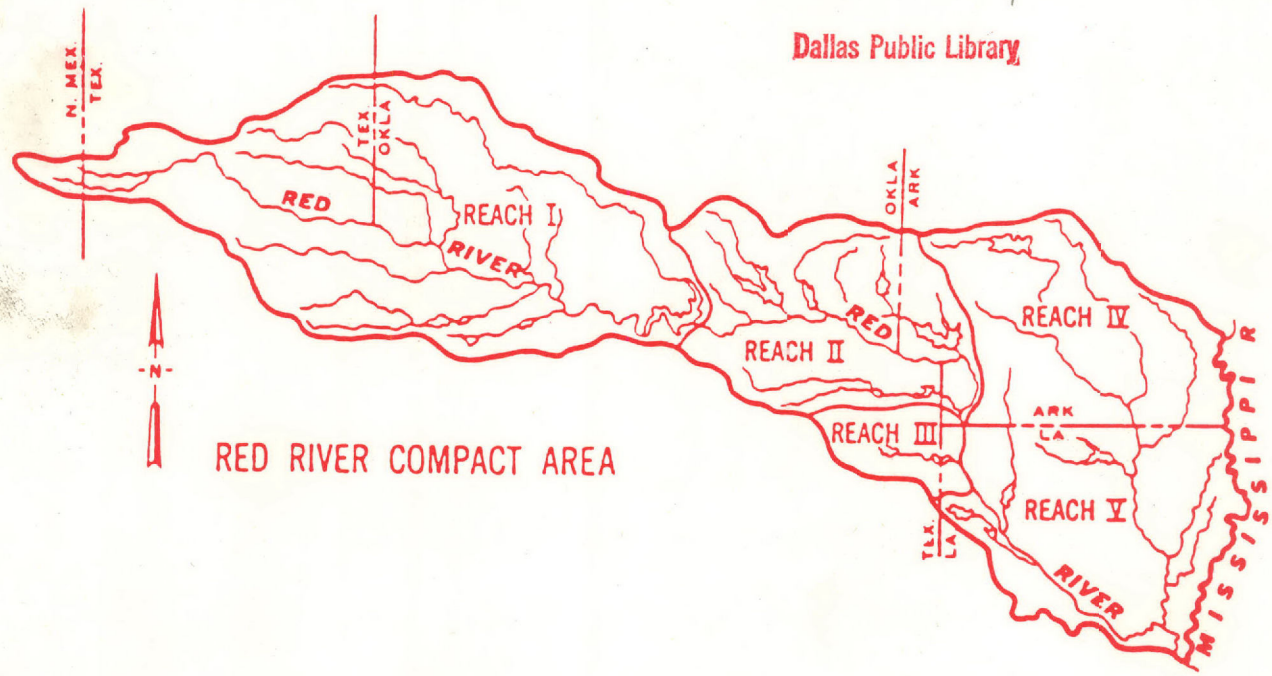
# REPORT

of the

# RED RIVER COMPACT COMMISSION

# 1988






MAY, 1989

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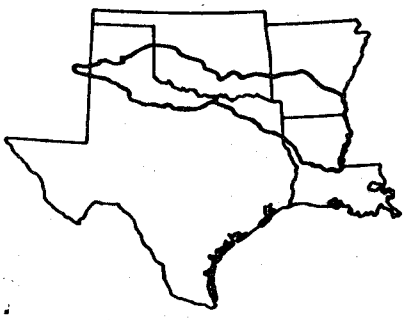

# RED RIVER COMPACT COMMISSION

One Capitol Mall, Suite 2D
Little Rock, Arkansas 72201
(501) 682-3986

May 31, 1989



The President
United States of America

The Honorable Bill Clinton, Governor
State of Arkansas

The Honorable Charles Roemer, III, Governor
State of Louisiana

The Honorable Henry Bellmon, Governor
State of Oklahoma

The Honorable William P. Clements, Governor
State of Texas

Gentlemen:

Pursuant to Section 10.02 paragraphs (d) and (e) of the Red River Compact, Arkansas-Louisiana-Oklahoma-Texas, and as directed by the Red River Compact Commission (RRCC) at its ninth annual meeting, submitted herewith is a copy of the report of the RRCC, together with an accounting of all funds received and expended by it in the conduct of its work for FY 1988. A budget covering the anticipated expenses of the Commission for FY(s) 1989 through 1991 is also included in the report.

The ninth annual meeting was chaired by Major General Thomas Allen Sands, United States Army, appointed July 8, 1988 as Federal Commissioner to the Compact Commission. The meeting was hosted by the State of Louisiana and held in Alexandria on April 25, 1989. Reports of the committee chairmen were made and accepted and committee responsibilities assigned. A resolution of appreciation was adopted for Mr. Marty J. Chabert, former Louisiana member to the Compact Commission. Mr. Randy Young, P.E., Arkansas Commissioner, was elected Vice-Chairman by acclamation. Mrs. Pris Houchens, Administrative Assistant with the Arkansas Soil and Water Conservation Commission, was elected Secretary-Treasurer.

The tenth annual meeting will be hosted in 1990 by the State of Arkansas in Hot Springs.

Sincerely,

Thomas A. Sands, Chairman
Major General, U.S. Army
Federal Commissioner

TABLE OF CONTENTS

# RED RIVER COMPACT COMMISSION MEMBERS

*Federal Commissioner*

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## RED RIVER COMPACT COMMISSION OFFICERS and COMMITTEE CHAIRMEN

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**LEGAL COMMITTEE - CHAIRMAN**
**John Frank Gibson, Jr.,** Attorney
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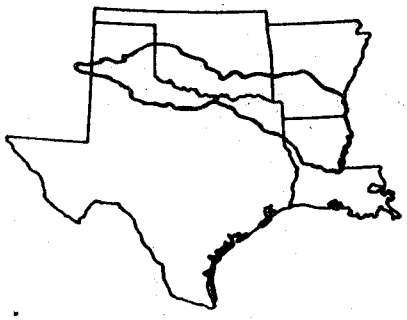


# RED RIVER COMPACT COMMISSION

## FY-89/90 BUDGET

July 1, 1988 through June 30, 1990

Adopted April 26, 1988

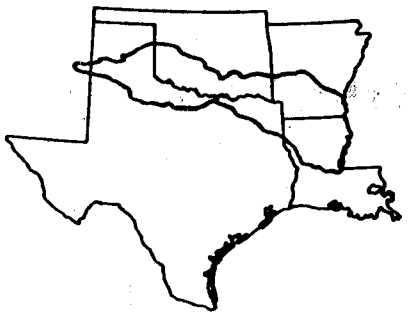
| | | |
|---|---|---|
| *Fund Balance* (3/9/88) | $3,513.07 | |
| *Projected Cash Receipts by 6/30/88* | $ 60.00 | |
| *Projected Expenditures* through 6/30/88 | $100.00 | |
| *Projected Fund Balance* | | $3.473.07 |

| | FY-89 | FY-90 |
|---|---|---|
| *Personnel Services, Office Expenses, Rent, & Travel* | $ 400.00 | *$500.00* |
| *Audit* | 350.00 | 350.00 |
| *Treasurer's Bond* | 75.00 | 75.00 |
| *Postage, Stationery, & Office Supplies* | 175.00 | *225.00* |
| *Printing & Reports* | 1,500.00 | *1,350.00* |
| *Contingency* | 1,500.00 | 1,500.00 |
| *TOTAL* | $4,000.00 | *$4,000.00* |

STATE ASSESSMENTS

In accordance with Article IX, Section 9.04.C, of the Compact, the amount of such budget shall be borne equally by the signatory states in an equal amount. Therefore, the FY-89 assessments are *$500.00* per state and the FY-90 assessments are *$500.00* per state.

J. Randy Young, P.E.
Secretary-Treasurer



# RED RIVER COMPACT COMMISSION

## FY-90/91 BUDGET

July 1, 1989 through June 30, 1991

Adopted April 25, 1989

| | | |
|---|---|---|
| *Fund Balance* (3/20/89) | $4,162.71 | |
| *Projected Cash Receipts by 6/30/89* | $100.00 | |
| *Projected Expenditures* through 6/30/89 | $800.00 | |
| *Projected Fund Balance* | | $3,462.71 |

| | FY-90 | FY-91 |
|---|---|---|
| *Personnel Services, Office Expenses, Rent, & Travel* | $500.00 | $600.00 |
| *Audit* | 350.00 | 350.00 |
| *Treasurer's Bond* | 75.00 | 75.00 |
| *Postage, Stationery, & Office Supplies* | 225.00 | 225.00 |
| *Printing & Reports* | 1,350.00 | 1,350.00 |
| *Contingency* | 1,500.00 | 1,400.00 |
| *TOTAL* | $4,000.00 | $4,000.00 |

STATE ASSESSMENTS

In accordance with Article IX, Section 9.04.C, of the Compact, the amount of such budget shall be borne equally by the signatory states in an equal amount. Therefore, the FY-90 assessments are ***$500.00*** per state and the FY-91 assessments are ***$500.00*** per state.

J. Randy Young, P.E.
Secretary-Treasurer

# FINANCIAL STATEMENTS

# RED RIVER COMPACT COMMISSION

# LITTLE ROCK, ARKANSAS

# JUNE 30, 1988 AND 1987

# BURT, GOBLE & HARRELL
CERTIFIED PUBLIC ACCOUNTANTS
A PROFESSIONAL CORPORATION

10411 W. MARKHAM STREET
LITTLE ROCK, ARKANSAS 72205
(501) 224-7900

1004 BURMAN DRIVE
JACKSONVILLE, ARKANSAS 72076
(501) 982-4497


BOARD OF COMMISSIONERS
RED RIVER COMPACT COMMISSION
LITTLE ROCK, ARKANSAS

WE HAVE EXAMINED THE STATEMENT OF ASSETS AND FUND BALANCE ARISING FROM CASH TRANSACTIONS OF RED RIVER COMPACT COMMISSION AS OF JUNE 30, 1988 AND 1987, AND THE RELATED STATEMENT OF REVENUE AND EXPENSES AND FUND BALANCE FOR THE YEARS THEN ENDED. OUR EXAMINATION WAS IN ACCORDANCE WITH GENERALLY ACCEPTED AUDITING STANDARDS AND, ACCORDINGLY, INCLUDED SUCH TESTS OF THE ACCOUNTING RECORDS AND OTHER SUCH AUDITING PROCEDURES AS WE CONSIDERED NECESSARY IN THE CIRCUMSTANCES.

AS DESCRIBED IN NOTE 2, THE COMMISSION POLICY IS TO PREPARE ITS FINANCIAL STATEMENTS ON THE BASIS OF CASH RECEIPTS AND DISBURSEMENTS. ACCORDINGLY, THE ACCOMPANYING FINANCIAL STATEMENTS ARE NOT INTENDED TO PRESENT FINANCIAL POSITION AND RESULTS OF OPERATIONS IN CONFORMITY WITH GENERALLY ACCEPTED ACCOUNTING PRINCIPLES.

IN OUR OPINION, THE FINANCIAL STATEMENTS REFERRED TO ABOVE PRESENT FAIRLY THE ASSETS AND FUND BALANCE ARISING FROM CASH TRANSACTIONS OF RED RIVER COMPACT COMMISSION AS OF JUNE 30, 1988 AND 1987, AND THE REVENUE COLLECTED AND EXPENSES PAID DURING THE YEARS THEN ENDED, ON THE BASIS OF ACCOUNTING DESCRIBED IN NOTE 2.

Burt, Goble & Harrell
CERTIFIED PUBLIC ACCOUNTANTS

AUGUST 31, 1988
JACKSONVILLE, ARKANSAS

RED RIVER COMPACT COMMISSION
STATEMENT OF ASSETS AND FUND BALANCE
JUNE 30, 1988 AND 1987

| | 1988 | 1987 |
|---|---|---|
| CASH | $ 3,431 | $ 4,537 |
| FUND BALANCE | $ 3,431 | $ 4,537 |

THE ACCOMPANYING NOTES ARE AN INTEGRAL PART OF THESE FINANCIAL STATEMENTS.

RED RIVER COMPACT COMMISSION
STATEMENT OF REVENUE AND EXPENSES AND FUND BALANCE
FOR THE YEARS ENDED JUNE 30, 1988 AND 1987

| | 1988 | 1987 |
|---|---|---|
| REVENUE | | |
| INTEREST INCOME | $ 220 | $ 295 |
| TOTAL REVENUE | 220 | 295 |
| EXPENSES | | |
| OFFICE EXPENSES | 326 | 176 |
| PRINTING AND REPRODUCTION | 494 | 434 |
| PROFESSIONAL FEES | 250 | 250 |
| PUBLIC OFFICIAL BOND | 75 | 75 |
| POSTAGE | 144 | 38 |
| CONFERENCE FACILITY RENTAL | 37 | 366 |
| TOTAL EXPENSES | 1,326 | 1,339 |
| EXCESS OF REVENUE OVER EXPENSES (EXPENSES OVER REVENUE) | ( 1,106) | ( 1,044) |
| FUND BALANCE - BEGINNING OF YEAR | 4,537 | 5,581 |
| FUND BALANCE - END OF YEAR | $ 3,431 | $ 4,537 |



THE ACCOMPANYING NOTES ARE AN INTEGRAL PART OF THESE FINANCIAL STATEMENTS.

RED RIVER COMPACT COMMISSION
NOTES TO THE FINANCIAL STATEMENTS
JUNE 30, 1988 AND 1987

NOTE 1. GENERAL COMMISSION INFORMATION

THE PRINCIPAL PURPOSES OF THIS COMPACT ARE:

(a) TO PROMOTE INTERSTATE COMITY AND REMOVE CAUSES OF CONTROVERSY BETWEEN EACH OF THE AFFECTED STATES BY GOVERNING THE USE, CONTROL AND DISTRIBUTION OF THE INTERSTATE OF THE RED RIVER AND ITS TRIBUTARIES:

(b) TO PROVIDE AN EQUITABLE APPOINTMENT AMONG THE SIGNATORY STATES OF THE WATER OF THE RED RIVER AND ITS TRIBUTARIES:

(c) TO PROMOTE AN ACTIVE PROGRAM FOR THE CONTROL AND ALLEVIATION OF NATURAL DETERIORATION AND POLLUTION OF THE WATER OF THE RED RIVER BASIN AND TO PROVIDE FOR ENFORCEMENT OF THE LAWS RELATED THERETO:

(d) TO PROVIDE THE MEANS FOR AN ACTIVE PROGRAM FOR THE CONSERVATION OF WATER, PROTECTION OF LIVES AND PROPERTY FROM FLOODS, IMPROVEMENT OF WATER QUALITY, DEVELOPMENT OF NAVIGATION AND REGULATION OF FLOWS IN THE RED RIVER BASIN: AND

(e) TO PROVIDE A BASIS FOR STATE OF JOINT STATE PLANNING AND ACTION BY ASCERTAINING AND IDENTIFYING EACH STATE'S SHARE IN THE INTERSTATE WATER OF THE RED RIVER BASIN AND THE APPORTIONMENT THEREOF.

NOTE 2. ACCOUNTING POLICY

THE FINANCIAL STATEMENTS ARE PRESENTED ON THE BASIS OF CASH RECEIPTS AND DISBURSEMENTS; CONSEQUENTLY CERTAIN REVENUE AND THE RELATED ASSETS ARE RECOGNIZED WHEN RECEIVED RATHER THAN WHEN EARNED, AND CERTAIN EXPENSES ARE RECOGNIZED PAID RATHER THAN WHEN THE OBLIGATION IS INCURRED. ACCORDINGLY, THE ACCOMPANYING FINANCIAL STATEMENTS ARE NOT INTENDED TO PRESENT FINANCIAL POSITION AND RESULTS OF OPERATIONS IN CONFORMITY WITH GENERALLY ACCEPTED ACCOUNTING PRINCIPLES.

# STREAMFLOW GAGE DATA

(as recommended for inclusion in the annual report by the Engineering Committee at the Ninth Annual Meeting of the Red River Compact Commission, April 25, 1989)

## TOTAL MONTHLY FLOWS, CUBIC FEET PER SECOND, FOR WATER YEAR OCTOBER 1987 THRU SEPEMBER 1988

| | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REACH 1, SUBBASIN 1 | | | | | | | | | | | | |
| 07300000 - Salt Fork Red River, Wellington, Texas | 556 | 890 | 1108 | 1708 | 1871 | 1933 | 1186.8 | 283.9 | 598.2 | 339.3 | 95.8 | 1374.9 |
| 07301300 - North Fork Red River, Shamrock, Texas | 0.27 | 132.31 | 1249.2 | 4910 | 2816 | 3527.6 | 2504 | 226.69 | 298.08 | 399.01 | 0.97 | 999.70 |
| 07301410 - Sweetwater Creek, Kelton, Texas | 201.3 | 321.9 | 490 | 634 | 528 | 1093 | 804 | 451 | 308.0 | 185.1 | 49.50 | 1226.7 |
| REACH 1, SUBBASIN 2 (Provisional Data) | | | | | | | | | | | | |
| 07316500 - Washita River, Cheyenne, Oklahoma | 364.0 | 453 | 591 | 1161 | 970 | 1894 | 1678 | 1063 | 440.4 | 198.8 | 6.27 | 238.2 |
| 07301420 - Sweetwater Creek, Sweetwater, Oklahoma | 290.6 | 484 | 866 | 1057 | 828 | 1626 | 1351 | 953 | 633 | 481.5 | 68.66 | 1547.8 |
| 07301500 - North Fork Red River, Carter, Oklahoma | 1752 | 3208 | 5833 | 5041 | 3878 | 6839 | 8420 | 3934 | 2485 | 1234 | 27.31 | 9027.18 |
| 07300500 - Salt Fork Red River, Mangum, Oklahoma | 721 | 1218 | 2655 | 3162 | 1683 | 3735 | 3654 | 1328 | 529.62 | 583.04 | 0.0 | 1370.67 |
| REACH 1, SUBBASIN 4 | | | | | | | | | | | | |
| 07308500 - Red River, Burkburnett, Texas | 15663 | 15188 | 19967 | 32276 | 18591 | 61124 | 44746 | 30323 | 23178 | 18518 | 7420 | 86230 |
| 07315500 - Red River, Terral, Oklahoma | 34073 | 29596 | 73898 | 76196 | 22428 | 163449 | 115070 | 29498 | 16438 | 27970 | 9786 | 128106 |
| 07316000 - Red River, Gainesville, Texas | 36081 | 38045 | 143516 | 125500 | 58060 | 221670 | 178080 | 47493 | 28093 | 37535 | 10689 | 122671 |
| REACH II, SUBBASIN 3 | | | | | | | | | | | | |
| 07340000 - Little River, Horatio, Arkansas | 22875 | 147251 | 289100 | 326410 | 126860 | 143380 | 200102 | 16424 | 10379 | 20848 | 47308 | 14224 |
| REACH IV, SUBBASIN 2 | | | | | | | | | | | | |
| 07362000 - Ouachita River, Camden, Arkansas | 33378 | 317061 | 970810 | 771100 | 342620 | 319840 | 342160 | 64190 | 38528 | 37928 | 42270 | 44183 |
| 07362100 - Smackover Creek, Smackover, Arkansas | 99.9 | 13093.1 | 45102 | 30109 | 14319 | 16820 | 13891 | 1803 | 404.6 | 190.9 | 114.3 | 119.1 |
| 07363500 - Saline River, Rye, Arkansas | 1557 | 48492 | 292950 | 389630 | 119180 | 93840 | 108800 | 12625 | 3702 | 10895 | 4022 | 1769 |
| 07369680 - Bayou Macon, Eudora, Arkansas | New Station - Data Will Be Available In 1989 Water Year | | | | | | | | | | | |

## 07331500 LAKE TEXOMA NEAR DENISON, TX

LOCATION.--Lat 33°49'05", long 96°34'20", in NE1/4 sec.33, T.8 S., R.7 E., Bryan County, OK, Hydrologic Unit 11130210, in control tower of Denison Dam on Red River, 1.2 mi upstream from Shawnee Creek, 1.8 mi upstream from Sand Creek, 4.0 mi northwest of Denison, 6.0 mi southwest of Colbert, and at mile 725.9.

DRAINAGE AREA.--39,719 mi², of which 5,936 mi² is probably noncontributing.

PERIOD OF RECORD.--July 1942 to current year. Monthend contents only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Mar. 30, 1944, non-recording gage at same site and datum. Prior to Oct. 1, 1948, supplementary nonrecording gage in Cumberland pool at the same datum.

REMARKS.--Lake is formed by a rolled earthfill dam. The controlled outlet consists of eight 20-foot-diameter conduits and the uncontrolled outlet is a concrete, ogee-type weir spillway. Flow was diverted through conduits July 27, 1942; regulated storage began Oct. 31, 1943; power pool was first filled March 15, 1945. Capacity, based on 1969 survey, 5,312,000 acre-ft at elevation 640.0 ft, crest of spillway, 2,643,000 acre-ft at elevation 617.0 ft maximum power pool; 1,031,000 acre-ft at elevation 590.0 ft, minimum power pool, in Denison pool. Dead storage, 11,000 acre-ft at elevation 610.0 ft in Cumberland pool. When contents are below 2,105,000 acre-ft, the lake is divided into two pools by protective levees around the Cumberland oil field on the Washita River arm with bottom outlet channel for the upper pool (known as Cumberland pool) at elevation 610 ft. At higher elevations the two pools are considered as being at a common level, contents being computed from gage in Denison pool. Figures given herein represent total contents of both pools. Reservoir is used principally for flood control and power development. Revised capacity table, based on survey in 1969, used since Oct. 1, 1977. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,991,300 acre-ft June 5, 1957 (elevation, 643.18 ft); minimum since power pool was first filled, 1,565,100 acre-ft Sept. 16, 1964; minimum elevation, 599.96 ft Mar. 1, 2, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,999,000 acre-ft Dec. 31, Jan. 1 (elevation, 620.81 ft); minimum, 2,251,000 acre-ft Sept. 15-17 (elevation, 612.03 ft).

Capacity table (elevation, in feet, and contents, in acre-ft)

| | | | | | |
|---|---|---|---|---|---|
| 612 | 2,248,000 | 616 | 2,557,000 | 620 | 2,920,000 |
| 614 | 2,399,000 | 618 | 2,733,000 | 622 | 3,117,000 |

RESERVOIR STORAGE, (AC-FT), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
2400-HR VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2520000 | 2434000 | 2433000 | 2986000 | 2673000 | 2500000 | 2680000 | 2589000 | 2492000 | 2452000 | 2383000 | 2262000 |
| 2 | 2510000 | 2430000 | 2428000 | 2969000 | 2662000 | 2507000 | 2696000 | 2577000 | 2492000 | 2450000 | 2377000 | 2262000 |
| 3 | 2510000 | 2428000 | 2426000 | 2949000 | 2658000 | 2515000 | 2712000 | 2570000 | 2495000 | 2447000 | 2380000 | 2263000 |
| 4 | 2514000 | 2425000 | 2425000 | 2926000 | 2642000 | 2527000 | 2737000 | 2557000 | 2496000 | 2448000 | 2375000 | 2262000 |
| 5 | 2514000 | 2422000 | 2428000 | 2901000 | 2629000 | 2584000 | 2769000 | 2546000 | 2494000 | 2450000 | 2371000 | 2261000 |
| 6 | 2509000 | 2421000 | 2460000 | 2888000 | 2612000 | 2650000 | 2777000 | 2539000 | 2493000 | 2448000 | 2368000 | 2259000 |
| 7 | 2505000 | 2423000 | 2467000 | 2865000 | 2596000 | 2699000 | 2773000 | 2537000 | 2493000 | 2446000 | 2364000 | 2258000 |
| 8 | 2498000 | 2431000 | 2474000 | 2839000 | 2582000 | 2719000 | 2760000 | 2538000 | 2492000 | 2446000 | 2358000 | 2258000 |
| 9 | 2493000 | 2439000 | 2467000 | 2818000 | 2571000 | 2717000 | 2751000 | 2536000 | 2491000 | 2446000 | 2352000 | 2257000 |
| 10 | 2490000 | 2431000 | 2459000 | 2794000 | 2558000 | 2703000 | 2732000 | 2535000 | 2488000 | 2445000 | 2348000 | 2256000 |
| 11 | 2484000 | 2424000 | 2450000 | 2771000 | 2546000 | 2697000 | 2716000 | 2534000 | 2487000 | 2446000 | 2343000 | 2256000 |
| 12 | 2478000 | 2414000 | 2452000 | 2777000 | 2532000 | 2695000 | 2707000 | 2530000 | 2485000 | 2449000 | 2338000 | 2255000 |
| 13 | 2471000 | 2411000 | 2440000 | 2773000 | 2523000 | 2686000 | 2701000 | 2526000 | 2483000 | 2451000 | 2336000 | 2253000 |
| 14 | 2467000 | 2413000 | 2443000 | 2768000 | 2525000 | 2676000 | 2692000 | 2522000 | 2481000 | 2451000 | 2330000 | 2252000 |
| 15 | 2460000 | 2438000 | 2429000 | 2763000 | 2515000 | 2668000 | 2686000 | 2515000 | 2480000 | 2449000 | 2326000 | 2251000 |
| 16 | 2457000 | 2436000 | 2418000 | 2760000 | 2509000 | 2659000 | 2683000 | 2517000 | 2478000 | 2447000 | 2322000 | 2251000 |
| 17 | 2453000 | 2428000 | 2413000 | 2761000 | 2510000 | 2668000 | 2691000 | 2514000 | 2477000 | 2445000 | 2318000 | 2256000 |
| 18 | 2451000 | 2424000 | 2410000 | 2766000 | 2524000 | 2678000 | 2689000 | 2512000 | 2475000 | 2444000 | 2316000 | 2262000 |
| 19 | 2452000 | 2415000 | 2467000 | 2771000 | 2524000 | 2678000 | 2685000 | 2507000 | 2474000 | 2441000 | 2311000 | 2264000 |
| 20 | 2440000 | 2410000 | 2512000 | 2777000 | 2523000 | 2675000 | 2683000 | 2505000 | 2472000 | 2440000 | 2308000 | 2264000 |
| 21 | 2435000 | 2403000 | 2555000 | 2780000 | 2523000 | 2667000 | 2681000 | 2503000 | 2472000 | 2437000 | 2301000 | 2307000 |
| 22 | 2433000 | 2410000 | 2587000 | 2784000 | 2520000 | 2656000 | 2679000 | 2502000 | 2472000 | 2433000 | 2298000 | 2356000 |
| 23 | 2433000 | 2402000 | 2611000 | 2770000 | 2522000 | 2648000 | 2678000 | 2499000 | 2470000 | 2429000 | 2294000 | 2401000 |
| 24 | 2432000 | 2411000 | 2636000 | 2758000 | 2517000 | 2643000 | 2667000 | 2495000 | 2466000 | 2425000 | 2291000 | 2430000 |
| 25 | 2429000 | 2412000 | 2695000 | 2742000 | 2510000 | 2645000 | 2662000 | 2493000 | 2463000 | 2420000 | 2287000 | 2453000 |
| 26 | 2439000 | 2420000 | 2763000 | 2735000 | 2503000 | 2645000 | 2654000 | 2490000 | 2460000 | 2416000 | 2282000 | 2474000 |
| 27 | 2439000 | 2429000 | 2835000 | 2725000 | 2505000 | 2641000 | 2639000 | 2488000 | 2457000 | 2410000 | 2277000 | 2488000 |
| 28 | 2437000 | 2432000 | 2913000 | 2715000 | 2502000 | 2635000 | 2625000 | 2485000 | 2456000 | 2406000 | 2274000 | 2499000 |
| 29 | 2434000 | 2435000 | 2952000 | 2703000 | 2502000 | 2641000 | 2612000 | 2482000 | 2460000 | 2402000 | 2269000 | 2519000 |
| 30 | 2432000 | 2439000 | 2986000 | 2695000 | --- | 2651000 | 2604000 | 2481000 | 2456000 | 2396000 | 2267000 | 2526000 |
| 31 | 2433000 | --- | 2999000 | 2690000 | --- | 2660000 | --- | 2476000 | --- | 2391000 | 2265000 | --- |
| MAX | 2520000 | 2439000 | 2999000 | 2986000 | 2673000 | 2719000 | 2777000 | 2589000 | 2496000 | 2452000 | 2383000 | 2526000 |
| MIN | 2429000 | 2402000 | 2410000 | 2690000 | 2502000 | 2500000 | 2604000 | 2476000 | 2456000 | 2391000 | 2265000 | 2251000 |
| (†) | 614.44 | 614.52 | 620.81 | 617.52 | 615.31 | 617.19 | 616.55 | 615.00 | 614.70 | 613.87 | 612.22 | 615.61 |
| (Φ) | -96,000 | +6,000 | +560,000 | -309,000 | -188,000 | +158,000 | -56,000 | -128,000 | -20,000 | -65,000 | -126,000 | +261,000 |

CAL YR 1987 MAX 4635000 MIN 2402000 (Φ) +353,000
WTR YR 1988 MAX 2999000 MIN 2251000 (Φ) -3,000

(†) Elevation, in feet, at end of month.
(Φ) Change in contents, in acre-feet.

## 07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX

LOCATION.--Lat 33°49'08", long 96°33'47", Grayson County, Hydrologic Unit 11140101, on right bank 1,800 ft downstream from Denison Dam powerhouse, 0.4 mi upstream from Shawnee Creek (spillway flow return), 4.5 mi north of Denison, and at mile 725.5.

DRAINAGE AREA.--39,720 mi², of which 5,936 mi² is probably noncontributing. At site used prior to October 1961, drainage area was 39,777 mi², of which 5,936 mi² probably was noncontributing.

### WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1934, published as "near Denison, TX", and October 1934 to September 1961, published as "near Colbert, OK". Gage-height records collected at various sites in this vicinity 1892-93, 1906-28, 1931-49 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 807: 1935 (M). WSP 1211: Drainage area. WSP 1241: 1924-29, 1932-33, 1934 (M), 1935.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft above National Geodetic Vertical Datum of 1929. Oct. 9, 1923 to Sept. 24, 1934, nonrecording gage, and July 29, 1942 to Sept. 30, 1961, water-stage recorder, at county road bridge 2.5 mi downstream. Prior to Oct. 1, 1931, at datum 6.85 ft higher; Oct. 1, 1931 to Sept 24, 1934, at datum 7.07 ft higher; and July 29, 1942 to Sept. 30, 1961, at datum 2.64 ft lower; Sept. 25, 1934 to July 28, 1942, water-stage recorder at railway bridge 1.9 mi downstream at datum 7.36 ft higher.

REMARKS.--Records good. Flow regulated since October 1943 by Lake Texoma (station 07331500).

COOPERATION.--Gage-height record and 4 discharge measurements provided by U.S. Army Corps of Engineers; records computed by U.S. Geological Survey.

AVERAGE DISCHARGE.--20 years (water years 1924-43) prior to regulation by Lake Texoma, 5,684 ft³/s (4,118,000 acre-ft/yr); 44 years (water years 1945-88) since regulation by Lake Texoma, 4,734 ft³/s (3,430,000 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 201,000 ft³/s May 21, 1935 (gage height, 31.8 ft, at site and datum then in use); maximum gage height, 32.0 ft Apr. 25, 1942 (at site and datum used in 1943); minimum daily discharge, 12 ft³/s Jan. 10, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 26, 1908, reached a stage of 45.5 ft (at site and datum used July 29, 1942 to Sept. 30, 1961); from record of National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,800 ft³/s Mar. 10 (gage height, 11.11 ft); minimum daily, 157 ft³/s July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5840 | 3890 | 3860 | 17100 | 10700 | 3530 | 10900 | 9250 | 1920 | 2030 | 2130 | 912 |
| 2 | 5860 | 3890 | 3870 | 17200 | 10700 | 6760 | 10800 | 9250 | 1860 | 2010 | 1970 | 936 |
| 3 | 243 | 3930 | 1670 | 17300 | 10700 | 10100 | 10700 | 9170 | 1890 | 2020 | 1950 | 918 |
| 4 | 113 | 3910 | 2750 | 17200 | 10800 | 11000 | 12600 | 9220 | 2590 | 2000 | 1970 | 901 |
| 5 | 5700 | 3120 | 124 | 17300 | 10700 | 10900 | 15600 | 9150 | 2640 | 2040 | 1950 | 892 |
| 6 | 3180 | 3120 | 289 | 17300 | 10800 | 10900 | 18300 | 6800 | 2090 | 2050 | 2060 | 895 |
| 7 | 3110 | 1950 | 2840 | 17200 | 10800 | 10800 | 20400 | 6060 | 1960 | 2050 | 2060 | 722 |
| 8 | 3130 | 818 | 3290 | 15000 | 10800 | 16900 | 19400 | 5570 | 1840 | 2060 | 2220 | 710 |
| 9 | 3970 | 3020 | 5900 | 13600 | 9470 | 20600 | 17800 | 6080 | 1820 | 2020 | 2230 | 715 |
| 10 | 3110 | 3850 | 5890 | 13700 | 9410 | 20600 | 17700 | 4130 | 1920 | 2020 | 2070 | 710 |
| 11 | 3110 | 3850 | 5860 | 11500 | 9390 | 17800 | 15400 | 4120 | 1530 | 2070 | 2050 | 707 |
| 12 | 3110 | 5460 | 304 | 10600 | 9480 | 14600 | 12300 | 4220 | 1470 | 157 | 2010 | 710 |
| 13 | 3480 | 2820 | 6210 | 10600 | 6710 | 14600 | 11600 | 4210 | 1420 | 2010 | 2040 | 708 |
| 14 | 3120 | 117 | 6890 | 10600 | 6240 | 13100 | 11600 | 4220 | 1480 | 2030 | 2050 | 703 |
| 15 | 4010 | 283 | 6650 | 10500 | 6270 | 11500 | 9310 | 4210 | 1590 | 1670 | 2050 | 732 |
| 16 | 3090 | 5930 | 7040 | 10600 | 5620 | 11500 | 7800 | 2840 | 1520 | 2040 | 2060 | 728 |
| 17 | 2310 | 5880 | 4300 | 10500 | 3210 | 11700 | 7790 | 3050 | 1510 | 2060 | 2050 | 549 |
| 18 | 2300 | 5960 | 4000 | 10500 | 3240 | 11500 | 7720 | 3050 | 1520 | 2050 | 2040 | 564 |
| 19 | 3400 | 5730 | 4590 | 10500 | 5560 | 11500 | 7740 | 3060 | 1490 | 2080 | 2040 | 236 |
| 20 | 5180 | 4890 | 4090 | 10500 | 5450 | 11500 | 7750 | 3060 | 1890 | 2070 | 2060 | 205 |
| 21 | 2310 | 2830 | 3950 | 10500 | 4620 | 11600 | 8860 | 2460 | 1570 | 2060 | 2050 | 203 |
| 22 | 159 | 121 | 5770 | 15300 | 5490 | 11600 | 10600 | 2420 | 2100 | 2090 | 2050 | 196 |
| 23 | 2270 | 5730 | 6460 | 16600 | 1950 | 11600 | 10500 | 2270 | 2090 | 2070 | 1650 | 204 |
| 24 | 3890 | 3900 | 6750 | 16500 | 6500 | 8240 | 10600 | 2490 | 2110 | 2060 | 1650 | 209 |
| 25 | 2420 | 4360 | 7430 | 13400 | 6400 | 5600 | 10500 | 2280 | 2670 | 2060 | 1660 | 200 |
| 26 | 4040 | 235 | 5590 | 10700 | 6270 | 5570 | 10500 | 2290 | 2660 | 2400 | 1660 | 200 |
| 27 | 5080 | 124 | 2280 | 10600 | 2680 | 5590 | 10600 | 2290 | 2690 | 2120 | 1290 | 204 |
| 28 | 5060 | 111 | 1970 | 10600 | 3410 | 5640 | 10600 | 1930 | 3350 | 2110 | 1280 | 221 |
| 29 | 5080 | 113 | 5790 | 10600 | 3590 | 5610 | 9270 | 1890 | 2680 | 2100 | 920 | 224 |
| 30 | 5070 | 1470 | 10300 | e10600 | --- | 5580 | 9230 | 1900 | 2630 | 2130 | 918 | 204 |
| 31 | 3890 | --- | 13300 | e10700 | --- | 7290 | --- | 1880 | --- | 2120 | 909 | --- |
| TOTAL | 106635 | 91412 | 150007 | 405400 | 206960 | 335310 | 354470 | 134820 | 60500 | 61857 | 57097 | 16218 |
| MEAN | 3440 | 3047 | 4839 | 13080 | 7137 | 10820 | 11820 | 4349 | 2017 | 1995 | 1842 | 541 |
| MAX | 5860 | 5960 | 13300 | 17300 | 10800 | 20600 | 20400 | 9250 | 3350 | 2400 | 2230 | 936 |
| MIN | 113 | 111 | 124 | 10500 | 1950 | 3530 | 7720 | 1880 | 1420 | 157 | 909 | 196 |
| AC-FT | 211500 | 181300 | 297500 | 804100 | 410500 | 665100 | 703100 | 267400 | 120000 | 122700 | 113300 | 32170 |

CAL YR 1987 TOTAL 4470628 MEAN 12250 MAX 51200 MIN 65 AC-FT 8867000
WTR YR 1988 TOTAL 1980686 MEAN 5412 MAX 20600 MIN 111 AC-FT 3929000

e Estimated.

## 07337000 RED RIVER AT INDEX, ARK.
(National stream-quality accounting network station)

LOCATION.--Lat 33°33'07", long 94°02'28", in NW¼SW¼ sec.7, T.14 S., R.28 W., Miller County, Hydrologic Unit 11140106, near right bank on downstream side of southbound bridge on U.S. Highway 71 at Index, 2.2 mi south of Ogden, 20.6 mi upstream from Little River, and at mile 485.3.

DRAINAGE AREA.--48,030 mi², of which 5,936 mi² is probably noncontributing.

### WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1936 to current year. Gage-height records collected at same site since 1917 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 246.87 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 12, 1939, nonrecording gage, and Dec. 12, 1939, to July 19, 1979, water-stage recorder, at site 500 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Water-discharge records good. Some regulation since Oct. 31, 1943, by Lake Texoma (Texas), 241 mi upstream, capacity, 5,392,900 acre-ft, since Sept. 28, 1967, by Pat Mayse Lake (Texas), capacity, 352,700 acre-ft, and since Jan. 18, 1974, by Hugo Lake (Oklahoma) capacity, 966,700 acre-ft. Satellite telemeter at station.

AVERAGE DISCHARGE.--52 years, 12,050 ft³/s, 8,730,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 297,000 ft³/s Feb. 23, 1938, gage height, 34.25 ft; minimum, 378 ft³/s Nov. 28, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 87,700 ft³/s Dec. 28, gage height, 19.75 ft; minimum daily, 1,030 ft³/s Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4720 | 6890 | 11900 | 46100 | 14500 | 9900 | 18900 | 13900 | 3580 | 3080 | 2790 | 2180 |
| 2 | 3920 | 6420 | 9430 | 49200 | 14900 | 8630 | 20300 | 13500 | 3560 | 3320 | 2780 | 2070 |
| 3 | 3240 | 6100 | 9230 | 50000 | 16000 | 8550 | 22800 | 12900 | 3490 | 3600 | 2680 | 2000 |
| 4 | 2590 | 5800 | 8850 | 49300 | 16600 | 8880 | 24800 | 12100 | 3550 | 3980 | 2640 | 1860 |
| 5 | 3150 | 5210 | 8520 | 44900 | 19600 | 15600 | 25700 | 11500 | 3610 | 3790 | 2600 | 1700 |
| 6 | 4950 | 4750 | 7920 | 40700 | 21400 | 26900 | 28100 | 11300 | 3620 | 3510 | 2620 | 1700 |
| 7 | 5490 | 4550 | 7460 | 38900 | 19800 | 28200 | 29900 | 11200 | 3700 | 3190 | 2600 | 1610 |
| 8 | 4250 | 4510 | 6540 | 38000 | 17700 | 27300 | 30100 | 11100 | 3670 | 2970 | 2570 | 1680 |
| 9 | 2800 | 5100 | 6480 | 36900 | 16200 | 27400 | 30000 | 11000 | 3570 | 2890 | 2520 | 1780 |
| 10 | 3000 | 6490 | 10700 | 36000 | 15500 | 26100 | 28200 | 10000 | 3730 | 2850 | 2490 | 1650 |
| 11 | 3940 | 8240 | 14100 | 34100 | 15000 | 25200 | 26500 | 9010 | 3730 | 2820 | 2480 | 1570 |
| 12 | 3820 | 8270 | 11100 | 31600 | 14400 | 27000 | 24800 | 8550 | 3450 | 3010 | 2620 | 1530 |
| 13 | 3690 | 6340 | 9060 | 31100 | 13100 | 28400 | 23200 | 8230 | 3220 | 3220 | 2850 | 1490 |
| 14 | 3840 | 5260 | 11500 | 32100 | 12100 | 25700 | 21700 | 7680 | 3110 | 4040 | 3450 | 1430 |
| 15 | 3910 | 5590 | 13700 | 35700 | 11400 | 20800 | 19000 | 6480 | 3040 | 4540 | 3620 | 1390 |
| 16 | 3740 | 8200 | 12600 | 37700 | 10700 | 18800 | 17400 | 6130 | 2980 | 5050 | 3170 | 1350 |
| 17 | 3700 | 19400 | 16700 | 35000 | 9380 | 17800 | 16800 | 6000 | 2830 | 5620 | 2880 | 1320 |
| 18 | 3810 | 31900 | 22000 | 31800 | 9480 | 16100 | 16600 | 5900 | 2720 | 4710 | 2900 | 1320 |
| 19 | 3900 | 37600 | 20500 | 29700 | 12700 | 15300 | 17200 | 5800 | 2660 | 3970 | 2860 | 1330 |
| 20 | 4030 | 32600 | 18000 | 27700 | 19200 | 18200 | 19200 | 5580 | 2640 | 3460 | 2760 | 1340 |
| 21 | 4140 | 25600 | 20900 | 26500 | 24200 | 24100 | 25200 | 4950 | 2640 | 3020 | 2770 | 1340 |
| 22 | 3870 | 19700 | 30500 | 26600 | 25000 | 25100 | 26700 | 4730 | 2610 | 2940 | 2820 | 1330 |
| 23 | 3520 | 16100 | 32100 | 26200 | 21900 | 23100 | 23400 | 4600 | 2570 | 2910 | 2740 | 1320 |
| 24 | 3680 | 14300 | 30900 | 24200 | 19300 | 20300 | 19200 | 4600 | 2590 | 2830 | 2890 | 1280 |
| 25 | 4530 | 14800 | 35400 | 22300 | 18800 | 17900 | 15100 | 4550 | 2620 | 2780 | 3110 | 1250 |
| 26 | 4630 | 15700 | 53500 | 24200 | 17300 | 16300 | 14900 | 4360 | 2600 | 2750 | 3020 | 1180 |
| 27 | 3900 | 14800 | 77500 | 24300 | 14800 | 16500 | 15000 | 4040 | 2600 | 2790 | 2750 | 1110 |
| 28 | 3530 | 18000 | 86500 | 22100 | 12900 | 15500 | 14700 | 3870 | 2630 | 2820 | 2600 | 1060 |
| 29 | 5100 | 20800 | 74900 | 18600 | 10900 | 13100 | 14400 | 3800 | 2780 | 2790 | 2420 | 1030 |
| 30 | 6690 | 16700 | 54400 | 16000 | --- | 12600 | 14100 | 3760 | 2850 | 2750 | 2300 | 1080 |
| 31 | 7130 | --- | 47000 | 14900 | --- | 15400 | --- | 3640 | --- | 2730 | 2240 | --- |
| TOTAL | 127210 | 395720 | 779890 | 1002400 | 464760 | 600660 | 643900 | 234760 | 92950 | 104730 | 85540 | 44280 |
| MEAN | 4104 | 13190 | 25160 | 32340 | 16030 | 19380 | 21460 | 7573 | 3098 | 3378 | 2759 | 1476 |
| MAX | 7130 | 37600 | 86500 | 50000 | 25000 | 28400 | 30100 | 13900 | 3730 | 5620 | 3620 | 2180 |
| MIN | 2590 | 4510 | 6480 | 14900 | 9380 | 8550 | 14100 | 3640 | 2570 | 2730 | 2240 | 1030 |
| AC-FT | 252300 | 784900 | 1547000 | 1988000 | 921900 | 1191000 | 1277000 | 465600 | 184400 | 207700 | 169700 | 87830 |

CAL YR 1987 TOTAL 7317840 MEAN 20050 MAX 86500 MIN 2590 AC-FT 14510000
WTR YR 1988 TOTAL 4576800 MEAN 12500 MAX 86500 MIN 1030 AC-FT 9078000

## 07364150 BAYOU BARTHOLOMEW NEAR MCGEHEE, ARK.

LOCATION.--Lat 33°37'40", long 91°26'45", in NE¼SW¼ sec.30, T.12 S., R.3 W., Desha County, Hydrologic Unit 08050001, near center of stream on downstream side of bridge on State Highway 4, 2.7 mi west of McGehee, 17.5 mi downstream from Ables Creek, at at mile 200.5.

DRAINAGE AREA.--576 mi².

PERIOD OF RECORD.--October 1938 to September 1942, October 1945 to current year. Gage-height records collected and occasional discharge measurements made by U.S. Army Corps of Engineers at this site since August 1938. Daily stages 1940 to date and results of discharge measurements 1938, 1947 to date are published in reports of U.S. Army Corps of Engineers.

REVISED RECORDS.--WRD Ark. 1979: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 120.48 ft above National Geodetic Vertical Datum of 1929, supplementary adjustment of 1941. Prior to Sept. 7, 1949, nonrecording gage at same site. October 1938 to June 6, 1972, at datum 1.00 ft higher. Since Jan. 20, 1971, auxiliary water-stage recorder 14 mi upstream.

REMARKS.--Records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--47 years (1939-42, 1946-88), 676 ft³/s, 15.94 in/yr, 489,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,870 ft³/s May 11, 1958, gage height, 25.49 ft, present datum; minimum, 0.20 ft³/s Aug. 15-23, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1930, that of May 11, 1958. Flood in 1932 reached a stage of 23.4 ft, present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,600 ft³/s Jan. 7; maximum gage height, 20.80 ft Jan. 8; minimum daily discharge, 4.0 ft³/s July 9-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 56 | 28 | 2320 | 3850 | 2120 | 829 | 678 | 695 | 64 | 7.0 | 52 | 86 |
| 2 | 48 | 29 | 2270 | 4090 | 1860 | 790 | 767 | 654 | 61 | 5.9 | 84 | 85 |
| 3 | 43 | 31 | 2190 | 4270 | 1600 | 763 | 837 | 613 | 60 | e5.5 | 125 | 84 |
| 4 | 38 | 29 | 2090 | 4400 | 1360 | 714 | 863 | 568 | 54 | e5.0 | 148 | 81 |
| 5 | 34 | 28 | 1970 | 4450 | 1140 | 666 | 880 | 517 | 43 | e5.0 | 146 | 70 |
| 6 | 31 | 29 | 1850 | 4510 | 971 | 611 | 892 | 459 | 33 | e4.5 | 128 | 63 |
| 7 | 29 | 30 | 1730 | 4590 | 870 | 554 | 881 | 398 | 27 | e4.5 | 103 | 59 |
| 8 | 27 | 31 | 1590 | 4580 | 823 | 536 | 853 | 343 | 22 | e4.5 | 78 | 56 |
| 9 | 26 | 39 | 1470 | 4570 | 778 | 669 | 811 | 288 | 19 | e4.0 | 55 | 56 |
| 10 | 25 | 56 | 1350 | 4490 | 739 | 733 | 764 | 233 | 17 | e4.0 | 39 | 58 |
| 11 | 24 | 81 | 1240 | 4320 | 709 | 744 | 724 | 186 | 16 | e4.0 | 33 | 63 |
| 12 | 23 | 121 | 1120 | 4090 | 672 | 745 | 682 | 147 | 15 | e4.0 | 29 | 70 |
| 13 | 23 | 154 | 1010 | 3850 | 635 | 748 | 644 | 116 | 16 | 10 | 27 | 73 |
| 14 | 23 | 183 | 905 | 3610 | 591 | 728 | 612 | 93 | 17 | 34 | 27 | 70 |
| 15 | 23 | 223 | 811 | 3310 | 562 | 699 | 588 | 76 | 18 | 57 | 33 | 64 |
| 16 | 23 | 686 | 712 | 3020 | 555 | 669 | 561 | 65 | 17 | 67 | 42 | 59 |
| 17 | 23 | 1240 | 615 | 2840 | 570 | 632 | 525 | 57 | 16 | 71 | 50 | 53 |
| 18 | 23 | 1560 | 527 | 2660 | 619 | 600 | 605 | 50 | 16 | 75 | 55 | 47 |
| 19 | 23 | 1750 | 462 | 2740 | 712 | 576 | 687 | 45 | 16 | 90 | 61 | 42 |
| 20 | 23 | 1880 | 431 | 3020 | 809 | 563 | 719 | 41 | 16 | 111 | 67 | 37 |
| 21 | 23 | 1990 | 389 | 3310 | 890 | 560 | 733 | 36 | 19 | 128 | 69 | 34 |
| 22 | 23 | 2090 | 355 | 3580 | 956 | 561 | 750 | 33 | 22 | 133 | 67 | 31 |
| 23 | 23 | 2180 | 333 | 3720 | 1000 | 558 | 785 | 31 | 22 | 122 | 65 | 28 |
| 24 | 23 | 2230 | 364 | 3780 | 1030 | 549 | 824 | 30 | 21 | 100 | 78 | 26 |
| 25 | 23 | 2270 | 574 | 3750 | 1040 | 561 | 844 | 30 | 19 | 79 | 81 | 24 |
| 26 | 23 | 2280 | 800 | 3640 | 1020 | 577 | 841 | 27 | 17 | 69 | 80 | 22 |
| 27 | 23 | 2280 | 1370 | 3470 | 977 | 584 | 825 | 25 | 15 | 67 | 83 | 21 |
| 28 | 23 | 2340 | 2000 | 3240 | 929 | 586 | 800 | 25 | 13 | 60 | 85 | 21 |
| 29 | 24 | 2350 | 2580 | 2980 | 874 | 576 | 769 | 32 | 11 | 51 | 84 | 20 |
| 30 | 25 | 2340 | 3090 | 2720 | --- | 557 | 732 | 47 | 8.7 | 46 | 84 | 20 |
| 31 | 26 | --- | 3510 | 2420 | --- | 582 | --- | 61 | --- | 46 | 85 | --- |
| TOTAL | 847 | 30558 | 42028 | 113870 | 27411 | 19820 | 22476 | 6021 | 730.7 | 1473.9 | 2243 | 1523 |
| MEAN | 27.3 | 1019 | 1356 | 3673 | 945 | 639 | 749 | 194 | 24.4 | 47.5 | 72.4 | 50.8 |
| MAX | 56 | 2350 | 3510 | 4590 | 2120 | 829 | 892 | 695 | 64 | 133 | 148 | 86 |
| MIN | 23 | 28 | 333 | 2420 | 555 | 536 | 525 | 25 | 8.7 | 4.0 | 27 | 20 |
| AC-FT | 1680 | 60610 | 83360 | 225900 | 54370 | 39310 | 44580 | 11940 | 1450 | 2920 | 4450 | 3020 |
| CFSM | .05 | 1.77 | 2.35 | 6.38 | 1.64 | 1.11 | 1.30 | .34 | .04 | .08 | .13 | .09 |
| IN. | .05 | 1.97 | 2.71 | 7.35 | 1.77 | 1.28 | 1.45 | .39 | .05 | .10 | .14 | .10 |

CAL YR 1987 TOTAL 234666.6 MEAN 643 MAX 3620 MIN 9.6 AC-FT 465500 CFSM 1.12 IN. 15.16
WTR YR 1988 TOTAL 269001.6 MEAN 735 MAX 4590 MIN 4.0 AC-FT 533600 CFSM 1.28 IN. 17.37

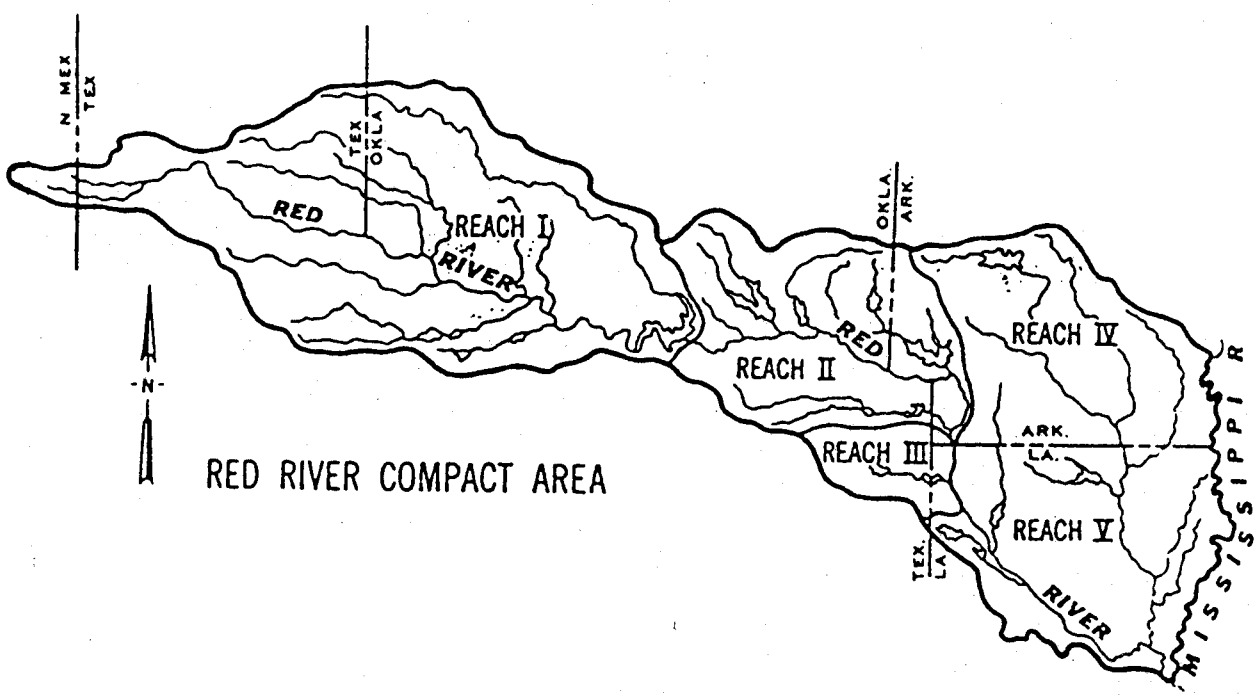
e Estimated

# *RED RIVER COMPACT*

## ARKANSAS - LOUISIANA - OKLAHOMA - TEXAS

***APPROVED BY THE***

## *RED RIVER COMPACT COMMISSION*




## MAY 12, 1978

## PREAMBLE

The States of Arkansas, Louisiana, Oklahoma, and Texas, pursuant to the acts of their respective Governors or legislatures, or both, being moved by considerations of interstate comity, have resolved to compact with respect to the water of the Red River and its tributaries. By Act of Congress, Public Law No. 346 (84th Congress, First Session), the consent of the United States has been granted for said states to negotiate and enter into a compact providing for an equitable apportionment of such water; and pursuant to that Act the President has designated the representative of the United States.

Further, the consent of Congress has been given for two or more states to negotiate and enter into agreements relating to water pollution control by the provisions of the Federal Water Pollution Control Act (P. L. 92-500, 33 U.S.C. § 1251 et seq.).

The Signatory States acting through their duly authorized Compact Commissioners, after several years of negotiations, have agreed to an equitable apportionment of the water of the Red River and its tributaries and do hereby submit and recommend that this compact be adopted by the respective legislatures and approved by Congress as hereinafter set forth:

## ARTICLE I

## PURPOSES

SECTION 1.01. The principal purposes of this Compact are:

(a) To promote interstate comity and remove causes of controversy between each of the affected states by governing the use, control and distribution of the interstate water of the Red River and its tributaries;

(b) To provide an equitable apportionment among the Signatory States of the water of the Red River and its tributaries;

(c) To promote an active program for the control and alleviation of natural deterioration and pollution of the water of the Red River Basin and to provide for enforcement of the laws related thereto;

(d) To provide the means for an active program for the conservation of water, protection of lives and property from floods, improvement of water quality, development of navigation and regulation of flows in the Red River Basin; and

(e) To provide a basis for state or joint state planning and action by ascertaining and identifying each state's share in the interstate water of the Red River Basin and the apportionment thereof.

## ARTICLE II

## GENERAL PROVISIONS

SECTION 2.01. Each Signatory State may use the water allocated to it by this Compact in any manner deemed beneficial by that state. Each state may freely administer water rights and uses in accordance with the laws of that state, but such uses shall be subject to the availability of water in accordance with the apportionments made by this Compact.

SECTION 2.02. The use of water by the United States in connection with any individual Federal project shall be in accordance with the Act of Congress authorizing the project and the water shall be charged to the state or states receiving the benefit therefrom.

SECTION 2.03. Any Signatory State using the channel of Red River or its tributaries to convey stored water shall be subject to an appropriate reduction in the amount which may be withdrawn at the point of removal to account for transmission losses.

SECTION 2.04. The failure of any state to use any portion of the water allocated to it shall not constitute relinquishment or forfeiture of the right to such use.

SECTION 2.05. Each Signatory State shall have the right to:

(a) Construct conservation storage capacity for the impoundment of water allocated by this Compact;

(b) Replace within the same area any storage capacity recognized or authorized by this Compact made unusable by any cause, including losses due to sediment storage;

(c) Construct reservoir storage capacity for the purposes of flood and sediment control as well as storage of water which is either imported or is to be exported if such storage does not adversely affect the delivery of water apportioned to any other Signatory State; and

(d) Use the bed and banks of the Red River and its tributaries to convey stored water, imported or exported water, and water apportioned according to this Compact.

SECTION 2.06. Signatory States may cooperate to obtain construction of facilities of joint benefits to such states.

SECTION 2.07. Nothing in this Compact shall be deemed to impair or affect the powers, rights, or obligations of the United States, or those claiming under its authority, in, over and to water of the Red River Basin.

SECTION 2.08. Nothing in this Compact shall be construed to include within the water apportioned by this Compact any water consumed in each state by livestock or for domestic purposes; provided, however, the storage of such water is in accordance with the laws of the respective states but any such impoundment shall not exceed 200 acre-feet, or such smaller quantity as may be provided for by the laws of each state.

SECTION 2.09. In the event any state shall import water into the Red River Basin from any other river basin, the Signatory State making the importation shall have the use of such imported water.

SECTION 2.10. Nothing in this Compact shall be deemed to:

(a) Interfere with or impair the right or power of any Signatory State to regulate within its boundaries the appropriation, use, and control of water, or quality of water, not inconsistent with its obligations under this Compact;

(b) Repeal or prevent the enactment of any legislation or the enforcement of any requirement by any Signatory State imposing any additional conditions or restrictions to further lessen or prevent the pollution or natural deterioration of water within its jurisdiction; provided nothing contained in this paragraph shall alter any provision of this Compact dealing with the apportionment of water or the rights thereto; or

(c) Waive any state's immunity under the Eleventh Amendment of the Constitution of the United States, or as constituting the consent of any state to be sued by its own citizens.

SECTION 2.11. Accounting for apportionment purposes on interstate streams shall not be mandatory under the terms of the Compact until one or more affected states deem the accounting necessary.

SECTION 2.12. For the purposes of apportionment of the water among the Signatory States, the Red River is hereby divided into the following major subdivisions:

(a) Reach I - the Red River and tributaries from the New Mexico-Texas State boundary to Denison Dam;

(b) Reach II - the Red River from Denison Dam to the point where it crosses the Arkansas-Louisiana state boundary and all tributaries which contribute to the flow of the River within this reach;

(c) Reach III - the tributaries west of the Red River which cross the Texas-Louisiana state boundary, the Arkansas-Louisiana state boundary, and those which cross both the Texas-Arkansas state boundary and the Arkansas-Louisiana state boundary.

(d) Reach IV - the tributaries east of the Red River in Arkansas which cross the Arkansas-Louisiana state boundary; and

(e) Reach V - that portion of the Red River and tributaries in Louisiana not included in Reach III or in Reach IV.

SECTION 2.13. If any part or application of this Compact shall be declared invalid by a court of competent jurisdiction, all other severable provisions and applications of this Compact shall remain in full force and effect.

SECTION 2.14. Subject to the availability of water in accordance with this Compact, nothing in this Compact shall be held or construed to alter, impair, or increase, validate, or prejudice any existing water right or right of water use that is legally recognized on the effective date of this Compact by either statutes or courts of the Signatory State within which it is located.

## ARTICLE III

## DEFINITIONS

SECTION 3.01. In this Compact:

(a) The States of Arkansas, Louisiana, Oklahoma, and Texas are referred to as "Arkansas," "Louisiana," "Oklahoma," and "Texas," respectively, or individually as "State" or "Signatory State," or collectively as "States" or "Signatory States."

(b) The term "Red River" means the stream below the crossing of the Texas-Oklahoma state boundary at longitude 100 degrees west.

(c) The term "Red River Basin" means all of the natural drainage area of the Red River and its tributaries east of the New Mexico-Texas state boundary and above its junction with Atchafalaya and Old Rivers.

(d) The term "water of the Red River Basin" means the water originating in any part of the Red River Basin and flowing to or in the Red River or any of its tributaries.

(e) The term "tributary" means any stream which contributes to the flow of the Red River.

(f) The term "interstate tributary" means a tributary of the Red River, the drainage area of which includes portions of two or more Signatory States.

(g) The term "intrastate tributary" means a tributary of the Red River, the drainage area of which is entirely within a single Signatory State.

(h) The term "Commission" means the agency created by Article IX of this Compact for the administration thereof.

(i) The term "pollution" means the alteration of the physical, chemical, or biological characteristics of water by the acts or instrumentalities of man which create or are likely to result in a material and adverse effect upon human beings, domestic or wild animals, fish and other aquatic life, or adversely affect any other lawful use of such water; provided, that for the purposes of this Compact,

"pollution" shall not mean or include "natural deterioration."

(j) The term "natural deterioration" means the material reduction in the quality of water resulting from the leaching of solubles from the soils and rocks through or over which the water flows naturally.

(k) The term "designated water" means water released from storage, paid for by non-Federal interests, for delivery to a specific point of use or diversion.

(l) The term "undesignated water" means all water released from storage other than "designated water."

(m) The term "conservation storage capacity" means that portion of the active capacity of reservoirs available for the storage of water for subsequent beneficial use, and it excludes any portion of the capacity of reservoirs allocated solely to flood control and sediment control, or either of them.

(n) The term "runoff" means both the portion of precipitation which runs off the surface of a drainage area and that portion of the precipitation that enters the streams after passing through the portions of the earth.

ARTICLE IV

APPORTIONMENT OF WATER - REACH I

OKLAHOMA - TEXAS

Subdivison of Reach I and apportionment of water therein.

Reach I of the Red River is divided into topographical subbasins, with the water therein allocated as follows:

SECTION 4.01. Subbasin 1 - Interstate streams - Texas.

(a) This includes the Texas portion of Buck Creek, Sand (Lebos) Creek, Salt Fork Red River, Elm Creek, North Fork Red River, Sweetwater Creek, and Washita River, together with all their tributaries in Texas which lie west of the 100th Meridian.

(b) The annual flow within this subbasin is hereby apportioned sixty (60) percent to Texas and forty (40) percent to Oklahoma.

SECTION 4.02. Subbasin 2 - Intrastate and Interstate streams - Oklahoma.

(a) This subbasin is composed of all tributaries of the Red River in Oklahoma and portions thereof upstream to the Texas-Oklahoma state boundary at longitude 100 degrees west, beginning from Denison Dam and upstream to and including Buck Creek.

(b) The State of Oklahoma shall have free and unrestricted use of the water of this subbasin.

SECTION 4.03. Subbasin 3 - Intrastate streams - Texas.

(a) This includes the tributaries of the Red River in Texas, beginning from Denison Dam and upstream to and including Prairie Dog Town Fork Red River.

(b) The State of Texas shall have free and unrestricted use of the water in this subbasin.

SECTION 4.04. Subbasin 4 - Mainstem of the Red River and Lake Texoma.

(a) This subbasin includes all of Lake Texoma and the Red River beginning at Denison Dam and

continuing upstream to the Texas-Oklahoma state boundary at longitude 100 degrees west.

(b) The storage of Lake Texoma and flow from the mainstem of the Red River into Lake Texoma is apportioned as follows:

(1) Oklahoma 200,000 acre-feet and Texas 200,000 acre-feet, which quantities shall include existing allocations and uses; and

(2) Additional quantities in a ratio of fifty (50) percent to Oklahoma and fifty (50) percent to Texas.

SECTION 4.05. Special Provisions.

(a) Texas and Oklahoma may construct, jointly or in cooperation with the United States, storage or other facilities for the conservation and use of water; provided that any facilities constructed on the Red River boundary between the two states shall not be inconsistent with the Federal legislation authorizing Denison Dam and Reservoir project.

(b) Texas shall not accept for filing, or grant a permit, for the construction of a dam to impound water solely for irrigation, flood control, soil conservation, mining and recovery of minerals, hydroelectric power, navigation, recreation and pleasure, or for any other purpose other than for domestic, municipal, and industrial water supply, on the mainstem of the North Fork Red River or any of its tributaries within Texas above Lugert-Altus Reservoir until the date that imported water, sufficient to meet the municipal and irrigation needs of Western Oklahoma is provided, or until January 1, 2000, which ever occurs first.

ARTICLE V

APPORTIONMENT OF WATER - REACH II

ARKANSAS, OKLAHOMA, TEXAS AND LOUISIANA

Subdivision of Reach II and allocation of water therein.

Reach II of the Red River is divided into topographic subbasins, and the water therein is allocated as follows:

SECTION 5.01. Subbasin 1 - Intrastate streams - Oklahoma.

(a) This subbasin includes those streams and their tributaries above existing, authorized or proposed last downstream major damsites, wholly in Oklahoma and flowing into Red River below Denison Dam and above the Oklahoma-Arkansas state boundary. These streams and their tributaries with existing, authorized or proposed last downstream major damsites are as follows:

| Stream | Site | Ac-ft | Location | |
|---|---|---|---|---|
| | | | Latitude | Longitude |
| Island-Bayou | Albany | 85,200 | 33°51.5'N | 96°11.4'W |
| Blue River | Durant | 147,000 | 33°55.5'N | 96°04.2'W |
| Boggy River | Boswell | 1,243,800 | 34°01.6'N | 95°45.0'W |
| Kiamichi River | Hugo | 240,700 | 34°01.0'N | 95°22.6'W |

(b) Oklahoma is apportioned the water of this subbasin and shall have unrestricted use thereof.

SECTION 5.02. Subbasin 2 - Intrastate streams - Texas.

(a) This subbasin includes those streams and their tributaries above existing authorized or proposed last downstream major damsites, wholly in Texas and flowing into Red River below Denison Dam and above the Texas-Arkansas state boundary. These streams and their tributaries with existing, authorized or proposed last downstream major damsites are as follows:

| Stream | Site | Ac-ft | Location | |
|---|---|---|---|---|
| | | | Latitude | Longitude |
| Shawnee Creek | Randall Lake | 5,400 | 33°48.1'N | 96°34.8'W |
| Brushy Creek | Valley Lake | 15,000 | 33°38.7'N | 96°21.5'W |
| Bois d'Arc Creek | New Bonham Reservoir | 130,600 | 33°42.9'N | 95°58.2'W |
| Coffee Mill Creek | Coffee Mill Lake | 8,000 | 33°44.1'N | 95°58.0'W |
| Sandy Creek | Lake Crockett | 3,900 | 33°44.5'N | 95°55.5'W |
| Sanders Creek | Pat Mayse | 124,500 | 33°51.2'N | 95°32.9'W |
| Pine Creek | Lake Crook | 11,011 | 33°43.7'N | 95°34.0'W |
| Big Pine Creek | Big Pine Lake | 138,600 | 33°52.0'N | 95°11.7'W |
| Pecan Bayou | Pecan Bayou | 625,000 | 33°41.1'N | 94°58.7'W |
| Mud Creek | Liberty Hill | 97,700 | 33°33.0'N | 94°29.3'W |
| Mud Creek | KVW Ranch Lakes (3) | 3,440 | 33°34.8'N | 94°27.3'W |

(b) Texas is apportioned the water of this subbasin and shall have unrestricted use thereof.

SECTION 5.03. Subbasin 3 - Interstate Streams - Oklahoma and Arkansas.

(a) This subbasin includes Little River and its tributaries above Millwood Dam.

(b) The States of Oklahoma and Arkansas shall have free and unrestricted use of the water of this subbasin within their respective states, subject, however, to the limitation that Oklahoma shall allow a quantity of water equal to 40 percent of the total runoff originating below the following existing, authorized or proposed last downstream major damsites in Oklahoma to flow into Arkansas:

| Stream | Site | Ac-ft | Location | |
|---|---|---|---|---|
| | | | Latitude | Longitude |
| Little River | Pine Creek | 70,500 | 34°06.8'N | 95°04.9'W |
| Glover Creek | Lukfata | 258,600 | 34°08.5'N | 94°55.4'W |
| Mountain Fork River | Broken Bow | 470,100 | 34°08.9'N | 94°41.2'W |

(c) Accounting will be on an annual basis unless otherwise deemed necessary by the States of Arkansas and Oklahoma.

SECTION 5.04. Subbasin 4 - Interstate streams - Texas and Arkansas.

(a) This subbasin shall consist of those streams and their tributaries above existing, authorized or proposed last downstream major damsites, originating in Texas and crossing the Texas-Arkansas state boundary before flowing into the Red River in Arkansas. These streams and their tributaries with existing, authorized or proposed last downstream major damsites are as follows:

| Stream | Site | Ac-ft | Location | |
|---|---|---|---|---|
| | | | Latitude | Longitude |
| McKinney Bayou Trib. | Bringle Lake | 3,052 | 33°30.6'N | 94°06.2'W |
| Barkman Creek | Barkman Reservoir | 15,900 | 33°29.7'N | 94°10.3'W |
| Sulphur River | Texarkana | 386,900 | 33°18.3'N | 94°09.6'W |

(b) The State of Texas shall have the free and unrestricted use of the water of this subbasin.

SECTION 5.05. Subbasin 5 - Mainstem of the Red River and tributaries.

(a) This subbasin includes that portion of the Red River, together with its tributaries, from Denison Dam down to the Arkansas-Louisiana state boundary, excluding all tributaries included in the other four subbasins of Reach II.

(b) Water within this subbasin is allocated as follows:

(1) The Signatory States shall have equal rights to the use of runoff originating in subbasin 5 and undesignated water flowing into subbasin 5, so long as the flow of the Red River at the Arkansas-Louisiana state boundary is 3,000 cubic feet per second or more, provided no state is entitled to more than 25 percent of the water in excess of 3,000 cubic feet per second.

(2) Whenever the flow of the Red River at the Arkansas-Louisiana state boundary is less than 3,000 cubic feet per second, but more than 1,000 cubic feet per second, the States of Arkansas, Oklahoma, and Texas shall

allow to flow into th· Red River for delivery to the State of Louisiana a quantity of water equ l to 40 percent of the total weekly r noff originating in subbasin 5 and 40 ercent of undesignated water flowing i to subbasin 5; provided, however, th t this requirement shall not be interpre ed to require any state to release stor d water.

(3) Whenever the flow of the Red River at the Arkansas-Louisiana state boundary falls below 1,000 cubic feet per second, the States of Arkansas, Oklahoma, and Texas shall allow a quantity of water equal to all the weekly runoff originating in subbasin 5 and all undesignated water flowing into subbasin 5 within their respective states to flow into the Red River as required to maintain a 1,000 cubic foot per second flow a: the Arkansas-Louisiana state boundary.

(c) Whenever the flow at Index, Arkansas, is less than 526 c.f.s., the states of Oklahoma and Texas shall each allow a quantityof water equal to 40 percent of the total weekly runoff originating in subbasin 5 within their respective states to flow into the Red River; provided however, this provision shall be invoked only at the request of Arkansas, only after Arkansas has ceased all diversions from the Red River itself in Arkansas above Index, and only if the provisions of Sub-sections 5.05 (b) (2) and (3) have not caused a limitation of diversions in subbasin 5.

(d) No state guarantees to maintain a minimum low flow to a downstream state.

SECTION 5.06. Special Provisions.

(a) Reservoirs within the limits of Reach II, subbasin 5, with a conservation storage capacity of 1,000 acre feet or less in existence or authorized on the date of the Compact pursuant to the rights and privileges granted by a Signatory State authorizing such reservoirs, shall be exempt from the provisions of Section 5.05; provided, if any right to store water in, or use water from, an existing exempt reservoir expires or is cancelled after the effective date of the Compact the exemption for such rights provided by this section shall be lost.

(b) A Signatory State may authorize a change in the purpose or place of use of water from a reservoir exempted by subparagraph (a) of this section without losing that exemption, if the quantity of authorized use and storage is not increased.

(c) Additionally, exemptions from the provisions of Section 5.05 shall not apply to direct diversions from Red River to off-channel reservoirs or lands.

ARTICLE VI

APPORTIONMENT OF WATER - REACH III

ARKANSAS, LOUISIANA, AND TEXAS

Subdivision of Reach III and allocation of water therein.

Reach III of the Red River is divided into topographic subbasins, and the water therein allocated, as follows:

SECTION 6.01. Subbasin 1 - Interstate streams - Arkansas and Texas.

(a) This subbasin includes the Texas portion of those streams crossing the Arkansas-Texas state boundary one or more times and flowing through Arkansas into Cypress Creek-Twelve Mile Bayou watershed in Louisiana.

(b) Texas is apportioned sixty (60) percent of the runoff of this subbasin and shall have unrestricted use thereof; Arkansas is entitled to forty (40) percent of the runoff of this subbasin.

SECTION 6.02. Subbasin 2 - Interstate streams - Arkansas and Louisiana.

(a) This subbasin includes the Arkansas portion of those streams flowing from Subbasin 1 into Arkansas, as well as other streams in Arkansas which cross the Arkansas-Louisiana state boundary one or more times and flow into Cypress Creek-Twelve Mile Bayou watershed in Louisiana.

(b) Arkansas is apportioned sixty (60) percent of the runoff of this subbasin and shall have unrestricted use thereof; Louisiana is entitled to forty (40) percent of the runoff of this subbasin.

SECTION 6.03. Subbasin 3 - Interstate streams - Texas and Louisiana.

(a) This subbasin includes the Texas portion of all tributaries crossing the Texas-Louisiana state boundary one or more times and flowing into Caddo Lake, Cypress Creek-Twelve Mile Bayou or Cross Lake, as well as the Louisiana portion of such tributaries.

(b) Texas and Louisiana within their respective boundaries shall each have the unrestricted use

of the water of this subbasin subject to the following allocation:

(1) Texas shall have the unrestricted right to all water above Marshall, Lake O' the Pines, and Black Cypress damsites; however, Texas shall not cause runoff to be depleted to a quantity less than that which would have occurred with the full operation of Franklin County, Titus County, Ellison Creek, Johnson Creek, Lake O' the Pines, Marshall, and Black Cypress Reservoirs constructed, and those other impoundments and diversions existing on the effective date of this Compact. Any depletions of runoff in excess of the depletions described above shall be charged against Texas' apportionment of the water in Caddo Reservoir.

(2) Texas and Louisiana shall each have the unrestricted right to use fifty (50) percent of the conservation storage capacity in the present Caddo Lake for the impoundment of water for state use, subject to the provision that supplies for existing uses of water from Caddo Lake, on date of Compact, are not reduced.

(3) Texas and Louisiana shall each have the unrestricted right to fifty (50) percent of the conservation storage capacity of any future enlargement of Caddo Lake, provided, the two states may negotiate for the release of each state's share of the storage space on terms mutually agreed upon by the two states after the effective date of this Compact.

(4) Inflow to Caddo Lake from its drainage area downstream from Marshall, Lake O' the Pines, and Black Cypress damsites and downstream from other last downstream dams in existence on the date of the signing of the Compact document by the Compact Commissioners, will be allowed to continue flowing into Caddo Lake except that any manmade depletions to this inflow by Texas will be subtracted from the Texas share of the water in Caddo Lake.

(c) In regard to the water of interstate streams which do not contribute to the inflow to Cross Lake or Caddo Lake, Texas shall have the unrestricted right to divert and use this water on the basis of a division of runoff above the state boundary of sixty (60) percent to Texas and forty (40) percent to Louisiana.

(d) Texas and Louisiana will not construct improvements on the Cross Lake watershed in either state that will affect the yield of Cross Lake; provided, however, this subsection shall be subject to the provisions of Section 2.08.

SECTION 6.04. Subbasin 4 - Intrastate streams - Louisiana.

(a) This subbasin includes that area of Louisiana in Reach III not included within any other subbasin.

(b) Louisiana shall have free and unrestricted use of the water of this subbasin.

ARTICLE VII

APPORTIONMENT OF WATER - REACH IV

ARKANSAS AND LOUISIANA

Subdivision of Reach IV and allocation of water therein.

Reach IV of the Red River is divided into topographic subbasins, and the water therein allocated as follows:

SECTION 7.01. Subbasin 1 - Intrastate streams - Arkansas.

(a) This subbasin includes those streams and their tributaries above last downstream major damsites originating in Arkansas and crossing the Arkansas-Louisiana state boundary before flowing into the Red River in Louisiana. Those major last downstream damsites are as follows:

| Stream | Site | Ac-ft | Location | |
|---|---|---|---|---|
| | | | Latitude | Longitude |
| Ouachita River | Lake Catherine | 19,000 | 34°26.6'N | 93°01.6'W |
| Caddo River | DeGray Lake | 1,377,000 | 34°13.2'N | 93°06.6'W |
| Little Missouri River | Lake Greeson | 600,000 | 34°08.9'N | 93°42.9'W |
| Alum Fork, Saline River | Lake Winona | 63,264 | 32°47.8'N | 92°51.0'W |

(b) Arkansas is apportioned the waters of this subbasin and shall have unrestricted use thereof.

SECTION 7.02. Subbasin 2 - Interstate Streams - Arkansas and Louisiana.

(a) This subbasin shall consist of Reach IV less subbasin 1 as defined in Section 7.01 (a) above.

(b) The State of Arkansas shall have free and unrestricted use of the water of this reach subject to the limitation that Arkansas shall allow a quantity of water equal to forty (40) percent of the weekly runoff originating below or flowing from the last downstream major damsite to flow into Louisiana. Where there are no designated last downstream damsites, Arkansas shall allow a quantity of

water equal to forty (40) percent of the total weekly runoff originating above the state boundary to flow into Louisiana. Use of water in this subbasin is subject to low flow provisions of subparagraph 7.02(b).

SECTION 7.03. Special Provisions.

(a) Arkansas may use the beds and banks of segments of Reach IV for the purpose of conveying its share of water to designated downstream diversions.

(b) The State of Arkansas does not guarantee to maintain a minimum low flow for Louisiana in Reach IV. However, on the following streams when the use of water in Arkansas reduces the flow at the Arkansas-Louisiana state boundary to the following amounts:

(1) Ouachita - 780 cfs

(2) Bayou Bartholomew - 80 cfs

(3) Boeuf River - 40 cfs

(4) Bayou Macon - 40 cfs

the State of Arkansas pledges to take affirmative steps to regulate the diversions of runoff originating or flowing into Reach IV in such a manner as to permit an equitable apportionment of the runoff as set out herein to flow into the State of Louisiana. In its control and regulation of the water of Reach IV any adjudication or order rendered by the State of Arkansas or any of its instrumentalities or agencies affecting the terms of this Compact shall not be effective against the State of Louisiana nor any of its citizens or inhabitants until approved by the Commission.

## ARTICLE VIII

## APPORTIONMENT OF WATER - REACH V

SECTION 8.01. Reach V of the Red River consists of the mainstem Red River and all of its tributaries lying wholly within the State of Louisiana. The State of Louisiana shall have free and unrestricted use of the water of this subbasin.

## ARTICLE IX

## ADMINISTRATION OF THE COMPACT

SECTION 9.01. There is hereby created an interstate administrative agency to be known as the "Red River Compact Commission," hereinafter called the "Commission." The Commission shall be composed of two representatives from each Signatory State who shall be designated or appointed in accordance with the laws of each state, and one Commissioner representing the United States, who shall be appointed by the President. The Federal Commissioner shall be the Chairman of the Commission but shall not have the right to vote. The failure of the President to appoint a Federal Commissioner will not prevent the operation or effect of this Compact, and the eight representatives from the Signatory States will elect a Chairman for the Commission.

SECTION 9.02. The Commission shall meet and organize within 60 days after the effective date of this Compact. Thereafter, meetings shall be held at such times and places as the Commission shall decide.

SECTION 9.03. Each of the two Commissioners from each state shall have one vote; provided, however, that if only one representative from a state attends he is authorized to vote on behalf of the absent Commissioner from that state. Representatives from three states shall constitute a quorum. Any action concerned with administration of this Compact or any action requiring compliance with specific terms of this Compact shall require six concurring votes. If a proposed action of the Commission affects existing water rights in a state, and that action is not expressly provided for in this Compact, eight concurring votes shall be required.

SECTION 9.04.

(a) The salaries and personal expenses of each state's representative shall be paid by the government that it represents, and the salaries and personal expenses of the Federal Commissioner will be paid for by the United States.

(b) The Commission's expenses for any additional stream flow gauging stations shall be equitably apportioned among the states involved in the reach in which the stream flow gaging stations are located.

(c) All other expenses incurred by the Commission shall be borne equally by the Signatory States and shall be paid by the Commission out of the "Red River

Compact Commission Fund." Such Fund shall be initiated and maintained by equal payments of each state into the fund. Disbursement shall be made from the fund in such manner as may be authorized by the Commission. Such fund shall not be subject to audit and accounting procedures of the state; however, all receipts and disbursements of the fund by the Commission shall be audited by a qualified independent public accountant at regular intervals, and the report of such audits shall be included in and become a part of the annual report of the Commission. Each state shall have the right to make its own audit of the accounts of the Commission at any reasonable time.

## ARTICLE X

## POWERS AND DUTIES OF THE COMMISSION

SECTION 10.01. The Commission shall have the power to:

(a) Adopt rules and regulations governing its operation and enforcement of the terms of the Compact;

(b) Establish and maintain an office for the conduct of its affairs and, if desirable, from time to time, change its location;

(c) Employ or contract with such engineering, legal, clerical and other personnel as it may determine necessary for the exercise of its functions under this Compact without regard to the Civil Service Laws of any Signatory State; provided that such employees shall be paid by and be responsible to the Commission and shall not be considered employees of any Signatory State;

(d) Acquire, use and dispose of such real and personal property as it may consider necessary;

(e) Enter into contracts with appropriate State or Federal agencies for the collection, correlation and presentation of factual data, for the maintenance of records and for the preparation of reports;

(f) Secure from the head of any department or agency of the Federal or State government such information as it may need or deem to be useful for carrying out its functions and as may be available to or procurable by the department or agency to which the request is addressed; provided such information is not privileged and the department or agency is not precluded by law from releasing same.

(g) Make findings, recommendations or reports in connection with carrying out the purposes of this Compact, including, but not limited to, a finding that a Signatory State is or is not in violation of any of the provisions of this Compact. The Commission is authorized to make

such investigations and studies, and to hold such hearings as it may deem necessary for said purposes. It is authorized to make and file official certified copies of any of its findings, recommendations or reports with such officers or agencies of any Signatory State, or the United States, as may have any interest in or jurisdiction over the subject matter. The making of findings, recommendations, or reports by the Commission shall not be a condition precedent to the instituting or maintaining of any action or proceeding of any kind by a Signatory State in any court or tribunal, or before any agency or officer, for the protection of any right under this Compact or for the enforcement of any of its provisions; and

(h) Print or otherwise reproduce and distribute its proceedings and reports.

SECTION 10.02. The Commission shall:

(a) Cause to be established, maintained, and operated such stream, reservoir and other gaging stations as are necessary for the proper administration of the Compact;

(b) Cause to be collected, analyzed and reported such information on stream flows, water quality, water storage and such other data as are necessary for the proper administration of the Compact;

(c) Perform all other functions required of it by the Compact and do all things necessary, proper and convenient in the performance of its duties thereunder;

(d) Prepare and submit to the governor of each of the Signatory States a budget covering the anticipated expenses of the Commission for the following fiscal biennium;

(e) Prepare and submit an annual report to the governor of each Signatory State and to the President of the United States covering the activities of the Commission for the preceding fiscal year, together with an accounting of all funds received and expended by it in the conduct of its work;

(f) Make available to the governor or to any official agency of a Signatory State or to any authorized representative of the United States, upon request, any information within its possession;

(g) Not incur any obligation in excess of the unencumbered balance of its funds, nor pledge the credit of any of the Signatory States; and

(h) Make available to a Signatory State or the United States in any action arising under this Compact, without subpoena, the testimony of any officer or employee of the Commission having knowledge of any relevant facts.

## ARTICLE XI

## POLLUTION

SECTION 11.01. The Signatory States recognize that the increase in population and the growth of industrial, agricultural, mining and other activities combined with natural pollution sources may lead to a diminution of the quality of water in the Red River Basin which may render the water harmful or injurious to the health and welfare of the people and impair the usefulness or public enjoyment of the water for beneficial purposes, thereby resulting in adverse social, economic, and environmental impacts.

SECTION 11.02. Although affirming the primary duty and responsibility of each Signatory State to take appropriate action under its own laws to prevent, diminish, and regulate all pollution sources within its boundaries which adversely affect the water of the Red River Basin, the states recognize that the control and abatement of the naturally-occurring salinity sources as well as, under certain circumstances, the maintenance and enhancement of the quality of water in the Red River Basin may require the cooperative action of all states.

SECTION 11.03. The Signatory States agree to cooperate with agencies of the United States to devise and effectuate means of alleviating the natural deterioration of the water of the Red River Basin.

SECTION 11.04. The Commission shall have the power to cooperate with the United States, the Signatory States and other entities in programs for abating and controlling pollution and natural deterioration of the water of the Red River Basin, and to recommend reasonable water quality objectives to the states.

SECTION 11.05. Each Signatory State agrees to maintain current records of waste discharges into the Red River Basin and the type and quality of such discharges, which records shall be furnished to the Commission upon request.

SECTION 11.06. Upon receipt of a complaint from the governor of a Signatory State that the interstate water of the Red River Basin in which it has an interest are being materially and adversely affected by pollution and that the state in which the pollution originates has failed after reasonable notice to take appropriate abatement measures, the Commission shall make such findings as are appropriate and thereafter provide such findings to the governor of the state in which such pollution originates and request appropriate corrective action. The Commission, however, shall not take any action with respect to pollution which adversely affects only the state in which such pollution originates.

SECTION 11.07. In addition to its other powers set forth under this Article, the Commission shall have the authority, upon receipt of six concurring votes, to utilize applicable Federal statutes to institute legal action in its own name against the person or entity responsible for interstate pollution problems; provided, however, sixty (60) days before initiating legal action the Commission shall notify the Governor of the state in which the pollution source is located to allow that state an opportunity to initiate action in its own name.

SECTION 11.08. Without prejudice to any other remedy available to the Commission, or any Signatory State, any state which is materially and adversely affected by the pollution of the water of the Red River Basin by pollution originating in another Signatory State may institute a suit against any individual, corporation, partnership, or association, or against any Signatory State or political or governmental subdivision thereof, or against any officer, agency, department, bureau, district or instrumentality of or in any Signatory State contributing to such pollution in accordance with applicable Federal statutes. Nothing herein shall be construed as depriving any persons of any rights of action relating to pollution which such person would have if this Compact had not been made.

## ARTICLE XII

### TERMINATION AND AMENDMENT OF COMPACT

SECTION 12.01. This Compact may be terminated at any time by appropriate action of the legislatures of all of the four Signatory States. In the event of such termination, all rights established under it shall continue unimpaired.

SECTION 12.02. This Compact may be amended at any time by appropriate action of the legislatures of all Signatory States that are affected by such amendment. The consent of the United States Congress must be obtained before any such amendment is effective.

## ARTICLE XIII

## RATIFICATION AND EFFECTIVE DATE OF COMPACT

SECTION 13.01. Notice of ratificaton of this Compact by the legislature of each Signatory State shall be given by the governor thereof to the governors of each of the other Signatory States and to the President of the United States. The President is hereby requested to give notice to the governors of each of the Signatory States of the consent to this Compact by the Congress of the United States.

SECTION 13.02. This Compact shall become effective, binding and obligatory when, and only when:

(a) It has been duly ratified by each of the Signatory States; and

(b) It has been consented to by an Act of the Congress of the United States, which Act provides that:

> Any other statute of the United States to the contrary notwithstanding, in any case or controversy:
>
> > which involves the construction or application of this Compact;
> >
> > in which one or more of the Signatory States to this Compact is a plaintiff or plaintiffs; and
> >
> > which is within the judicial power of the United States as set forth in the Constitution of the United States;
>
> and without any requirement, limitation or regard as to the sum or value of the matter in controversy, or of the place of residence or citizenship of, or of the nature, character or legal status of, any of the other proper parties plaintiff or defendant in such case or controversy:
>
> > The consent of Congress is given to name and join the United States as a party defendant or otherwise in any such case or controversy in the Supreme Court of the United States if the United States is an indispensable party thereto.

SECTION 13.03. The United States District Courts shall have original jurisdiction (concurrent with that of the Supreme Court of the United States, and concurrent with that of any other Federal or state court, in matters in which the Supreme Court, or other court has original jurisdiction) of any case or controversy involving the application or construction of this Compact; that said jurisdiction shall include, but not be limited to, suits between Signatory States; and that the venue of such case or controversy may be brought in any judicial district in which the acts complained of (or any portion thereof) occur.

SIGNED AND APPROVED on the 12th day of May 1978 at Denison Dam.

John P. Saxton, Commissioner
State of Arkansas

Arthur R. Theis, Commissioner
State of Louisiana

Orville B. Saunders, Commissioner
State of Oklahoma

Fred Parkey, Commissioner
State of Texas

R. C. MARSHALL, Major General
Representative
United States of America

# RULES FOR THE INTERNAL ORGANIZATION OF THE RED RIVER COMPACT COMMMISSION

(as amended April 25, 1984)

# RULES FOR THE INTERNAL ORGANIZATION OF THE RED RIVER COMPACT COMMISSION
(as amended April 25, 1984)

## ARTICLE I
## THE COMMISSION

1.1 The Commission is the "Red River Compact Commission," which is referred to in Article X of the Red River Compact.

1.2 The credentials of each Commissioner shall be filed with both the chairman and the secretary of the Commission. When the credentials of a new Commissioner are received, the secretary shall promptly notify each of the other Commissioners of the name and address of the new Commissioner.

1.3 Each Commissioner shall advise in writing the office of the Commission as to his address at which all official notices and other communications of the Commission shall be sent to him. Any change of address shall be promptly communicated in writing to the office of the Commission.

## ARTICLE II
## OFFICERS

2.1 The officers of the Commission shall be a chairman, a vice-chairman, secretary and a treasurer.

2.2 The Commissioner representing the United States shall be the chairman of the Commission. The chairman shall preside at meetings of the Commission. His duties shall be those usually imposed upon such officers and as may be assigned by these rules or by the Commission from time to time.

2.3 The vice-chairman shall be elected from among the Commissioners. He shall hold office for a term of one year, but shall continue to serve until his successor is elected. The vice-chairman shall serve as chairman in the event the President of the United States fails to appoint a federal Commissioner, or in the absence of the federal Commissioner.

2.4 The secretary shall be selected by the Commission. He shall serve for the term and perform the duties as the Commission shall direct. In case of a vacancy in the office of the secretary, the Commission shall select a new secretary as expeditiously as possible.

2.5 The treasurer shall be selected by the Commission. The treasurer shall furnish a fidelity bond, the cost of which shall be paid by the Commission. The treasurer shall receive, hold and disburse all funds which come into the his hands.

2.6 The secretary and treasurer may be members of the Commission, and their offices may be combined by the Commission. Any one person may hold both offices.

## ARTICLE III
## PRINCIPAL OFFICE

3.1 The principal office of the Commission shall be either the office of the chairman or the secretary, as the Commission shall direct.

3.2 Official books and records of the Commission shall be kept at the principal office.

## ARTICLE IV
## MEETINGS

4.1 The annual meeting of the Commission shall be held on the last Tuesday of April of each year.

4.2 Special meetings of the Commission may be called by the chairman at any time. Upon the written request of each of the Commissioners of two states setting forth the matters to be considered at such meeting, the chairman shall call a special meeting.

4.3 Reasonable notice of all special meetings of the Commission shall be sent by the chairman, to all members of the Commission by oridinary mail at least ten days in advance of each meeting and the notice shall state the purpose thereof.

4.4 Emergency meetings of the Commission may be called by the chairman at any time upon the concurrence of at least two states and such meetings may be conducted by long-distance telephone conference call or other electronic means. Any such long-distance telephone conference call or other electronic communication shall be recorded and made available for public inspection in accordance with the laws of the respective signatory states. Each of the signatory states shall be represented by at least one Commissioner during such an emergency conference and concur in the action.

An emergency is defined as a situation involving an eminent threat of injury to persons or damage to property or eminent financial loss when the time requirements for public notice and travel to a special meeting would make such procedure and travel impractical and increase the likelihood of injury or damage or eminent financial loss.

4.5 Notice to the public shall be given of all Commission meetings. Except as otherwise provided, the chairman shall furnish notice of all meetings to the Commissioners of each signatory state, whose responsibility it shall be to give said notice to the public in accordance with the laws of their respective states. In the event of an emergency meeting held by telephone or other electronic communication, no advance notice is required.

All meetings of the Commission shall be held at the principal office unless another place shall be agreed upon by the Commissioners.

4.6 Minutes of the Commission shall be preserved in suitable manner. Minutes, until approved, shall not be official and shall be furnished only to members of the Commission, its employees and committees.

4.7 Commissioners from three of the signatory states shall constitute a quorum. However, if an emergency meeting is conducted as provided for in rule 4.4, or if a proposed action of the Commission affects existing water rights in a state, and that action is not expressly provided for in the Compact, eight concurring votes shall be required. Any other action concerned with the administration of the Compact or requiring compliance with specific terms of the Compact shall require six concurring votes.

4.8 At each regular or annual meeting of the Commission, the order of business, unless agreed otherwise, shall be as follows:

Call to order;
Approval of Agenda;
Approval of the minutes;
Report of Chairman;
Report of Secretary;
Report of Treasurer;
Report of Commissioners;
Report of Committees;
Unfinished business;
New business;
Adjournment;

4.9 All meetings of the Commission, except executive sessions and except as otherwise provided, shall be open to the public. Executive sessions shall be open only to members of the Commission and such advisers as may be designated by each member and employees as permitted by the Commission; provided, however, that the Commission may call witnesses before it when in such sessions.

The Commission may hold executive sessions only for the purposes of discussing;

(a) The employment, appointment, promotion, demotion, disciplining or resignation of a Commission employee or employees, members, advisers, or committee members.

(b) Pending or contemplated litigation, settlement offers, and matters where the duty of the Commission's counsel to his client, pursuant to the Code of Professional Responsibility, clearly conflicts with the public's right to know.

(c) The report, development, or course of action regarding security, personnel, plans, or devices.

No executive session may be held except on a vote, taken in public, by a majority of a quorum of the members present. At least one Commissioner from each of the signatory states must agree to the holding of an excutive session.

Any motion or other decision considered or arrived at in executive session shall be voidable unless, following the executive session, the Commission reconvenes in public session and presents and votes on such motion or other decision.

## ARTICLE V
## COMMITTEES

5.1 There may be the following standing committees:

Engineering Committee;
Legal Committee; and
Budget Committee.

5.2 The committees shall have the following duties:

(a) The Engineering Committee shall advise the Commission on all engineering matters that may be referred to it.

(b) The Legal Committee shall advise the Commission on all legal matters that may be referred to it.

(c) The Budget Committee shall prepare the annual budget and shall advise the commission on all fiscal matters that may be referred to it.

5.3 Commissioners may be members of committees. The number of members of each committee shall be determined from time to time by the Commission. The Commissioners of each state shall designate the member or members on each committee representing the State, and each State shall have one vote.

5.4 The chairman may appoint a non-voting member of each committee.

5.5 The chairman of each committee shall be designated by the Commission from members of the committee; however, in the event a chairman is unable to perform his duties, the committee shall appoint an interim chairman.

5.6 The Commission may from time to time create special committees and assign it tasks. The Commission may also determine the composition of the special committees.

5.7 Formal committee reports shall be made in writing and filed with the Commission.

## ARTICLE VI
## RULES AND REGULATIONS

6.1 So far as is consistent with the Compact, the Commission may adopt rules and regulations and amend them from time to time. Rules and regulations to be adopted shall be presented by resolution and approved by a quorum as set out in Rule 4.7. Copies of proposed resolutions for rule adoption shall be presented in writing to each of the Commissioners at least thirty days before the meeting upon which they are to be voted. However, at its meeting, by unanimous vote, the Commission may waive this notice requirement.

6.2 Rules and regulations of the Commission may be compiled and copies may be prepared for distribution to the public under such terms and conditions as the Commission may prescribe.

## ARTICLE VII
## FISCAL

7.1 All funds of the Commission shall be deposited in a depository or depositories designated by the Commission under the name of the "Red River Compact Commission Fund".

7.2 Disbursement of funds in the hands of the treasurer, for items included in the approved budget, shall be made by check signed by him and the vice-chairman or by such person as may be designated by the Commission. Disbursement of funds for non-budgeted items shall be made by check signed by the treasurer and vice-chairman upon voucher approved by at least six of the Commissioners, four of whom shall be from different signatory states.

7.3 At the annual meeting of each year, the Commission shall adopt a budget covering an estimate of its expenses for the following two fiscal years.

7.4 The payment of expenses of the Commission and of its employees shall not be subject to the audit and accounting procedures of the states.

7.5 All receipts and disbursements of the Commission shall be audited periodically as determined by the Commission by a qualified independent public accountant to be selected by the Commission and the report of the audit shall be included in and become a part of the annual report of the Commission.

7.6 The fiscal year of the Commission shall begin July 1, of each year and end June 30 of the next succeeding year.

## ARTICLE VIII
## ANNUAL REPORT

8.1 The Commission shall make an annual report and transmit it on or before the last day of May to the governors of the signatory states to the Red River Compact and to the President of the United States.

8.2 The annual report shall cover the activities of the Commission for the preceding year, and include, among other things, the following:

(a) The estimated budget;

(b) Report of the last audit of Red River Compact Fund;

(c) All hydrologic data which the Commission deems pertinent;

(d) Statements as to cooperative studies of water supplies made during the preceding year;

(e) Such other pertinent matters as the Commission may require.

# RULES AND REGULATIONS TO COMPUTE AND ENFORCE COMPACT COMPLIANCE

A. REACH II, SUBBASIN 5

B. REACH I, SUBBASIN 1

C. REACH III, SUBBASIN 3

RED RIVER COMPACT INTERIM RULES AND REGULATIONS
To Compute and Enforce Compact Compliance
REACH II, SUBBASIN 5

(Adopted 4/30/87)

1. These rules and regulations to be used to compute and enforce Compact compliance within Subbasin 5 of Reach II, Red River Compact, are adopted subject to the following conditions and assumptions.

   a. It is fully understood that these rules and regulations should be modified as new or improved gaging stations are constructed, whenever experience or detailed studies demonstrate the need for modification, and if the Commission should modify its interpretation of Compact provisions relating to this Subbasin.

   b. Definitions:

      (1) "Diversion" as used in these rules and regulations, is the net loss to a water source from use by a diverter, and is computed as the diversion from the water source minus the part of the diversion which is returned to the water source. Normally, return flows must be measured to be considered; however, the EAC may consider and recommend exceptions. As used herein, "diversion" is equivalent to "net diversion" from a water source and to "depletion" or "consumptive use" of a water source.

2. Management of Compact Compliance Computations

   a. Management Using State Centers

      (1) State EAC representatives will establish State Computation Control Centers

         (a) State representatives will gather data, exchange data and meet via conference call to check on computation results, if necessary.

         (b) EAC will determine compliance with Compact.

   b. Management Period for Weekly Flow and Diversions

      (1) Next week's State diversions will be allocated based on last week's compliance computations.

      (2) It is each State's responsibility to limit its total State diversion allocation among its State diverters.

(3) The weekly period for use and flow data will start and end at 8:00 a.m. on Tuesday of each week.

(4) Data collection and dissemination will be completed on Tuesday of each week.

(5) Computation of Compliance will be completed on Wednesday of each week.

(6) Each State can request an update at any time.

c. Management Improvement Studies - The EAC will monitor the effect on accounting management of the following factors and will report thereon to the Commission whenever procedure changes appears desirable.

(1) Errors caused by travel time.

(2) Future restrictions computed from past week's data.

(3) Failure to consider channel loss.

(4) Failure to consider ungaged return flows.

(5) Failure to consider flow trends.

(6) Addition of needed gages.

3. Enforcement of Compact Compliance Requirements

Each State will be responsible for insuring that the sum of the diversions by State users does not exceed the total State diversion authorized by the Red River Compact. In this regard, each State will be responsible for establishing clear legal authority within its State for enforcing the restrictions imposed by the Red River Compact.

4. Data Reporting Procedures

a. Streamflow Gaging Station Records. The EAC will make arrangements with the Corps of Engineers, the U.S. Geological Survey and with States as required to collect daily and/or weekly data, as needed, and forward to the State Computation and Control Centers.

b. Diversion Records. Each State will be responsible to collect daily and/or weekly data, as needed, and forward to the State Computation and Control Centers.

c. Archived Records. Records will be archived by Commission Chairman.

5. General Compliance Requirements of Section 5.05, Red River

Compact

a. Section 5.05 (b)(1):

(1) Compact prescribes:

"The Signatory States shall have equal rights to the use of the runoff originating in subbasin 5 and undesignated water flowing into subbasin 5, so long as the flow of the Red River at the Arkansas-Louisiana state boundary is 3,000 cubic feet per second or more, provided no state is entitled to more than 25 percent of the water in excess of 3,000 cubic feet per second."

(2) In computing the Subbasin 5 water allocation, when the flow of the Red River at the Arkansas-Louisiana State Boundary is 3,000 cfs or more and the total runoff and undesignated flow of Subbasin 5 is greater than or equal to 7,500 cfs but less than or equal to 12,000 cfs, Louisiana's allocation shall be 3,000 cfs and each of the three upstream states will equally share the runoff and undesignated flow in excess of 3,000 cfs.

(3) When the total runoff and undesignated flow of Subbasin 5 is 12,000 cfs or more, each of the signatory states shall be entitled to 25% of the total runoff and undesignated flow.

(4) State compliance with Section 5.05 (b)(1) does not need to be determined except when specifically requested by a Compact State.

b. Section 5.05 (b)(2):

(1) The Compact states:

"Whenever the flow of the Red River at the Arkansas-Louisiana state boundary is less than 3,000 cubic feet per second, but more than 1,000 cubic feet per second, the States of Arkansas, Oklahoma, and Texas shall allow to flow into the Red River for delivery to the State of Louisiana a quantity of water equal to 40 percent of the total weekly runoff originating in subbasin 5 and 40 percent of undesignated water flowing into subbasin 5; provided, however, that this requirement shall not be interpreted to require any state to release stored water."

(2) In computing the Subbasin 5 water allocation to

Louisiana when flow of Red River at the Arkansas-Louisiana State boundary is less than 3,000 cfs but more than 1,000 cfs, the Subbasin 5 runoff for each of the three upstream States and the undesignated water flowing into Subbasin 5 from each upstream State totalled, and the three upstream States should allow to pass to Louisiana 40 percent of the total, or 1,000 cfs, whichever is greater.

(3) When the Subbasin 5 runoff plus undesignated water totals at least 2,500 cfs and not more than 7,500 cfs, each of the three upstream States are allocated 60 percent of its runoff plus undesignated inflow and the other 40 percent is to be allowed to flow into the Red River for delivery to Louisiana.

(4) When the Subbasin 5 runoff plus undesignated water totals at least 1,000 cfs but less than 2,500 cfs, the allocation to Louisiana is 1,000 cfs because of Compact Section 5.05 (b)(3). The total Subbasin 5 runoff plus undesignated water is compared to the Louisiana allocation of 1,000 cfs and a percentage is established. Each of the three upstream States will be entitled to divert and use a quantity computed using (100 percent minus the established percentage) times (the total of runoff from its Subbasin 5 areas plus undesignated water flowing into its Subbasin 5 areas).

(5) This Compact compliance determination should be made whenever the flow of the Red River at the Arkansas-Louisiana State boundary falls below 3,000 cfs and is more than 1,000 cfs.

c. Section 5.05 (b)(3):

(1) The Compact states:

"Whenever the flow of the Red River at the Arkansas-Louisiana state boundary falls below 1,000 cubic feet per second, the States of Arkansas, Oklahoma, and Texas shall allow a quantity of water equal to all the weekly runoff originating in subbasin 5 and all undesignated water flowing into subbasin 5 within their respective states to flow into the Red River as required to maintain a 1,000 cubic foot per second flow at the Arkansas-Louisiana state boundary."

(2) In computing the Subbasin 5 allocation when the

flow of the Red River at the Arkansas-Louisiana State boundary falls below 1,000 cfs, and when the Subbasin 5 runoff and undesignated water flowing into Subbasin 5 total 1,000 cfs or less, all flow must be passed to Louisiana.

(3) When the Subbasin 5 runoff and undesignated water flowing into Subbasin 5 total more than 1,000 cfs but less than 2,500 cfs, Louisiana is allocated 1,000 cfs. This 1,000 cfs Louisiana entitlement is compared to the total runoff plus undesignated water and a percentage is established. Each of the three upstream States will be entitled to divert and use a quantity computed using (100 percent minus the established percentage) times (its total State runoff and undesignated water inflow).

(4) See rules for Compact Section 5.05 (b)(2) when the Subbasin 5 runoff and undesignated water flowing into Subbasin 5 total 2,500 cfs or more up to 7,500 cfs.

(5) This Compact compliance determination should be made whenever the flow of the Red River at the Arkansas-Louisiana State boundary falls below 1,000 cfs.

d. Section 5.05 (c):

(1) The Compact states:

"Whenever the flow at Index, Arkansas, is less than 526 c.f.s., the states of Oklahoma and Texas shall each allow a quantity of water equal to 40 percent of the total weekly runoff originating in subbasin 5 within their respective states to flow into the Red River; provided however, this provision shall be invoked only at the request of Arkansas, only after Arkansas has ceased all diversions from the Red River itself in Arkansas above Index, and only if the provisions of Subsections 5.05 (b)(2) and (3) have not caused a limitation of diversions in subbasin 5."

(2) In computing the Subbasin 5 allocation when flow of Red River at Index Arkansas is less than 256 cfs, the States of Oklahoma and Texas are to pass 40 percent of weekly runoff from respective Subbasin 5 areas.

(3) This Compact compliance determination will be made only when requested by Arkansas, only after Arkansas has ceased all diversions from the Red

River, and only if the provisions of subsections 5.05 (b)(2) and (3) have not caused a limitation of diversions in Subbasin 5.

6. Procedures (Disregarding Designated Flows) to Compute State Runoff, Runoff plus Undesignated Inflows, and Flow of Red River at Arkansas-Louisiana State Boundary.

a. Oklahoma.

(1) Runoff plus Undesignated Inflows of Denison Dam to DeKalb Gage:

(a) Kiamichi River near Hugo, OK, Gage flow, plus Muddy Boggy Creek near Unger, OK, Gage flow plus Blue River near Blue, OK Gage flow, plus

(b) Fifty percent of (DeKalb Gage flow, plus Texas and Oklahoma diversions, minus gaged flows at Kiamichi River near Hugo, Ok, Muddy Boggy Creek near Unger, OK, Blue River near Blue, OK, and Sanders Creek near Chicota, Texas, streamflow Gages).

(2) Runoff plus Undesignated Inflows, DeKalb Gage to Oklahoma-Arkansas State line: Fifteen and one-half (15.5) percent of (Index Gage flow, minus DeKalb Gage flow, plus Oklahoma, Texas and Arkansas diversions downstream from DeKalb Gage).

(3) Runoff only, Denison Dam to Oklahoma-Arkansas State line.

(a) Fifty percent of (DeKalb Gage flow, minus Red River at Denison Dam Gage flow, plus Texas and Oklahoma diversions upstream from DeKalb Gage, minus Blue River near Blue, OK, Gage flow, minus Muddy Boggy Creek near Unger-Okla. Gage flow, minus Kiamichi River near Hugo-Okla. Gage flow minus Gage flow), plus

(b) Fifteen and one-half (15.5) percent of (Index Gage flow, minus DeKalb Gage flow, plus Oklahoma, Texas and Arkansas diversions between DeKalb and Index Gages).

b. Texas

(1) Runoff plus Undesignated Inflows, DeKalb Gage to Index Gage:

(a) Sanders Creek near Chicota Gage flow, plus

(b) Fifty percent of: (DeKalb Gage flow, plus

Texas and Oklahoma diversions, minus gaged flows at Kiamichi River near Hugo, OK, Muddy Boggy Creek near Unger, OK, Blue River near Blue, OK, and Sanders Creek near Chicota, TX, streamflow Gages).

(2) Runoff plus Undesignated Inflows, DeKalb Gage to Index Gage: Fifty (50) percent of (Index Gage flow, minus DeKalb Gage flow, plus Oklahoma, Texas and Arkansas diversions downstream from DeKalb Gage).

(3) Runoff plus Undesignated Inflows, Sulphur River Gage: One hundred percent of (Sulphur River near Texarkana Gage flow) minus (Texas diversions from river below gage) plus (Texas diversions below Texarkana Dam).

(4) Runoff Only, Denison Dam to Index Gage: Fifty percent of (Index Gage flow, minus Red River at Denison Dam Gage flow, plus Oklahoma and Texas and Arkansas diversions upstream from the Index Gage, minus Blue River near Blue, OK, Gage flow, minus Muddy Boggy Creek near Unger-Okla. Gage flow, minus Kiamichi River near Hugo-Okla. flow, minus Sanders Creek near Chicota-Texas Gage flow).

c. Arkansas Runoff plus Undesignated Inflows

(1) Oklahoma-Arkansas State Line to Index Gage: Thirty-four and one-half (34.5) percent of (Index Gage flow, minus DeKalb Gage flow, plus Oklahoma and Texas and Arkansas diversions between DeKalb and Index Gages).

(2) Index Gage to Hosston Gage

(a) Hosston Gage flow, plus Louisiana diversions above Hosston Gage, minus Index Gage flow, minus (Sulphur River near Texarkana Gage flow less Texas diversions from river below gage), plus Arkansas diversions downstream from Index Gage.

d. Louisiana Streamflow at Arkansas-Louisiana State Boundary

(1) Red River flow at Arkansas-Louisiana State boundary equals (Gage flow) plus (Louisiana diversions from Red River downstream from the State boundary and upstream from gage).

(2) Data needed to make interim Louisiana calculations

(a) For Red River flows up to 5,000 cfs Hosston Gage flow, plus Louisiana diversions from Red River upstream from Hosston Gage.

(b) For Red River flows of 5,000 cfs or larger Shreveport Gage flow, plus Louisiana diversions from Red River upstream from Shreveport Gage, minus Twelvemile Bayou near Dixie-La Gage flow, plus Louisiana diversions from Twelvemile Bayou below Twelvemile Bayou near Dixie-La Gage.

(3) Effect of Flow Trends, Scheduled Change of Reservoir Releases, and Other Events Certain to Significantly Change Flow at Arkansas-Louisiana State Boundary During Coming Week.

In addition to the Arkansas-Louisiana State boundary flow estimated based on subparagraph (2) (a) or (b) above, the EAC will also advise the Commission of probable significant changes in State boundary flow which should result from flow trends, scheduled change of reservoir releases, and other such known events.

7. Procedures (Using Designated Flow Data) to Compute State Runoff plus Undesignated Inflows and Flow of Red River at Arkansas-Louisiana State boundary. Procedures outlined in paragraph 6 above will be followed except that designated inflows, designated outflows and diversion of designated flows will be accounted for whenever appropriate.

# RED RIVER COMPACT RULES AND REGULATIONS
# To Compute and Enforce Compact Compliance
# REACH I, SUBBASIN 1

**(Adopted 4/30/87)**

1. General

These rules and regulations to be used to compute and enforce Compact compliance within Subbasin I of Reach 1, Red River Compact, are adopted subject to the following conditions and assumptions.

a. It is fully understood that these rules and regulations should be modified as new or improved gaging stations are constructed, whenever experience or detailed studies demonstrate the need for modification, and if the Commission should modify its interpretation of Compact provisions relating to this Subbasin.

2. Management of Compact Compliance Computations

a. Management Using State Centers

(1) Texas and Oklahoma representatives will establish State Computation and Control Centers.

(a) State representatives will gather data, exchange data and meet prior to the annual Commission meeting to check on computation results.

(b) The EAC will determine compliance with Compact.

b. Management Period for Compact Compliance Computations

(1) Computation will be on the calendar year basis.

(2) Water data for a calendar year should be exchanged prior to March 15 of the following year.

(3) Compact Compliance Computation for a calendar year should be completed by April 15 of the following year.

3. Enforcement of Compact Compliance Requirements

Texas will be responsible for insuring that the sum of Texas uses does not exceed the total Texas water use authorized by the Red River Compact, and Texas will be responsible for establishing clear legal authority within Texas for enforcing the restrictions imposed by the Red River Compact.

4. Data Reporting Procedures

a. Streamflow Gaging Station Records. The EAC will make arrangements with federal and State agencies, as required, to collect calendar year data as needed, and forward to the Texas and Oklahoma Computation Control Centers.

b. Archived Records. Records will be archived by the Commission Chairman

5. General Compliance Requirements of Section 4.01 Red River Compact

a. SECTION 4.01. Subbasin 1 - Interstate Streams - Texas

(1) The Compact prescribes:

"(a) This includes the Texas portion of Buck Creek, Sand (Lebos) Creek, Salt Fork Red River, Elm Creek, North Fork Red River, Sweetwater Creek and Washita River, together with all their tributaries in Texas which lie west of the 100th Meridian."

"(b) The annual flow within this subbasin is hereby apportioned sixty (60) percent to Texas and forty (40) percent to Oklahoma."

SECTION 4.01 is modified in part by SECTION 4.05. Special Provisions, as follows:

"(b) Texas shall not accept for filing, or grant a permit, for the construction of a dam to impound water solely for irrigation, flood control, soil conservation, mining and recovery of minerals, hydroelectric power, navigation, recreation and pleasure, or for any other purpose other than for domestic, municipal, and industrial water supply, on the mainstem of the North Fork Red River or any of its tributaries within Texas about Lugert-Altus Reservoir until the date that imported water, sufficient to meet the municipal and irrigation needs of Western Oklahoma is provided, or until January 1, 2000, which ever occurs first."

(2) Pertinent extracts from the Supplemental Interpretive Comments of Legal Advisory Committee, as approved by the Red River Compact Commission on the 19th day of September 1978, are as follows:

Pages 9 and 10 " * * * * * The flow of interstate tributaries is generally divided 60 percent to the upstream State and 40 percent to the downstream State. Because flows in Reach I are primarily from flood flows, an annual basis of accounting was adopted"

* * * * *

"Section 4.05(b) reflects the compromise of a long-standing dispute between Oklahoma and Texas over the water of the North Fork of the Red River and Sweetwater Creek. * * * * *"

"Under the Compromise Texas will limit development on North Fork and Sweetwater Creek to projects justified on the basis of municipal, industrial, and domestic needs until the year 2000. However, if sufficient imported water becomes available in Western Oklahoma before 2000, Texas will be free to pursue full development of its 60% of these interstate tributaries. * * * *"

(3) Until January 1, 2000 (assuming that imported water is not provided prior to that date in sufficient amounts to meet municipal and irrigation needs of Western Oklahoma) special restrictions apply to Texas water use in its North Fork Red River watershed upstream from the Lugert-Altus Reservoir. Therefore, some of the Compact compliance rules for the North Fork Red River watershed upstream from the Lugert-Altus Reservoir (para 5.f.(3) & (4) and g.(3) & (4) below) expire on January 1, 2000, if still in effect at that time.

b. Buck Creek Watershed in Texas

Buck Creek watershed covers about 300 square miles in Texas. There are no existing gaging stations on Buck Creek in Texas or in Oklahoma. Since neither the Texas nor Oklahoma use of flow from Buck Creek is significant at this time, it is not required to make an annual accounting of the flow in Buck Creek. It also appears that establishing gaging stations and channel loss values so that future annual accountings could be made is not economically justified at this time. Annual accounting procedures for this watershed should be developed to provide a 60:40 apportionment whenever requested by either Oklahoma or Texas.

c. Sand (Lebos) Creek Watershed in Texas

Sand Creek watershed covers about 65 square miles in Texas. There are no gaging stations on Sand Creek in Texas or in Oklahoma. Since neither Texas nor Oklahoma makes significant use of flow from Sand Creek, it is not necessary to make an annual accounting of the flow in Sand Creek, and it does not seem to be economically justified at this time to establish gaging stations and determine channel loss values so that future annual accountings could be made. Annual accounting procedures for this watershed should be developed to provide a 60:40 apportionment whenever requested by either Oklahoma or Texas.

d. Salt Fork Red River Watershed in Texas

Salt Fork Red River watershed in Texas covers about 1,380 square miles, of which 209 are non-contributing.

The USGS streamflow gage number 07300000, Salt Fork Red River near Wellington, Texas, is about 16 miles upstream from the Oklahoma-Texas State line and measures flow from a 1,222 sq. mi. drainage area, of which 209 is probably non-contributing. The average annual discharge (1953-1966) was 52,600 AF/yr, and the average annual discharge since Greenbelt Reservoir was completed (1967-1977) has been 33,250 AF/yr.

The USGS streamflow gage 07300500, Salt Fork Red River at Mangum, Oklahoma, is about 29 miles downstream from the Oklahoma-Texas State line and measures flow from a 1,566 sq. mile drainage area, of which 209 is probably non-contributing. The average annual discharge (1937-1977) has been 62,450 AF/yr.

(1) The actual annual delivery at the Oklahoma State line is computed as follows:

(a) The annual flow at the Wellington gage,

(b) Minus channel losses to Wellington gage flows between gage and State line (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment),

(c) Plus Texas' flow between Wellington gage and the State line. (This flow will be computed based on intervening drainage area between Wellington and Mangum gages adjusted for both Texas and Oklahoma man-made depletions.), and

(d) Minus Texas' man-made depletions downstream from the Wellington gage.

(2) The scheduled annual delivery at the Oklahoma State line is 40 percent of the natural flow at State line without diversions or impoundments, and would be computed as 40 percent of the following:

(a) The actual annual delivery (para 5.d.(1) above),

(b) Plus all man-made depletions in Texas, and

(c) Minus the increased channel losses in Texas which would have incurred had Texas depletions not occurred (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

(3) Compact compliance is achieved as long as actual delivery exceeds scheduled delivery.

e. Elm Creek Watershed in Texas

Elm Creek watershed covers about 360 square miles in Texas which includes the North Elm Creek tributary. There is no streamflow gage on Elm Creek in Texas. The USGS gage number 07303400, Elm Fork of North Fork Red River near Carl, Oklahoma, is about 6 miles downstream from the Oklahoma-Texas State line, and was used to measure flow from a 416 square mile drainage area but discharge measurements at this site were discontinued in 1980. The average annual discharge (20 years) was 30,280 AF/yr. No Compact compliance accounts can be made until the Gage near Carl has been reestablished.

(1) The actual annual delivery at State line is computed as follows:

(a) Flow at the State line. (This flow will be computed based on the drainage area and on the flow measured at Carl gage, adjusted for both Texas and Oklahoma depletions.), and

(b) Minus Texas' man-made depletions.

(2) The scheduled annual delivery at State line is 40 percent of the natural flow at State line without diversions or impoundments and would be computed as 40 percent of the following:

(a) The actual annual delivery (para 5.e.(1) above),

(b) Plus man-made depletions in Texas, and

(c) Minus the increased channel losses in Texas which would have been incurred if Texas had not depleted the flow (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

(3) Compact compliance is achieved as long as the actual delivery exceeds the scheduled delivery.

h. Washita River Watershed in Texas

There is no streamflow gage on the Washita River in Texas. The USGS streamflow gage number 07316500, Washita River near Cheyenne, Oklahoma, is over 21 miles downstream from the Oklahoma-Texas State line, and measures flow from a 794 square mile drainage area, of which about 441 square miles are in Texas. The average annual discharge at the Cheyenne gage (44 years) has been 20,720 AF/yr.

(1) The actual annual delivery at Oklahoma State line is computed as follows:

(a) The annual flow at the Cheyenne gage,

(b) Plus channel losses to the State line flow between the State line and the gage (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment),

(c) Minus Oklahoma's flow between the State line and Cheyenne gage. (This flow will be computed based on the drainage area upstream from the Cheyenne gage, adjusted for both Texas and Oklahoma man-made depletions.), and

(d) Minus Texas' man-made depletions.

(2) The annual scheduled delivery at State line is 40 percent of the natural flow at State line without diversions or impoundments, and would be computed as 40 percent of the following:

(a) The actual annual delivery at State line (para 5.h.(1) above),

(b) Plus man-made depletions in Texas, and

(c) Minus the increased channel losses which would have occurred if Texas had not made any diversions (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

(3) Compact compliance is achieved as long as the actual delivery exceeds the scheduled delivery.

**RED RIVER COMPACT RULES AND REGULATIONS**
**To Compute and Enforce Compact Compliance**
**REACH III, SUBBASIN 3**

**(as amended 4/25/89)**

1. These rules and regulations to be used to compute and enforce Compact compliance within Subbasin 3 of Reach III, Red River Compact, are adopted subject to the following conditions and assumptions.

   a. It is fully understood that these rules and regulations should be modified whenever experience or detailed studies demonstrate the need for modification, and if the Commission should modify its interpretation of Compact provisions relating to this Subbasin.

   b. Definitions:

      (1) "Diversion", as used in these rules and regulations, is the net loss to a water source from use by a diverter, and is computed as the diversion from the water source minus the part of the diversion which is returned to the water source. Normally, return flows must be measured to be considered; however, the Engineering Committee may consider and recommend exceptions. As used herein, "diversion" is equivalent to "net diversion" from a water source and to "depletion" or "consumptive use" of a water source.

      (2) "Drawdown", as used in these rules and regulations, means that period commencing on the first day water ceases spilling over the existing Caddo Lake spillway (or the raised spillway, if Caddo Lake is enlarged), and continuing so long as the Caddo Lake surface elevation continues to fall, until the day when appreciable inflow reaches Caddo Lake, causing the Caddo Lake surface elevation to rise leading to a spill from Caddo Lake.

2. Management of Compact Compliance Computations

   a. Management Using State Centers

      (1) State Engineering Committee representatives will establish State Computation Control Centers.

         (a) State representatives will gather data, exchange data and meet via conference call to check on computation results, if necessary.

(b) The Engineering Committee will compute compliance with Compact.

b. Management Period for Weekly Flow and Diversions

(1) Next week's State diversions will be allocated based on last week's compliance computations.

(2) It is each State's responsibility to limit its total State diversion allocation among its State diverters.

(3) The weekly period for use and flow data will start and end at 8:00 a.m. on Tuesday of each week.

(4) Data collection and dissemination will be completed on Tuesday of each week.

(5) Computation of Compliance will be completed on Wednesday of each week.

(6) Each State can request an update at any time.

c. Management Improvements Studies - The Engineering Committee will monitor the effect on accounting management of the following factors and will report thereon to the Commission whenever procedure changes appear desirable.

(1) Errors caused by travel time.

(2) Future restrictions computed from past week's data.

(3) Failure to consider channel loss.

(4) Failure to consider ungaged return flows.

(5) Failure to consider flow trends.

(6) Addition of needed gages.

3. Enforcement of Compact Compliance Requirements

Each State will be responsible for insuring that the sum of the diversions by State users does not exceed the total State diversion authorized by the Red River Compact Commission. In this regard, each State will be responsible for establishing clear legal authority within its State for enforcing the restrictions imposed by the Red River Compact.

4. Data Reporting Procedures

a. Streamflow Gaging Station Records. The Engineering Committee will make arrangements with Corps of Engineers, the U.S. Geological Survey and with States as required to collect daily and/or weekly data, as needed, and forward to the State Computation and Control Centers.

b. Diversion Records. Each State will be responsible to collect weekly data, as needed, and forward to the State Computation and Control Centers.

c. Archived Records. Records will be archived by the Commission Chairman

5. General Compliance Requirements of Section 6.03 Red River Compact

a. Section 6.03 (b)(1):

(1) The Compact states:

"Texas shall have the unrestricted right to all water above Marshall, Lake O' the Pines, and Black Cypress damsites; however, Texas shall not cause runoff to be depleted to a quantity less than that which would have occurred with the full operation of Franklin County, Titus County, Ellison Creek, Johnson Creek, Lake O' the Pines, Marshall, and Black Cypress Reservoirs constructed, and those other impoundments and diversions existing on the effective date of this Compact. Any depletions of runoff in excess of the depletions described above shall be charged against Texas' apportionment of the water in Caddo Reservoir."

(2) Texas may use the bed and banks of the streams or tributaries available within this Subbasin to convey its developed water downstream from the aforesaid dam sites to specified authorized users. Such water would retain its identity and would not be subject to the Caddo Lake drawdown provisions of Section 5.b. of these rules until passing the designated point of diversion. Appropriate transportation losses will be approved by the Red River Compact Commission.

(3) Until both Marshall Reservoir (with an estimated capacity of 782,300 acre-feet and yield of 325,000 acre-feet annually) and Black Cypress Reservoir (with estimated capacity of 824,400 acre-feet and yield and 220,000 acre-feed annually) have been constructed, it will be virtually impossible for

Texas to deplete runoff in excess of that authorized. In the future, whenever potential Texas depletions above Marshall, Lake O' the Pines, and Black Cypress damsites become a concern to Louisiana, procedures to compute Texas depletion of runoff in excess of that authorized by Section 6.03 (b)(1) of the Compact should be developed by the Engineering Committee and presented for Commission consideration.

b. Section 6.03 (b)(2):

(1) The Compact states:

"Texas and Louisiana shall each have the unrestricted right to use fifty (50) percent of the conservation storage capacity in the present Caddo Lake for the impoundment of water for state use, subject to the provision that supplies for existing uses of water from Caddo Lake, on date of Compact, are not reduced."

(2) Whenever water is spilling over the existing spillway at 168.5 feet above mean sea level, each state may withdraw or divert water from Caddo Lake without restriction.

(3) Whenever Caddo Lake is not spilling over the existing spillway at 168.5 feet above mean sea level, the total consumptive use by each state shall not exceed 8,400 acre-feet during the drawdown period, provided that neither state shall divert more than 3,600 acre-feet during any one month or 4,800 acre-feet during any two consecutive months.

c. Section 6.03 (b)(3)

(1) The Compact states:

"Texas and Louisiana shall each have the unrestricted right to fifty (50) percent of the conservation storage capacity of any future enlargement of Caddo Lake, provided the two states may negotiate for the release of each state's share of the storage space on terms mutually agreed upon by the two states after the effective date of this Compact."

(2) This Compact provision requires no separate computation procedures but other rules may be changed if enlargement of Caddo Lake occurs. If enlargement of Caddo Lake is authorized in the

future, the Engineering Committee should review and modify as necessary Rule 5 (b) and Rule 6.

d. Section 6.03 (b)(4):

(1) The Compact states:

"Inflow to Caddo Lake from its drainage area downstream from Marshall, Lake O' the Pines, and Black Cypress damsites and downstream from other last downstream dams in existence on the date of the signing of the Compact document by the Compact Commissioners, will be allowed to continue flowing into Caddo Lake except that any manmade depletions to this inflow by Texas will be subtracted from the Texas share of the water in Caddo Lake."

(2) As indicated in paragraph 5 a. (2) above, it is virtually impossible for Texas at the present time to reduce inflow to Caddo Lake below that which would occur with both Marshall and Black Cypress Reservoirs constructed and operating. However potential Texas depletions become a concern to Louisiana, procedures to compute excess depletion by Texas of inflow to Caddo Lake should be develop by the Engineering Committee and presented for Commission Consideration.

e. Section 6.03 (c)

(1) The Compact states:

"In regard to the water of interstate streams which do not contribute to the inflow to Cross Lake or Caddo Lake, Texas shall have the unrestricted right to Divert and use this water on the basis of a division of runoff above the state boundary of sixty (60) percent to Texas and forty (40) percent to Louisiana."

(2) The Engineering Committee will review known Texas diversion data for the previous year and report to the Commission any Texas non-compliance with Compact Section 6.03 (c).

f. Section 6.03 (d)

(1) The Compact states:

"Texas and Louisiana will not construct improvements on the Cross Lake watershed in either state that will affect the yield of Cross Lake; provided, however, this subsection shall be subject to the provisions of Section 2.08."

(2) The Engineering Committee will renew any known improvements on the Cross Lake watershed and report to the Commission any non-compliance with Compact Section 6.03 (d).

6. Caddo Lake Content Accounting Procedure During Drawdown Periods

a. Whenever water is spilled from Caddo Lake, both state's accounts are full and no accounting is necessary. Accounting shall start the first day of no-spill following each period of spilling and shall continue until the first day of spill in the next period of spilling. The accounting procedure for computing the quantity of water in Caddo Lake during periods of drawdown belonging to the States of Louisiana and Texas shall be as follows:

(1) At the beginning of the drawdown, the Caddo Lake contents belong 50 percent to each state. Otherwise, begin with water ownership on Caddo Lake as shown in the most recent previous report.

(2) Each State shall be credited with one-half of the inflow to Caddo Lake since the previous report.

(3) Each State's account shall be reduced by its share of Caddo Lake evaporation losses during the period since the previous report.

(4) Each State's account shall be reduced by its diversions from Caddo Lake since the previous report.

(5) A State's account shall not exceed 50 percent of the capacity of Caddo Lake. If these accounting procedures result in a greater State content than 50 percent of the total capacity of Caddo Lake, the excess computed quantity shall be "spilled" into the other State's account as needed to bring the other State's account up, but in no case shall either State's account exceed 50 percent of the total capacity of Caddo Lake.

b. Using a stage-area-capacity relationship concurred in by both States, the content of Caddo Lake at the end of each accounting period shall be determined and inflow for that period shall be computed as follows:

(1) From the present content, as determined above, subtract the content determined at the end of the previous period.

(2) Add to the figure resulting from Step (1) the total Texas and Louisiana diversions since the end of the previous period.

(3) Add to the figure resulting from Step (2) the computed gross evaporation since the end of the previous period as determined in c. (2) below. This results in total inflow.

c. Evaporation will be computed as follows:

(1) The Weather Bureau's pan evaporation data shall be used to compute gross lake evaporation using a standard conversion coefficient agreed to by the engineer advisors of each State.

(2) The average lake surface area for the accounting period shall be determined from the stage-area-capacity relationship concurred in by both States and multiplied by the gross lake evaporation as determined in Step (1) to determine the volume of evaporation for the period.

7. Availability of Diversion Records

Arrangements shall be made for all Texas and Louisiana diverters, during "drawdown" of Caddo Lake, to maintain daily diversion records open for inspection, and to provide weekly use data as required by Rule 2 b. (3).