4 | 5.2 | 4.2 | 2.4 | 5.5 | 3.8 | 0.0 | 0.0 | 35.1 |
| Pecos R nr Artesia | 5.2 | 5.6 | 21.1 | 13.2 | 3.9 | 2.3 | 4.1 | 4.7 | 21.3 | 39.8 | 9.7 | 8.2 | 139.1 |
| Rio Penasco at Dayton | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 |
| Fourmile Draw nr Lakewood | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.5 |
| South Seven Rivers nr Lkwd | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.5 |
| Rocky Arroyo at Hwy Br nr | 0.0 | 0.0 | 0.0 | 15.6 | 0.0 | 0.0 | 3.1 | 0.1 | 0.3 | 0.1 | 0.0 | 0.0 | 19.3 |
| Pecos R at Dam Site 3 | 1.2 | 1.0 | 1.4 | 4.7 | 13.7 | 10.5 | 11.9 | 6.0 | 7.1 | 5.0 | 20.2 | 1.1 | 83.8 |
| Pecos bel Avalon Dam | 0.0 | 0.0 | 0.0 | 31.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 26.3 | 0.0 | 57.7 |
| Carlsbad Main Canal | 0.0 | 0.0 | 0.0 | 2.8 | 13.0 | 9.9 | 9.2 | 8.2 | 6.6 | 0.9 | 0.0 | 0.0 | 50.6 |
| Dark Canyon at Carlsbad | 0.0 | 0.0 | 0.0 | 27.4 | 0.0 | 0.0 | 0.7 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 28.4 |
| Pecos below Dark Canyon | 0.5 | 0.5 | 0.6 | 47.0 | 1.3 | 1.3 | 2.6 | 2.7 | 2.0 | 2.2 | 28.9 | 1.7 | 91.3 |
| Pecos R at Red Bluff | 1.5 | 1.4 | 2.0 | 49.0 | 2.2 | 2.9 | 5.2 | 3.7 | 11.2 | 9.5 | 31.5 | 5.3 | 125.2 |
| Delaware R nr Red Bluff | 0.0 | 0.0 | 0.1 | 2.8 | 0.0 | 0.5 | 1.0 | 3.1 | 6.2 | 5.3 | 0.5 | 0.2 | 19.5 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| GAGE HEIGHTS | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Avalon gage ht, end mo | 74.70 | 75.30 | 75.90 | 73.40 | 73.40 | 74.20 | 77.17 | 73.40 | 73.60 | 77.35 | 72.40 | 73.50 | |
| Avalon gage ht, avg | 74.34 | 75.03 | 75.68 | 76.41 | 73.40 | 73.46 | 74.23 | 74.73 | 73.24 | 76.80 | 74.07 | 72.97 | |
| Sumner Lake ga ht, end mo | 48.36 | 52.27 | 31.97 | 41.40 | 37.04 | 32.32 | 32.86 | 34.12 | 37.20 | 49.40 | 52.18 | 54.46 | |
| Sumner Lake gage ht, avg | 47.36 | 50.49 | 37.02 | 39.73 | 39.45 | 33.77 | 31.59 | 33.99 | 36.75 | 47.39 | 50.49 | 53.30 | |
| Lake S Rosa ga ht, end mo | 91.63 | 77.57 | 85.38 | 21.90 | 27.21 | 27.81 | 28.81 | 32.06 | 12.83 | 18.74 | 19.01 | 19.17 | |
| Lake S Rosa ga ht, avg | 91.46 | 81.76 | 79.33 | 12.40 | 25.05 | 27.07 | 28.27 | 30.87 | 25.52 | 17.46 | 18.87 | 19.08 | |
| | | | | | | | | | | | | | |
| PRECIPITATION, INCHES | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Brantley Lake | 0.24 | 1.02 | 1.56 | 6.70 | 1.13 | 0.90 | 3.81 | 2.09 | 3.20 | 0.86 | 4.03 | 0.62 | 26.16 |
| Las Vegas FAA AP | 0.06 | 0.32 | 0.35 | 1.35 | 0.07 | 1.53 | 2.75 | 3.28 | 2.27 | 2.51 | 1.48 | 0.18 | 16.15 |
| Pecos National Monument | 0.40 | 1.37 | 0.72 | 4.23 | 0 | 1.8 | 3.21 | 2.20 | 2.11 | 2.56 | 2.01 | 1.06 | 21.67 |
| Santa Rosa | 0.32 | 2.06 | 0.46 | 3.58 | 0.00 | 0.96 | 2.81 | 1.73 | 3.76 | 3.45 | 1.64 | 1.04 | 21.81 |
| Lake Santa Rosa | 0.34 | 2.33 | 0.52 | 4.43 | 0.20 | 0.82 | 2.98 | 2.64 | 1.59 | 3.62 | 1.74 | 0.41 | 21.62 |
| Sumner Lake | 0.00 | 2.19 | 0.48 | 4.31 | 0.00 | 2.36 | 3.52 | 2.49 | 1.42 | 2.61 | 1.14 | 0.15 | 20.67 |
| | | | | | | | | | | | | | |
| PAN EVAPORATION, INCHES | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Lake Santa Rosa | 3.72 | 5.16 | 8.52 | 6.34 | 11.4 | 11.16 | 10.83 | 9.57 | 7.99 | 5.37 | 4.83 | 3.76 | 88.65 |
| Lake Sumner | 4.71 | 3.57 | 6.91 | 6.50 | 13.59 | 11.46 | 11.02 | 9.35 | 9.41 | 5.17 | 2.72 | 2.74 | 87.15 |
| Brantley Lake | 4.65 | 5.80 | 7.68 | 8.43 | 14.66 | 13.98 | 13.72 | 11.70 | 8.86 | 7.27 | 4.80 | 4.34 | 105.89 |
| | | | | | | | | | | | | | |
| OTHER REPORTS | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Base Acme-Art, TAF (USGS) | 3.6 | 3.5 | 3.8 | 2.7 | 2.4 | 1.6 | 1.4 | 1.7 | 1.4 | 3.6 | 5.0 | 6.0 | 36.6 |
| Pump depl Ac-Artesia, TAF | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| 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 2005

## NEW MEXICO'S OBJECTIONS

### Table 2. Determination of Flood Inflows, Alamorgordo Dam to Artesia [B.3]

Base inflow, Acme to Artesia.

New Mexico outlined their digital method for scalping base inflow between Acme and Artesia. According to New Mexico, this digital method differs from USGS's manual method, and results in a base inflow estimate of 36,596 AF by New Mexico, as compared to USGS's estimate of 37,600 AF. USGS explained their method, contending that it is the same as in past years. As in the past, when this issue was raised by New Mexico, the River Master has reexamined the USGS computation. This procedure of re-examination was implemented as a result of a Modification of the River Master's Manual, effective December 26, 1990.

Because the scalping operation involves judgment, the River Master's estimates differ slightly from both USGS and New Mexico for a few of the time intervals. However, upon examination of USGS's graphs, it was noted that the figures written on the graph differ from those in USGS's table of base inflows. This was noted when trying to determine why New Mexico's February value differed from USGS's, when their graphs seem so close. The River Master concluded that USGS must have erred in transcribing some of the values from the graph to the table. By tabulating USGS's original report with the figures on their graphs, and comparing these with New Mexico's report, it is found that USGS and New Mexico's estimates are close. Given this, the River Master accepts New Mexico's objection and has used their value of base inflow at 36,596 acre-feet (see table below).

Table. Comparison of base inflow estimates, acre-feet

| | USGS Table | NM | Diff | USGS chart |
|---|---|---|---|---|
| Jan | 3,570 | 3,600 | -30 | 3,570 |
| Feb | 3,680 | 3,457 | 223 | 3,550 |
| Mar | 3,870 | 3,787 | 83 | 3,570 |
| Apr | 3,210 | 2,669 | 541 | 3,210 |
| May | 2,710 | 2,355 | 355 | 2,710 |
| Jun | 1,550 | 1,600 | -50 | 1,550 |
| Jul | 1,410 | 1,400 | 10 | 1,480 |
| Aug | 1,720 | 1,700 | 20 | 1,720 |
| Sep | 1,430 | 1,400 | 30 | 1,130 |

| | | | | |
|---|---|---|---|---|
| Oct | 3,570 | 3,600 | -30 | 3,570 |
| Nov | 4,760 | 5,028 | -268 | 4,760 |
| Dec | 6,030 | 6,000 | 30 | 6,030 |
| Total | 37,510 | 36,596 | 914 | 36,850 |

Note, there is a 0.2 TAF difference between New Mexico's data for Pecos River near Artesia and the reported USGS data. This difference explains the 0.2 TAF difference between the RM's and NM's flood inflow on Table 2.

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

New Mexico reported errors in the table, which did not affect the result for this computation. The errors have been corrected and correct values were entered on Table 8.

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

New Mexico noted that the table had two errors. One was a value carried over from WY 2003 and the other was a computation of first quarter results, where the leap year had not been figured into the computation. The objection is accepted and revised values added to the table.

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

As a result of the objection about Table 9, values in Table 7 were revised. Also, New Mexico noted differences in conversion factors for the Pecos River below Dark Canyon, Dark Canyon, and Pecos River below Lake Avalon. NM used a conversion factor of 1.9835 (cfs-days to acre-feet), whereas the River Master had used 723.97 AF = one cfs-year. For the leap year of 366 days, New Mexico's numbers are more accurate. After carrying over decimal points and correcting for the leap year, the River Master's flow values are the same as New Mexico's. Table 7 has been corrected.

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

The correction noted by New Mexico has been made on Table 10 and on Table 12. It does not change the value of evaporation loss, but creates more accurate tables of data.

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

Table 3 has been corrected as a result of changes in Tables 7, 8, 9, and 10. The RM's value of 66.3 TAF differs by 0.1 TAF from NM's due to an apparent difference in rounding off in Table 7.

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

New Mexico presented alternative versions of scalped hydrographs, and these will be discussed by months.

**January—March**. The differences between New Mexico are inconsequential. For these three months, New Mexico's estimate is about 0.1 TAF greater than the River Master's.

**April.**
New Mexico estimated 233 AF less than the River Master. The difference is explained by NM's estimate that the flood event is shorter than the RM estimated. The RM estimated the longer flood runoff at the Red Bluff gage as being caused by the slow release of storage from the basin from the heavy rain, and that this hydrologic event is indicated by the sharply dropping runoff at Red Bluff after April 20, when NM estimated the stream had returned to base flow. New Mexico's objection for April is rejected.

**May—August.** New Mexico estimated less flood inflow for May—June and slightly more for August. For May, the RM finds justification in NM's reason for estimating a rising base flow at Red Bluff. The flood inflow is small, and upon reexamination of this event, the River Master reaches a value of 75 AF for May. For the events that occurred between June 18 and July 18, the River Master rejects NM's scalping of the Red Bluff flows at just the bottom of the hydrograph dips. Rain fell off and on for this period and NM shows the flood event at Red Bluff to terminate too early (see June 26), in the River Master's judgment. For August, the difference between NM and the RM is inconsequential.

**September.** The major disagreement between NM and the River Master's estimate is for September. However, NM did not discuss or show the scalping lines on the graph for the period of greatest flood runoff, beginning about September 20. New Mexico's explanation ends with the situation on September 3. New Mexico did not show its scalped values for Red Bluff for the September 3 period, when the Red Bluff gage is still clearly at flood stage. Due to missing explanations, the River Master is not able to consider NM's reasoning for the flood inflow for September and rejects NM's objection for this month.

**October—December.** The differences between estimates by NM and the RM for this period were inconsequential. The River Master did not understand NM's point about not scalping Lake Avalon releases, and it appeared that the NM was using about the same methods as the RM. In any event, the results differ by very little.

After considering New Mexico's objections, the River Master has revised Table 4 to reflect values shown in this table.

| | BCB - RB RM | BCB - RB NM | Difference RM-NM | RM revised |
|---|---|---|---|---|
| Jan | 0 | 0 | 0 | 0 |
| Feb | 13 | 5 | 9 | 13 |
| Mar | 49 | 68 | -20 | 49 |
| Apr | 1,200 | 967 | 233 | 1,200 |
| May | 101 | 43 | 58 | 75 |
| Jun | 474 | 335 | 139 | 474 |
| Jul | 1,677 | 1,497 | 180 | 1,677 |
| Aug | 228 | 264 | -36 | 228 |

| | | | | |
|---|---|---|---|---|
| Sep | 8,547 | 7,170 | 1,377 | 8,547 |
| Oct | 4,743 | 4,775 | -31 | 4,743 |
| Nov | 0 | 0 | 0 | 0 |
| Dec | 42 | 48 | -6 | 42 |
| Total | 17,075 | 15,172 | 1,903 | 17,049 |

**Table 12. Data Required for River Master Manual Calculations**

Corrections as outlined by NM were made on this table. See note above related to Table 2 as it concerns NM and USGS difference on Pecos River near Artesia.

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

Corrections have been made. New Mexico's revised Table 6 has errors for August and October for Lake Santa Rosa area. It appears typographical errors were made on the spreadsheet, resulting in an error in the computed annual adjustment. The value shown the River Master's Final Report is 1.5 TAF.

**Summary of New Mexico's objections**

Because New Mexico's objections were numerous and involved both data and computations, this summary is presented to provide an easy way to review them.

| Section of Report | Objection | River Master Action |
|---|---|---|
| Table 2. Flood Inflows, Alamorgordo Dam to Artesia [B.3] | Base inflow | Accepted NM objection. |
| Table 8. Carlsbad Main Canal Seepage Lagged [B.4.c.(1)(e)] | Data entry errors on Table 8 | Objection accepted, errors corrected. |
| Table 9. Lake Avalon Leakage Lagged [B.4.c.(1)(g)] | Two errors were noted | Objection accepted, errors corrected. |
| Table 7. Carlsbad Springs New Water (B.4.c) | Table required revision as a result of Table 9 revision, also conversion factor correction needed | Objection accepted, errors corrected and changes made. |
| Table 10. Evaporation Loss at Lake Avalon (B.4.f) | Data correction needed | Objection accepted, changes made. |
| Table 3. Flood Inflows, Artesia to Carlsbad (B.4) | Table 3 should be revised as a result of revisions of Tables 7, 8, 9 and 10 | Objection accepted, changes made. |
| Table 4. Flood Inflows, Carlsbad - State Line (B.5.c) | NM objected to some of the RM's scalping decisions | One objection accepted, others rejected. See discussion. |
| Table 12. Data Required for River Master Manual Calculations | Several data errors were reported, including missing data | Objection accepted, changes made. See discussion. |

| | | |
|---|---|---|
| Table 6. Depletion Due to Santa Rosa Reservoir Operations (C.1.b) | Several data errors and omissions were noted | Objection accepted, changes made. See discussion. |

## TEXAS'S OBJECTIONS

Texas objected to omission of the Metered Diversions for Permit 3254. This issue involving 638 acre-feet is discussed above in New Mexico's objections.

## FINAL CALCULATED DEPARTURE

See Table 1, General Calculation of Annual Departures, T.A.F. (B.1.a.- d.), where corrections were made.

The Preliminary Report's Final Calculated Departure was an overage of 8.3 TAF. After considering the states' objections, the Final Determination is 8.3 TAF.