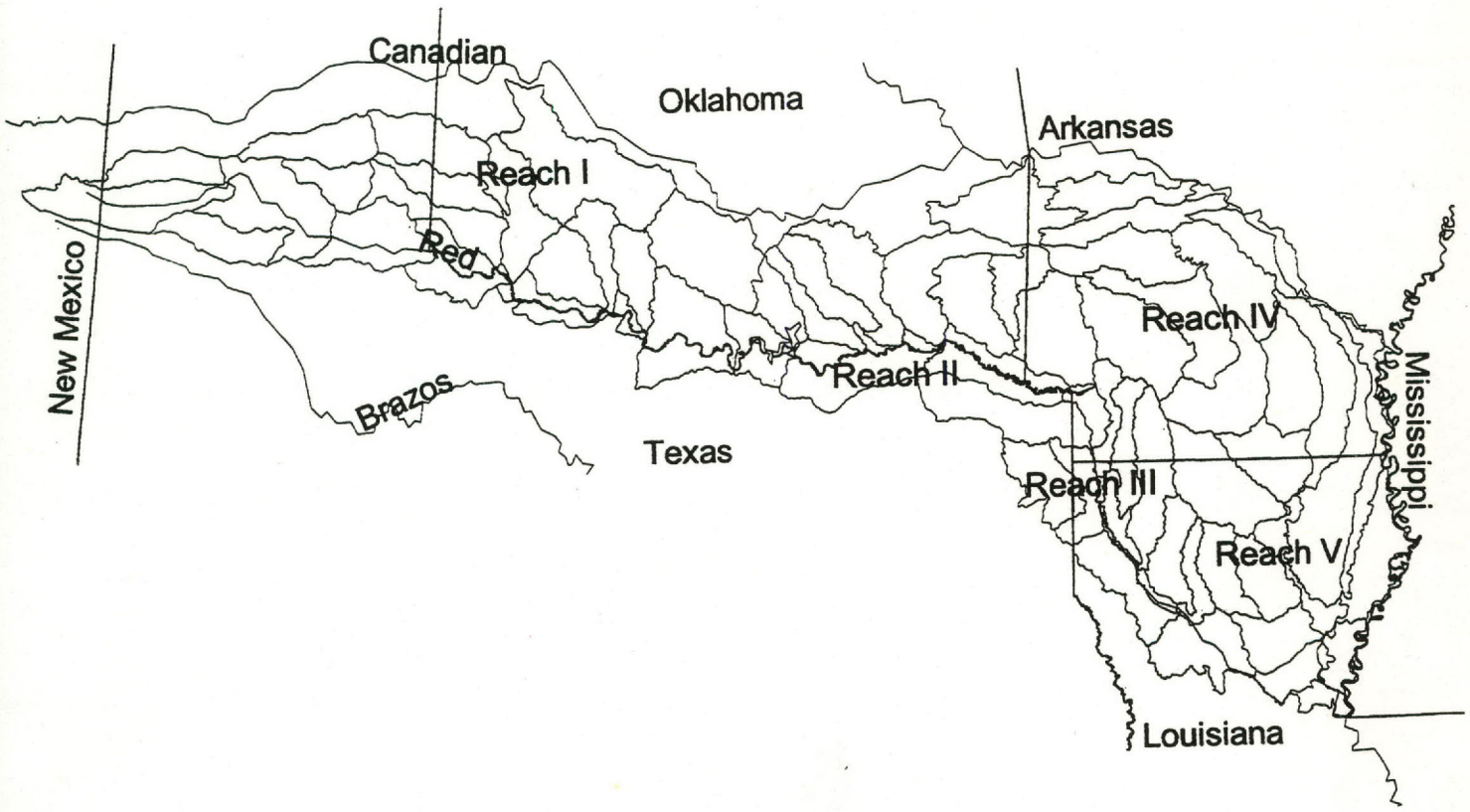
REPORT

OF THE

RED RIVER COMPACT COMMISSION 2001



Published
April, 2002

REPORT

OF THE

RED RIVER COMPACT COMMISSION 2001

Arkansas **Oklahoma**

Louisiana **Texas**

Published
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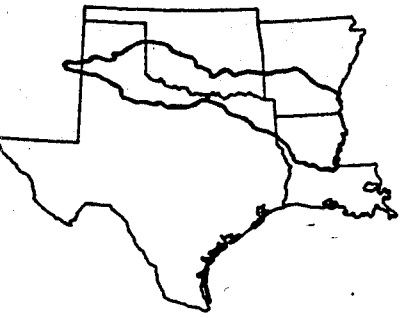

RED RIVER COMPACT COMMISSION

April 15, 2002

The President
United States of America

The Honorable Mike Huckabee, Governor
State of Arkansas

The Honorable M. J. "Mike" Foster, Jr., Governor
State of Louisiana

The Honorable Frank Keating, Governor
State of Oklahoma

The Honorable Rick Perry, Governor
State of Texas

Dear Mr. President and Governors:

The Red River Compact is an interstate agreement entered into by the States of Arkansas, Louisiana, Oklahoma, and Texas with the consent of Congress providing for an equitable apportionment of the water of the Red River Basin. The Red River Compact Commission (RRCC) is the interstate body charged with overseeing the Compact.

Pursuant to Section 10.02 paragraphs (d) and (e) of the Compact, the RRCC at its twenty-second annual meeting prepared and submitted the annual report, with an accounting of all funds received and expended in the conduct of its work for FY 2001 as well as a budget covering the anticipated expenses of the Commission for Fiscal Year 2002 and 2003.

The twenty-first annual meeting was hosted by the State of Louisiana on April 24, 2001, in New Orleans.

Pursuant to the previous agreement to rotate the office of Vice-Chairman and Secretary in connection with the rotation of the annual meeting host state, the State of Arkansas accepted the responsibility for both offices for FY 2002. The Office of Treasurer remained with the State of Arkansas.

Sincerely,

Kam K. Movassaghi, Ph.D., P.E.
Vice Chairman/Louisiana Commissioner

RED RIVER COMPACT COMMISSION MEMBERS

Federal Commissioner

Vacant

Arkansas Commissioners

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Vacant

VICE CHAIRMAN/LOUISIANA COMMISSIONER

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RED RIVER COMPACT COMMISSION

Budget

(July 1, 1999 through June 30, 2001)

Approved: 5/4/99

	FY-00	FY-01
Personnel Services, Office Expenses, Rent, & Travel	$ 500.00	$ 500.00
Audit	250.00	250.00
Treasurer's Bond	125.00	125.00
Postage, Stationery, & Office Supplies	100.00	100.00
Printing & Reports	1,225.00	1,225.00
Contingency	0.00	0.00
TOTAL	$2,200.00	$2,200.00

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-00 assessment is $550.00 per state and the FY-01 assessment is $550 per state.

Timothy A. Bunch, CPA PA
Certified Public Accountants

P. O. Box 6848
Springdale, AR 72766

Phone (501) 750-9529
Fax (501) 750-3079

Red River Compact Commission
Little Rock, Arkansas

I have audited the accompanying statement of cash receipts and disbursements of the Red River Compact Commission for the period July 1, 2000 through June 30, 2001. The financial statement is the responsibility of the commission's management. My responsibility is to express an opinion on this financial statement based on my audit.

I conducted my audit in accordance with generally accepted auditing standards for cash basis statements. Those standards require that I plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. I believe that my audit provides a reasonable basis for our opinion.

The commission's policy is to prepare its financial statements on the basis of cash receipts and disbursements; consequently, certain revenue and related assets are recognized when received rather than when earned, and certain expenses are recognized when paid rather than when the obligation is incurred. Accordingly, the accompanying financial statement is not intended to present results of operations in conformity with generally accepted accounting principles.

In my opinion, the financial statement referred to above presents fairly, in all material respects, the recorded cash transactions of the Red River Compact Commission for the period ended June 30, 2001 on the basis of accounting described in the preceding paragraph.

Timothy A Bunch, CPA, PA

Timothy A. Bunch, CPA PA

July 18, 2001

Red River Compact Commission
Statements of Cash Receipts and Disbursements
For the Period July 1, 2000 through June 30, 2001

Cash Balance, Regions Bank, July 1, 2000	$	12,359
Cash Receipts		
Member Assessments		2,750
Interest Income		289
Total Cash Receipts	$	3,039
Cash Disbursements		
Accounting		275
Conference		947
Total Cash Disbursements	$	1,222
Cash Balance, Regions Bank, June 30, 2001	$	14,176

Red River Compact Commission
FY 99 – 2002 Budget
(July 1, 2000 through June 30, 2003)

Proposed: 4/10/02

	Actual		Budget	
	FY00	FY01	FY02	FY 03
Personnel Services, Office Expenses, Rent, Travel (Mtg. Expenses)	$946.88	$0.00	$1,000.00	$1,000.00
Audit	$275.00	$275.00	$275.00	$275.00
Postage, Stationery, & Office Supplies	$0.00	$0.00	$250.00	$250.00
Printing & Reports	$0.00	$2,123.20	$2,250.00	$2,250.00
Contingency	$0.00	$0.00	$0.00	$0.00
TOTAL	$1,221.88	$2,398.20	$3,775.00	$3,775.00

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 00 assessment is $550.00 per state and the FY 2001 assessment is $550.00 per state.

RED RIVER COMPACT COMMISSION

21st ANNUAL MEETING
MINUTES

CHATEAU LEMOYNE FRENCH QUARTER HOTEL
NEW ORLEANS, LOUISIANA
TUESDAY, APRIL 24, 2001

I. - II. CALL TO ORDER AND WELCOME

The twenty-first Annual Meeting of the Red River Compact Commission was called to order at 8:30 a.m. by Mr. Arthur Theis, Vice Chairman, on April 24, 2001, at the Chateau LeMoyne French Quarter Hotel in New Orleans, Louisiana.

Mr. Theis introduced Colonel Rick Clapp from the Mississippi Valley Division of the U.S. Army Corps of Engineers who was representing Brigadier General Edwin Arnold.

Those present at the meeting were:

Red River Compact Commissioners
Mr. Randy Young, Arkansas
Mr. Don Mitchell, Arkansas
Mr. Edmond J. Preau, Louisiana, representing Secretary Kam Moyassaghi (Proxy presented; see Attachment 1)
Mr. Arthur Theis, Louisiana
Colonel Rick Clapp, Mississippi Valley Division, U.S. Army Corps of Engineers, representing the Federal Chairman
Mr. Duane Smith, Oklahoma
Mr. Ken Fergeson, Oklahoma
Ms. Leigh Ing, Texas
Mr. William Abney, Texas

Representatives, Federal Agencies and Guests from Arkansas
Shane Barks, U.S. Geological Survey
Mark Bennett, Arkansas Soil & Water Conservation Commission
Ken Brazil, Arkansas Soil & Water Conservation Commission
Earl Smith, Arkansas Soil & Water Conservation Commission

Representatives, Federal Agencies and Guests from Colorado
Russ Livingston, U.S. Geological Survey, Central Region

Representatives, Federal Agencies and Guests from Louisiana
George Arcement, Jr., U.S. Geological Survey
Zahir "Bo" Bolourchi, Louisiana Department of Transportation & Development
Gary Ethridge, Louisiana Department of Transportation & Development
Max Forbes, Jr., Louisiana Department of Environmental Quality
Clyde Martin, Louisiana Department of Transportation & Development

Representatives, Federal Agencies and Guests from Oklahoma
James R. Barnett, Lugert-Altus Irrigation District
Bob Blazs, U.S. Geological Survey
Dean Couch, Oklahoma Water Resources Board
Donna Kirby, Lugert-Altus Irrigation District
Mike Mathis, Oklahoma Water Resources Board
Donald Moomaw, U.S. Bureau of Reclamation
Robert Robbins, Lugert-Altus Irrigation District

Representatives, Federal Agencies and Guests from Texas
Charles Armstrong, U.S. Army Corps of Engineers, Dallas District
Jane Atwood, Office of the Attorney General of Texas
Herman Settemeyer, Texas Natural Resources Conservation Commission

III. APPROVAL OF THE AGENDA

Motion by Commissioner Smith, seconded by Commissioner Abney to add the Sweetwater Creek controversy and Attorney Jim Barnett to the agenda. Motion passed without opposition.

Motion by Commissioner Young, seconded by Commissioner Smith to approve the agenda for the Red River Compact Commission 21st Annual meeting. Motion passed without opposition. (Attachment 2)

IV. APPROVAL OF THE MINUTES OF APRIL 25, 2000

Commissioner Ing stated that the draft minutes of the April 25, 2000, meeting were previously distributed. She asked if there were any additions or deletions to the minutes. The following amendments to the minutes were discussed:

1. on page 4 under the Report of Commissioners for Louisiana, it should read Mr. Curtis Patterson in lieu of Mr. Art Theis;
2. in several places it reads Mr. Frank Denton was the representing Commissioner for Louisiana and it should read Dr. Kam K. Movassaghi
3. changes to the legal minutes were also discussed by Mr. Gary Ethridge and previously noted in the legal committee meeting

Ms. Jane Atwood amended the minutes and redistributed them during the course of the meeting. (Attachment 3)

Motion by Commissioner Smith, seconded by Commissioner Young to accept the minutes of the Red River Compact Commission 20th Annual Meeting with the approved amendments. Motion passed without opposition.

V. REPORT OF THE CHAIRMAN

Commissioner Theis, Vice-Chairman, stated that there was no report.

Colonel Clapp announced the change in the Division Engineer, Mississippi Valley Division, U.S. Army Corps of Engineers, from Major General Phillip Anderson to Brigadier General Edwin Arnold.

VI. REPORT OF THE TREASURER

Mr. Earl Smith presented the Treasurer's Report. (Attachment 4)

Motion by Commissioner Fergeson, seconded by Commissioner Mitchell to approve the Treasurer's Report. Motion passed without opposition.

VII. REPORT OF THE COMMISSIONERS

A. ARKANSAS

Commissioner Randy Young presented the State of Arkansas Commissioner's report. (Attachment 5)

B. LOUISIANA

Acting Commissioner Edmond J. Preau presented the State of Louisiana Commissioner's report. (Attachment 6)

C. TEXAS

Commissioner Leigh Ing presented the State of Texas Commissioner's report. (Attachment 7)

D. OKLAHOMA

Commissioner Duane Smith presented the State of Oklahoma Commissioner's report. (Attachment 8)

VIII. REPORT OF THE COMMITTEES

A. BUDGET COMMITTEE

Mr. Bolourchi reviewed the proposed budget with the Commissioners. There were no changes in the proposed budget from the one offered last year. It was recommended that each state pay an assessment of $550 for FY 2002.

Upon motion duly made and seconded, the FY 2002-2003 Budget was unanimously accepted. (Attachment 9)

B. LEGAL COMMITTEE

Mr. Ethridge presented the Legal Committee report. He stated that the assignment of last year was to try and facilitate an agreement on the Sweetwater Controversy with Oklahoma and Texas. No agreement has been reached and the assignment will continue for the coming year. Mr. Ethridge informed the Commission that the Wheeler County Water Supply District Board has scheduled a tax election to obtain funds for a feasibility study.

Upon motion duly made and seconded, the Legal Committee report was unanimously accepted.

C. ENGINEERING COMMITTEE

Mr. Bolourchi presented the Engineering Committee report and stated that the assignment of last year was to monitor the gauging station network by the U.S. Geological Survey. He also stated the federal cutback of 20% on the water division should have no affect on the agreement with the state.

Mr. Bolourchi also said that the Arkansas state line gauging station on the Ouachita River is of some concern to groundwater and surface water interests. The Compact rule needs to go into effect. The City of Monroe is the financer and they would like to move the station to the actual city of Monroe although, then it would not directly gauge the water coming into the state of Louisiana. There is no funding available and the Commission may be asked to fund this particular gauging station.

Mr. Bolourchi also stated that another assignment was the development of a web site. The site is being worked on and should be on-line for use shortly. He also said that he had no comment on the Sweetwater Creek controversy and that he would like the Legal Committee to continue working on it.

It was also stated that the annual report has been completed by the state of Texas and should be printed and distributed shortly.

Upon motion duly made and seconded, the Engineering Committee report was unanimously accepted.

D. ENVIRONMENTAL COMMITTEE

The recommendation for members of next years committee were established. The assignments for next year were also discussed.

Motion by Commissioner Young, seconded by Commissioner Abney to accept all of the committee reports. Motion passed without opposition.

IX. FEDERAL AGENCY REPORTS

A. U.S. BUREAU OF RECLAMATION

Mr. Donald Moomaw presented the U.S. Bureau of Reclamation Federal Agency report. (Attachment 10)

B. U.S. ARMY CORPS OF ENGINEERS

Colonel Rick Clapp addressed the Mississippi Valley Division Corps of Engineers' portion of the Red River Issue. He spoke of the J. Bennett Johnston Waterway, Red River below Dennison Dam, Red River Emergency Bank Protection and the Red River Navigation Study.

Colonel Clapp then turned the floor over to Mr. Chuck Armstrong who presented a report on the Southwestern Division Corps of Engineers. (Attachment 11)

C. NATURAL RESOURCES CONSERVATION SERVICE

No report was given.

D. U.S. GEOLOGICAL SURVEY

Mr. Bob Blazs presented the U.S. Geological Survey Federal Agency report. (Attachment 12)

Motion by Commissioner Abney, seconded by Acting Commissioner Preau to accept all of the federal agency reports. Motion passed without opposition.

X. UNFINISHED BUSINESS

A. ANNUAL REPORT

The 2000 Annual Report was prepared by Texas and should be printed and distributed shortly. Louisiana will do the annual report for the year 2001.

B. ASSIGNMENTS TO COMMITTEES

The Engineering Committee assignments are as follows:

1. Continue monitoring proposed cutbacks in gauging a station network
2. Continue development of the web site
3. Draft rules and regulations for allocation of Ouachita River Reach 4, Subbasin 2
4. Draft rules and regulations for allocation of Red River Reach 2, Subbasin 3
5. Draft the annual report for distribution
6. Monitor the changes, stages and impact of the Southeast Oklahoma Water Plan development to the Red River Compact Commission

Motion by Commissioner Young, seconded by Acting Commissioner Preau to accept the Engineering Committee assignments. Motion passed without opposition.

The Environmental Committee assignments are as follows:

1. Provide current status of uses of waste water for the Ouachita River
2. Keep up with the activity in the Red and Ouachita River
3. Keep up with the new or long term information on environmental matters
4. Keep up with the recommendations of the Committee on preservation and desired water quality

Motion by Commissioner Young, seconded by Commissioner Ing to accept the Environmental Committee assignments. Motion passed without opposition.

The Legal Committee assignments are as follows:

1. Continue facilitation and follow the development of the conflict in the Sweetwater Basin Reach 1 and what additional structures are made and also to follow the impact it has on Texas and Oklahoma
2. Follow the Oklahoma legislature to find out the status of funding
3. Follow legislation in the various states and how it affects the Red River Compact Commission

Motion by Commissioner Fergeson, seconded by Commissioner Abney to accept the legal assignments. Motion passed without opposition.

The Budget Committee is to propose a biannual budget for consideration at the next meeting.

Motion by Commissioner Young, seconded by Commissioner Smith to select a member from each state to be represented on the Budget Committee.

C. ELECTION OF OFFICERS

Motion by Commissioner Young, seconded by Commissioner Fergerson to elect Mr. Don

Mitchell from Arkansas as Vice Chairman; Ms. Laura Brown as Secretary and Mr. Earl Smith as Treasurer of the 2002 meeting. Motion passed without opposition.

D. APPOINTMENT TO COMMITTEES

The recommended Environmental Committee is as follows:

Ken Brazil, Arkansas
Max Forbes, Louisiana
Herman Settemeyer, Texas
Derrick Smith, Oklahoma

E. 22ND ANNUAL MEETING

Motion by Commissioner Abney, seconded by Commissioners Fergeson to have the 2002 meeting on the 4th Tuesday in April in Hot Springs, Arkansas. Motion passed without opposition.

XI. OTHER BUSINESS

Ms. Donna Kirby advised that she gathered all of the information and documentation on Sweetwater that is available to her. She also provided a newspaper article from Wheeler County to be included in the minutes. (Attachment 13)

The Sweetwater Controversy was discussed at length with varying opinions. Commissioner Young advised to continue encouraging the 2 states to work together and resolve this problem.

XII. PUBLIC COMMENT

There was no public comment.

XIII. ADJOURNMENT

Motion by Mr. Young to adjourn, second by Ms. Ing. Motion passed without opposition.

Amber Croissant

Amber Croissant
Executive Services Assistant
Louisiana Department of Transportatio
and Development

STREAMFLOW GAGE DATA
WATER YEAR OCTOBER 2000 through SEPTEMBER 2001

(as recommended for inclusion in the annual report by the Engineering Committee)

07337000 RED RIVER AT INDEX

LOCATION.--Lat 33°33'07", long 94°02'28", in NW1/4SW1/4 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 mi^2, of which 5,936 mi^2 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 sea level. 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 estimted 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1640	2290	32400	42400	22800	64800	24100	9350	35600	12600	7400	8480
2	1730	2780	33300	39700	29900	72200	23500	8160	35200	14300	7460	8410
3	1850	3130	32700	36300	28500	72900	22100	7120	42200	11800	7520	7150
4	2090	5560	31300	31800	23500	73700	21000	7220	37700	8500	8160	5640
5	2550	9290	30300	28600	20100	72200	19700	7360	29500	6860	8470	4600
6	2540	11300	29800	29000	18500	71800	18500	6940	24400	6220	6350	4420
7	1990	16100	28800	30200	18400	66900	17800	9130	20600	7750	4540	4610
8	1580	21700	26700	30200	17800	64900	17100	10500	16300	8360	4050	4350
9	1630	27700	25500	29500	16900	66200	16900	9850	15400	7600	3520	5130
10	1810	28900	22100	27500	16100	67100	15500	10100	15300	7330	2800	6410
11	1720	31700	17700	25200	15800	68200	12700	10700	14700	7620	2700	5830
12	1620	31600	16000	23500	16400	76600	11500	10900	13600	7430	3540	4720
13	1530	32700	13800	21500	17400	86300	11500	10400	11900	7370	3860	3700
14	1390	33800	11300	19600	19600	84500	13000	9500	11400	7440	3740	3040
15	1270	34400	11500	19200	31500	76500	17500	8400	12400	7190	3690	2690
16	1240	33700	13400	19000	49500	66400	20600	8040	13000	6800	3400	2430
17	1360	32600	14300	19600	76000	60800	21600	8190	12000	6230	2850	2420
18	1520	30000	14900	23300	96200	59300	24600	6460	10200	5820	2620	2410
19	1600	27100	15400	27600	96400	60600	23600	6250	8630	6150	2910	2450
20	1630	24000	16000	31900	69400	61800	19600	6870	6500	6330	3580	2610
21	1590	19500	16600	31800	53300	60300	16200	7040	4700	6270	3710	2620
22	1410	16200	15900	28400	50100	54600	11900	7000	3920	6340	3590	2760
23	1320	16600	14600	24800	50200	47900	8450	6910	4820	7000	3420	3470
24	1460	27900	13900	21600	47000	41900	7630	6470	6170	7260	3220	6200
25	1590	44200	13800	19200	40600	37000	11000	8720	6660	7300	3160	9010
26	1780	47000	15500	18100	38500	35400	19700	14300	7120	7300	3070	7790
27	1980	46700	37400	18200	46600	36300	22500	15300	7170	7300	3080	5770
28	1830	40500	72200	17900	54600	34500	19100	12000	7720	7310	3620	4340
29	1610	35100	89700	16600	---	29000	15200	11600	8060	7300	3500	3430
30	1670	32600	76700	15800	---	25300	10800	21100	9930	7370	3250	3040
31	2040	---	51700	15600	---	23800	---	31100	---	7380	4140	---
TOTAL	52570	766650	855200	783600	1081600	1819700	514880	312980	452800	237830	130920	139930
MEAN	1696	25560	27590	25280	38630	58700	17160	10100	15090	7672	4223	4664
MAX	2550	47000	89700	42400	96400	86300	24600	31100	42200	14300	8470	9010
MIN	1240	2290	11300	15600	15800	23800	7630	6250	3920	5820	2620	2410
AC-FT	104300	1521000	1696000	1554000	2145000	3609000	1021000	620800	898100	471700	259700	277600

07337000 RED RIVER AT INDEX--CONTINUED

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2001, BY WATER YEAR (WY)

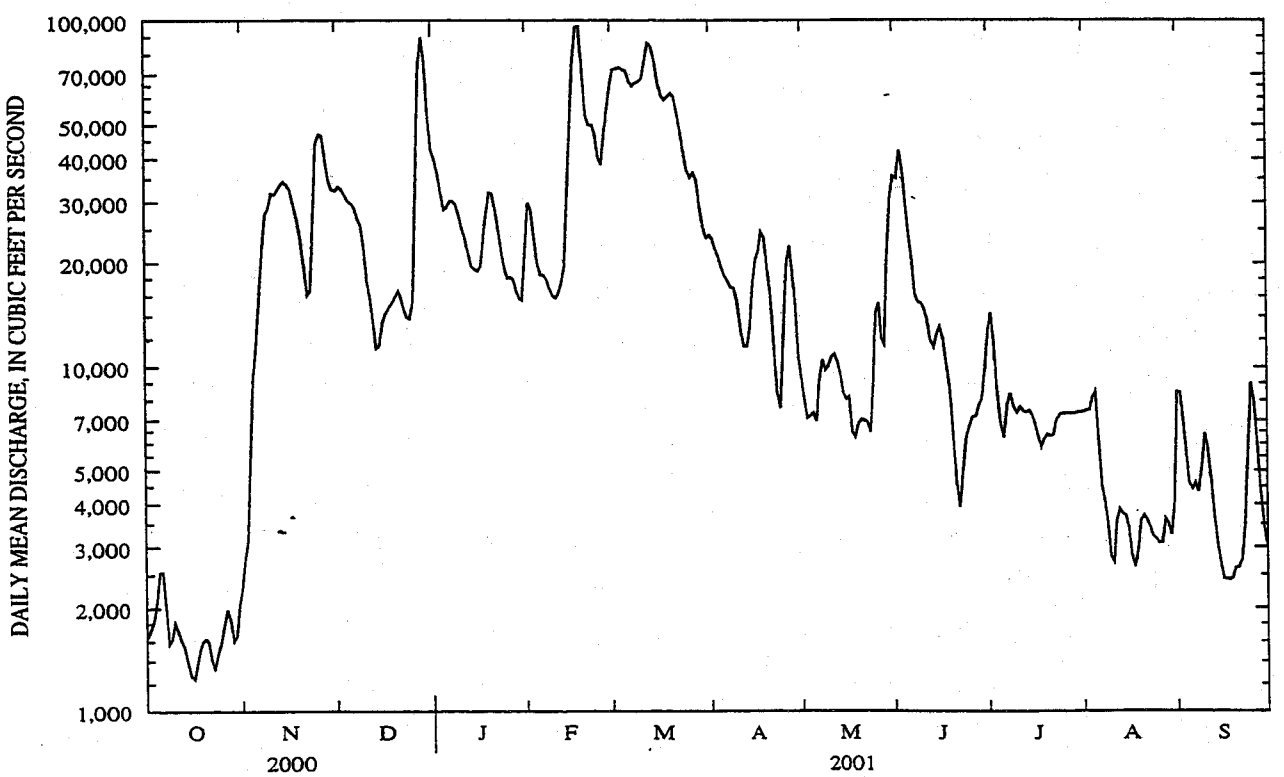
MEAN	8070	10910	12170	11350	14260	17500	17240	23740	21990	9782	5781	5925
MAX	41690	47140	47910	60160	38960	67730	61460	121000	94400	33990	39230	30340
(WY)	1946	1975	1992	1998	1946	1945	1990	1990	1957	1989	1950	1950
MIN	716	642	1206	1360	2127	2233	2096	4199	3098	1162	1025	909
(WY)	1957	1957	1957	1964	1964	1967	1956	1972	1988	1944	1944	1944

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1944 - 2001	
ANNUAL TOTAL	3245570		7148660			
ANNUAL MEAN	8868		19590		[a]13210	
HIGHEST ANNUAL MEAN					30420	1990
LOWEST ANNUAL MEAN					4383	1964
HIGHEST DAILY MEAN	89700	Dec 29	96400	Feb 19	268000	May 10 1990
LOWEST DAILY MEAN	1240	Oct 16	1240	Oct 16	384	Nov 28 1956
ANNUAL SEVEN-DAY MINIMUM	1420	Oct 13	1420	Oct 13	397	Oct 19 1956
MAXIMUM PEAK FLOW			102000	Feb 19	[b]270000	May 10 1990
MAXIMUM PEAK STAGE			18.55	Feb 19	[c]32.30	May 10 1990
INSTANTANEOUS LOW FLOW			1240	Oct 15-16	378	Nov 28 1956
ANNUAL RUNOFF (AC-FT)	6438000		14180000		9570000	
10 PERCENT EXCEEDS	19800		47400		35300	
50 PERCENT EXCEEDS	4500		13000		6010	
90 PERCENT EXCEEDS	2000		2590		2290	

[a]Prior to regulation, water years 1937-43, 11,970 ft^3/s

[b]Maximum discharge for period of record 297,000 ft^3/s Feb. 23, 1938

[c]Maximum gage height for period of record, 34.25 ft Feb. 23, 1938, from graph based on gage readings



07340000 LITTLE RIVER NEAR HORATIO

LOCATION.--Lat 33°55'10", long 94°23'15", in NE1/4 sec.10, T.10 S., R.32 W., Sevier County, Hydrologic Unit 11140109, near left bank on downstream side of bridge on State Highway 41, 0.9 mi downstream from Rolling Fork, 2.0 mi southwest of Horatio, 28.5 mi upstream from Cossatot River, and at mile 72.0.

DRAINAGE AREA.--2,662 mi^2.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 858: 1932, 1935-36. WSP 1211: 1931, drainage area. WSP 1561: 1932. WRD Ark. 1978: drainage area.

GAGE.--Water-stage recorder. Datum of gage is 272.89 ft above sea level. Prior to Feb. 5, 1935, nonrecording gage, and Feb. 5, 1934, to Sept. 13, 1961, water-stage recorder, at site 50 ft upstream at present datum.

REMARKS.--Records good except estimated daily discharges, which are fair. Some regulation since Oct. 3, 1968, by Broken Bow Lake (Oklahoma), 31.4 mi upstream, capacity, 1,368,000 acre-ft, and since June 1, 1969, by Pine Creek Lake (Oklahoma), 73.3 mi upstream, capacity, 465,800 acre-ft. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1915, reached a stage of 38.0 ft, discharge, 124,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	636	609	10800	9140	10300	17100	2350	1640	8630	3100	1670	718
2	940	685	12000	8830	9520	16200	1830	844	9820	1680	2130	662
3	1100	2500	11700	9660	8380	17200	3580	1020	8340	1130	1260	618
4	827	2030	11800	10900	4020	18300	4450	1030	7960	927	942	644
5	852	2090	11300	11600	2780	16500	4740	1320	7530	820	784	641
6	1030	9340	9330	11900	3570	12800	4470	702	4290	1160	700	718
7	610	15800	8980	8910	3520	11600	3360	761	1880	1600	2000	691
8	472	14700	9500	8670	3510	14400	1440	1650	1200	1570	2290	1640
9	475	14500	8700	11900	3260	15800	954	2520	1020	1550	2450	1360
10	463	9050	5240	12800	3040	16100	1100	1990	965	1440	2520	904
11	450	6000	3850	12500	3470	16400	1740	2180	809	2210	1880	1340
12	451	5400	5010	12500	3260	18500	2010	2710	898	2490	907	1130
13	451	9470	4640	10300	6180	17900	1910	2810	1250	1210	637	2430
14	445	10100	2640	6270	17500	15900	1770	2270	1100	901	656	2850
15	386	8450	2920	4950	20100	17200	3980	2220	1120	776	658	1820
16	370	8170	3080	5640	22200	16500	6070	2760	971	777	710	853
17	e360	7880	3700	6240	31400	15300	7710	2210	880	1240	738	645
18	e350	5270	3470	8890	28600	15600	7740	1700	1170	2340	732	1810
19	e340	3290	5630	10500	25200	15400	7950	1550	1300	2790	1130	1920
20	364	2810	7260	10100	21700	15100	7120	734	1550	3250	857	2720
21	411	2960	7350	8090	13800	15000	5030	624	1310	3250	678	2740
22	376	3290	4770	7270	7400	15400	2110	3340	859	2060	667	2890
23	360	4040	3440	7480	11400	15900	1670	5320	1470	2980	645	1780
24	e350	17800	2160	6790	12200	16100	3270	5340	814	3490	645	1430
25	e340	25200	1680	5750	7840	16100	2630	5820	882	1460	638	1430
26	e330	22300	7330	5620	10600	15900	3130	3460	1010	958	613	1300
27	e320	17100	23100	3100	13100	15600	3000	1480	1500	887	612	1470
28	e315	12100	27900	2160	16700	12600	2400	2600	922	955	896	1260
29	e310	9010	26200	2340	---	9840	1140	5890	1320	744	1180	798
30	e310	10300	22100	5880	---	8370	660	4740	3510	689	818	621
31	382	---	15000	9700	---	4700	---	4360	---	731	859	---
TOTAL	15176	262244	282580	256380	324550	465310	101314	77595	76280	51165	33902	41833
MEAN	490	8741	9115	8270	11590	15010	3377	2503	2543	1650	1094	1394
MAX	1100	25200	27900	12800	31400	18500	7950	5890	9820	3490	2520	2890
MIN	310	609	1680	2160	2780	4700	660	624	809	689	612	618
AC-FT	30100	520200	560500	508500	643700	922900	201000	153900	151300	101500	67240	82980

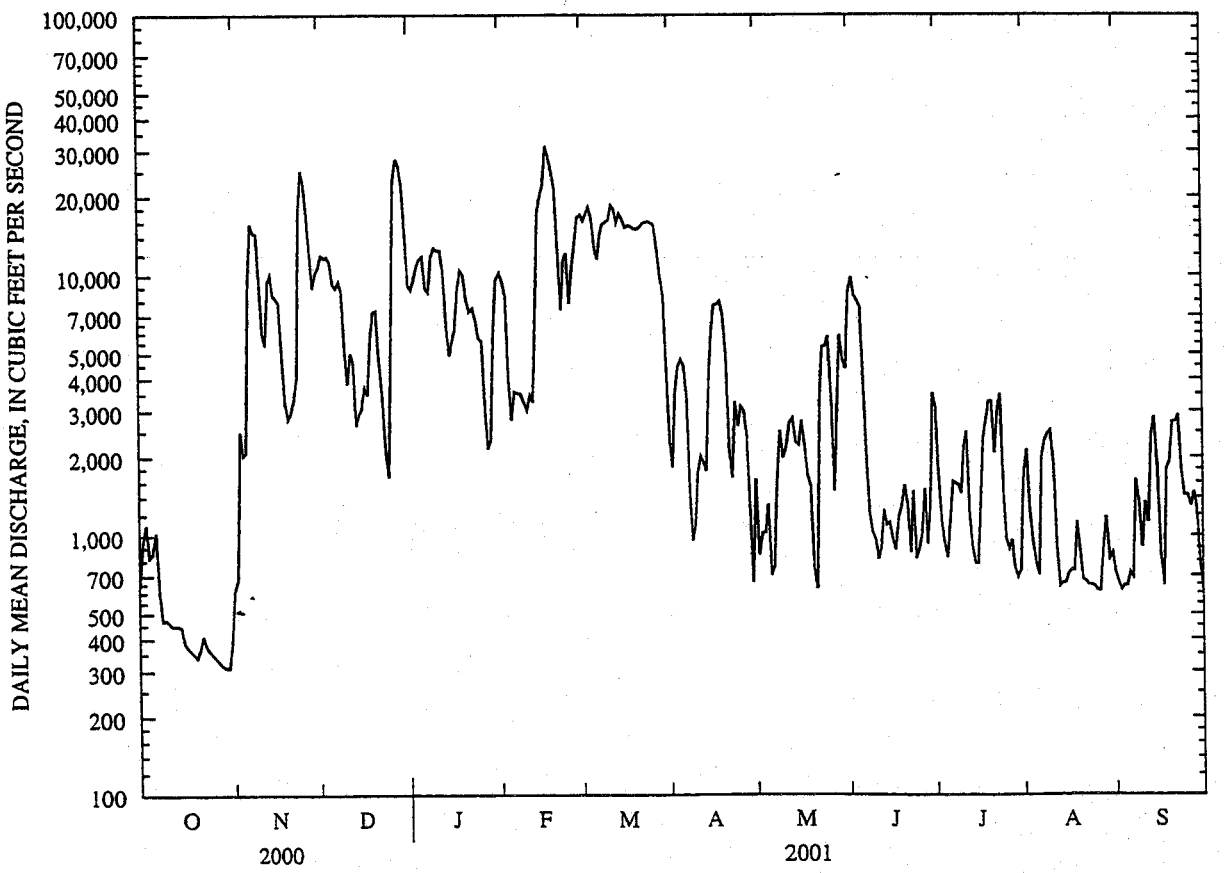
07340000 LITTLE RIVER NEAR HORATIO--CONTINUED

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2001, BY WATER YEAR (WY)

MEAN	2123	4522	6405	4866	5750	6970	5471	6087	4247	1737	1150	1469
MAX	9360	15960	17120	15890	12390	15020	16250	16790	14180	8397	3542	10430
(WY)	1985	1975	1972	1998	1989	1997	1973	1990	1990	1983	1992	1974
MIN	242	232	244	493	669	665	1449	530	346	281	411	303
(WY)	2000	2000	1990	1981	1996	1996	1981	1988	1988	1972	1977	1977

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1969 - 2001	
ANNUAL TOTAL	1335329		1988329			
ANNUAL MEAN	3648		5447		[a]4225	
HIGHEST ANNUAL MEAN					7523	1973
LOWEST ANNUAL MEAN					1547	1976
HIGHEST DAILY MEAN	27900	Dec 28	31400	Feb 17	57700	Dec 12 1971
LOWEST DAILY MEAN	264	Jan 26	310	Oct 29	[b]121	Oct 5 1972
ANNUAL SEVEN-DAY MINIMUM	325	Oct 24	325	Oct 24	152	Oct 4 1972
MAXIMUM PEAK FLOW			32400	Feb 17	[c]65100	Dec 10 1971
MAXIMUM PEAK STAGE			29.14	Feb 17	[d]32.84	Dec 10 1971
ANNUAL RUNOFF (AC-FT)	2649000		3944000		3061000	
10 PERCENT EXCEEDS	9540		15500		12500	
50 PERCENT EXCEEDS	1910		2720		1850	
90 PERCENT EXCEEDS	442		645		361	

[a]Prior to regulation, water years 1931-68, 3,742 ft^3/s
[b]Minimum discharge for period of record, 1.0 ft^3/s Aug. 18 to Sept. 1, 1934
[c]Maximum discharge for period of record, 120,000 ft^3/s Mar. 30, 1945, from rating curve extended above 93,000 ft^3/s
[d]Maximum gage height for period of record, 37.70 ft Mar. 30, 1945
[e]Estimated



07362000 OUACHITA RIVER AT CAMDEN

LOCATION.--Lat 33°35'47", long 92°49'05", in SE1/4 sec.14, T.13 S., R.17 W., Ouachita County, Hydrologic Unit 08040102, at bridge on U.S. Highway 79B at Camden, 3.4 mi downstream from Ecore Fabre Bayou, 6.2 mi upstream from Two Bayou Creek, and at mile 354.1.

DRAINAGE AREA.--5,357 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1928 to September 1960 and October 1965 to current year in reports of Geological Survey. October 1929 to date in reports of U.S. Army Corps of Engineers. Monthly discharge only, October 1929 to September 1960 published in WSP 1311 and WSP 1731. Gage heights collected since 1885 in this vicinity are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 71.69 ft above sea level. Aug. 8, 1928, to July 10, 1935, and July 11, 1935, to Jan. 4, 1945, nonrecording gage at present site and datum. Jan. 5, 1945, to Oct. 27, 1947, nonrecording gage at site 0.4 mi downstream at present datum. Aug. 10, 1938, to May 31, 1949, supplementary nonrecording gage, 4.5 mi upstream. Since Jan. 1, 1957, auxiliary water-stage recorder, 3.2 mi downstream.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow regulated since 1925 by Lake Catherine, 102 mi upstream, capacity, 35,250 acre-ft, since 1932 by Lake Hamilton, capacity, 190,100 acre-ft, since 1949 by Lake Greeson, capacity, 407,900 acre-ft, since 1952 by Lake Ouachita, capacity, 2,768,400 acre-ft, and since August 1969 by DeGray Lake, capacity, 881,900 acre-ft. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1030	2780	10300	38000	13600	27200	7880	1550	17000	3720	2130	2840
2	1000	3180	7930	37700	12300	32700	6850	1420	20300	3210	3130	3330
3	742	2350	7180	31600	9230	37000	5980	1210	22200	2760	3500	2620
4	943	3000	5170	23600	7350	39400	5810	1520	20100	3760	3490	1800
5	970	2970	4520	19200	6570	39600	5550	2060	16200	4200	3070	1890
6	1440	4130	6160	17100	5060	39600	5550	1610	12600	3960	1720	2610
7	1300	3080	6960	16700	4500	35600	5370	1760	11000	3160	1330	2530
8	1010	2900	6470	16200	4080	28800	5320	4000	10500	4990	2150	2120
9	957	2590	5510	14900	4040	21900	4810	9090	9730	4720	3010	1750
10	984	5990	4850	14000	4280	18900	4440	12600	8180	4000	3150	1670
11	895	4400	3590	14300	5380	17000	3410	11700	6030	4000	3370	1620
12	1010	2710	3330	14500	5800	15200	2960	9170	4540	4610	3550	1600
13	1010	1930	4290	14600	5700	19600	3270	6860	3260	4600	3230	1460
14	966	5690	6520	14100	8380	25800	4470	4850	3510	4830	2950	1280
15	863	7100	7170	13800	15700	29800	8020	2840	3750	4880	2470	1030
16	1270	3880	9740	13200	20900	33200	13900	3620	3610	3490	2640	1140
17	1200	3120	13000	12500	31100	35200	19800	2560	2970	3080	2630	1800
18	977	4070	14200	14400	47100	34800	19900	2000	2260	3640	2970	1830
19	1170	3160	13700	20800	66300	33100	16500	2090	1860	4040	2790	1130
20	1230	3080	12300	27200	83800	28800	11700	2670	1960	4190	2310	1060
21	1180	2400	10600	32700	80100	24500	7670	3260	2360	4420	1960	1080
22	1030	3260	9850	35300	65300	20600	5600	6300	2830	4390	2010	979
23	886	3590	9250	35000	50400	18400	5280	9900	2680	2960	2150	1010
24	856	6360	7930	29200	39500	15300	4690	8930	2050	2260	2220	975
25	890	16500	6190	22700	32000	11500	5180	6540	2130	3670	2520	1080
26	1100	23800	6020	19000	29100	9290	4010	5330	1750	4240	2360	983
27	1160	27800	9150	17000	26800	8200	2830	4030	1930	3630	2030	888
28	939	28800	16900	14400	24900	8000	2290	2870	2790	3200	1920	874
29	850	24000	22300	11000	---	8700	1990	5280	3080	2860	1970	817
30	953	15900	27600	10600	---	8280	1710	10900	3410	1630	2070	851
31	2190	---	33700	12700	---	8270	---	13300	---	1400	2270	---
TOTAL	33001	224520	312380	628000	709270	734240	202740	161820	206570	114500	79070	46647
MEAN	1065	7484	10080	20260	25330	23690	6758	5220	6886	3694	2551	1555
MAX	2190	28800	33700	38000	83800	39600	19900	13300	22200	4990	3550	3330
MIN	742	1930	3330	10600	4040	8000	1710	1210	1750	1400	1330	817
AC-FT	65460	445300	619600	1246000	1407000	1456000	402100	321000	409700	227100	156800	92520

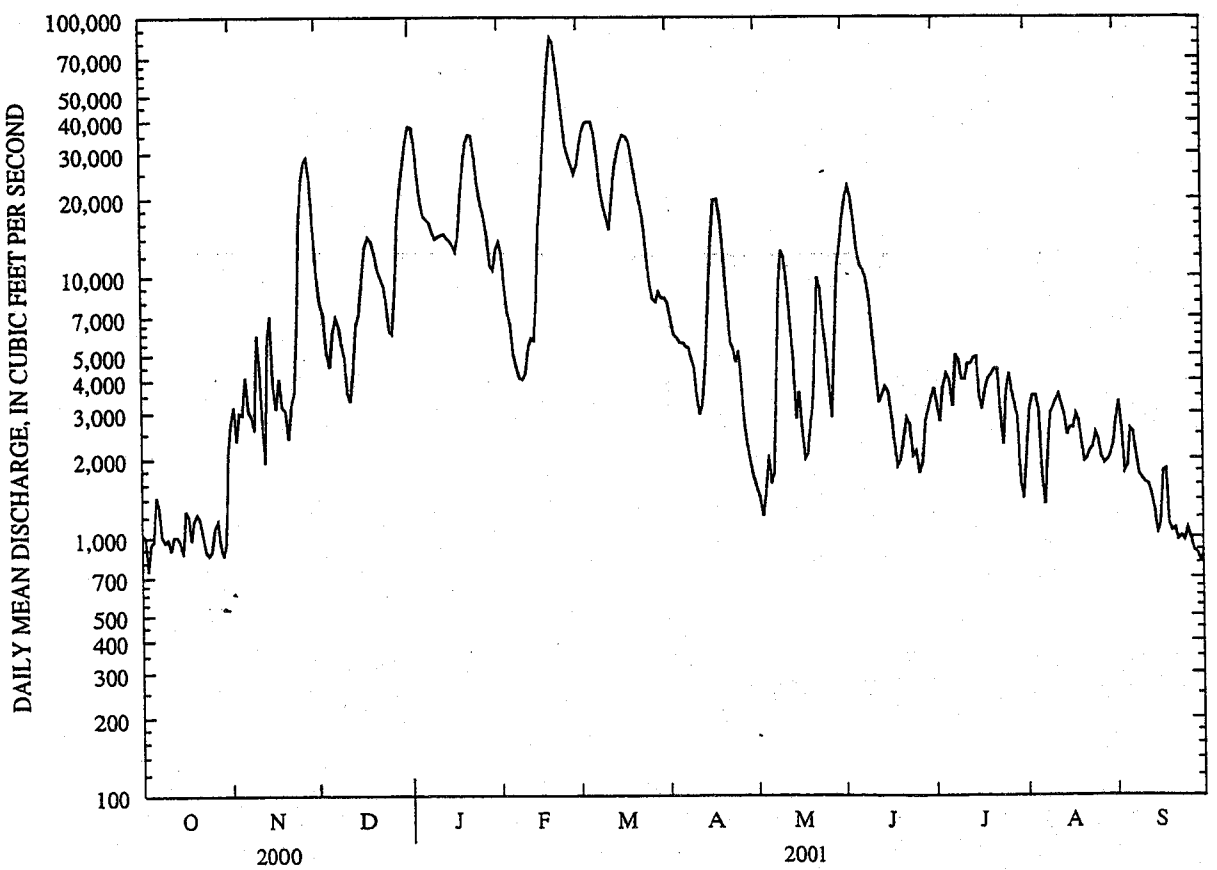
07362000 OUACHITA RIVER AT CAMDEN--CONTINUED

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)

MEAN	2455	5260	9331	12270	12430	12940	12920	12420	5263	2878	1997	2232
MAX	18200	25370	41930	46610	40110	45110	48110	52200	31090	13640	7469	19410
(WY)	1985	1973	1983	1937	1950	1945	1945	1968	1974	1989	1966	1974
MIN	291	381	740	686	1542	1742	1578	1674	411	260	176	154
(WY)	1933	1933	1940	1940	1936	1954	1930	1932	1936	1930	1930	1943

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1929 - 2001	
ANNUAL TOTAL	1770288		3452758			
ANNUAL MEAN	4837		9460		7678	
HIGHEST ANNUAL MEAN					16120	1973
LOWEST ANNUAL MEAN					2292	1936
HIGHEST DAILY MEAN	33700	Dec 31	83800	Feb 20	238000	Apr 3 1945
LOWEST DAILY MEAN	742	Oct 3	742	Oct 3	125	Sep 16 1943
ANNUAL SEVEN-DAY MINIMUM	954	Oct 23	924	Sep 24	132	Sep 11 1943
MAXIMUM PEAK FLOW			87700	Feb 20	243000	Apr 3 1945
MAXIMUM PEAK STAGE			37.55	Feb 20	44.82	Apr 3 1945
INSTANTANEOUS LOW FLOW			623	Oct 3	125	[a]Sep 16 1943
ANNUAL RUNOFF (AC-FT)	3511000		6849000		5562000	
10 PERCENT EXCEEDS	11300		27000		19300	
50 PERCENT EXCEEDS	3000		4290		3440	
90 PERCENT EXCEEDS	1040		1150		788	

[a]Also September 24-26, 1943



07362100 SMACKOVER CREEK NEAR SMACKOVER

LOCATION.--Lat 33°22'33", long 92°46'37", in NW1/4SE1/4 sec.32, T.15 S., R.16 W., Union County, Hydrologic Unit 08040201, near right bank on downstream side of bridge on State Highway 7, 0.1 mi downstream from Camp Creek, 3.3 mi northwest of Smackover, and at mile 22.0.

DRAINAGE AREA.--385 mi².

PERIOD OF RECORD.--October 1961 to current year. Gage-height records collected and occasional discharge measurements made by U.S. Army Corps of Engineers at this site since September 1938. Daily stages 1940 to date and results of discharge measurements 1947 to 1960 are published in reports of U.S. Army Corps of Engineers.

REVISED RECORDS.--WRD Ark. 1967: 1965. WRD Ark. 1979: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 97.56 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Mar. 1, 1989, water-stage recorder at site 100 ft downstream at same datum. Mar. 1, 1989 to Sept. 4, 1991, non-recording gage at same site and datum.

REMARKS.--Records good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1938, that of June 8, 1974.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	12	288	2170	1360	10500	878	119	21000	115	8.8	38
2	3.1	16	205	e1750	1120	8810	709	110	10100	249	8.4	70
3	2.7	21	164	e1380	900	5420	560	103	4170	278	8.1	118
4	2.5	28	139	984	697	3870	464	98	2280	189	7.9	103
5	2.4	39	122	676	467	3330	413	92	1660	164	9.1	91
6	2.9	49	111	509	349	2960	389	92	1250	128	8.4	55
7	3.5	48	105	447	302	2450	362	846	874	96	7.3	43
8	4.7	100	100	405	275	2060	316	2250	657	76	6.7	30
9	4.1	209	96	354	265	1810	276	2660	547	65	6.4	30
10	3.7	245	92	303	275	1620	247	2400	589	61	6.1	47
11	3.5	235	89	283	285	1420	224	1820	615	50	6.2	48
12	3.2	158	84	322	518	2870	205	1360	494	39	7.8	59
13	3.0	97	122	354	1280	7380	330	791	293	37	7.8	41
14	3.0	73	423	359	2040	7730	663	277	176	38	7.6	28
15	2.9	63	675	345	2630	5150	1320	181	152	38	6.8	21
16	2.7	64	887	316	6740	3930	1880	148	173	34	6.6	17
17	2.8	71	1100	637	19300	3220	2420	128	179	30	6.4	15
18	3.1	69	1230	2320	15200	2390	2330	113	151	27	7.9	13
19	3.7	67	1090	4590	6520	1930	1920	577	116	24	8.5	14
20	3.8	55	912	5500	3130	1570	1470	609	92	22	7.7	19
21	3.9	44	725	4350	2340	1190	945	351	86	19	7.6	18
22	3.9	37	409	2810	2080	841	489	306	247	17	10	19
23	5.0	40	261	2030	1790	618	312	269	499	15	8.7	19
24	6.3	767	212	1590	1530	519	264	269	640	14	7.1	27
25	7.7	1520	192	1220	1320	658	242	225	550	12	6.1	79
26	8.8	1750	221	866	1170	775	217	147	207	11	5.5	130
27	9.4	1770	1020	581	1470	786	189	113	122	11	19	82
28	10	1770	2170	418	5160	736	164	100	100	11	22	45
29	11	1420	3180	525	---	720	146	96	86	11	14	30
30	11	771	3650	1070	---	879	131	94	93	9.9	13	22
31	12	---	2920	1340	---	986	---	10300	---	9.3	20	---
TOTAL	154.4	11608	22994	40804	80513	89128	20475	27044	48198	1900.2	283.5	1371
MEAN	4.98	387	742	1316	2875	2875	682	872	1607	61.3	9.15	45.7
MAX	12	1770	3650	5500	19300	10500	2420	10300	21000	278	22	130
MIN	2.4	12	84	283	265	519	131	92	86	9.3	5.5	13
AC-FT	306	23020	45610	80930	159700	176800	40610	53640	95600	3770	562	2720
CFSM	.01	1.01	1.93	3.42	7.47	7.47	1.77	2.27	4.17	.16	.02	.12
IN.	.01	1.12	2.22	3.94	7.78	8.61	1.98	2.61	4.66	.18	.03	.13

07362100 SMACKOVER CREEK NEAR SMACKOVER--CONTINUED

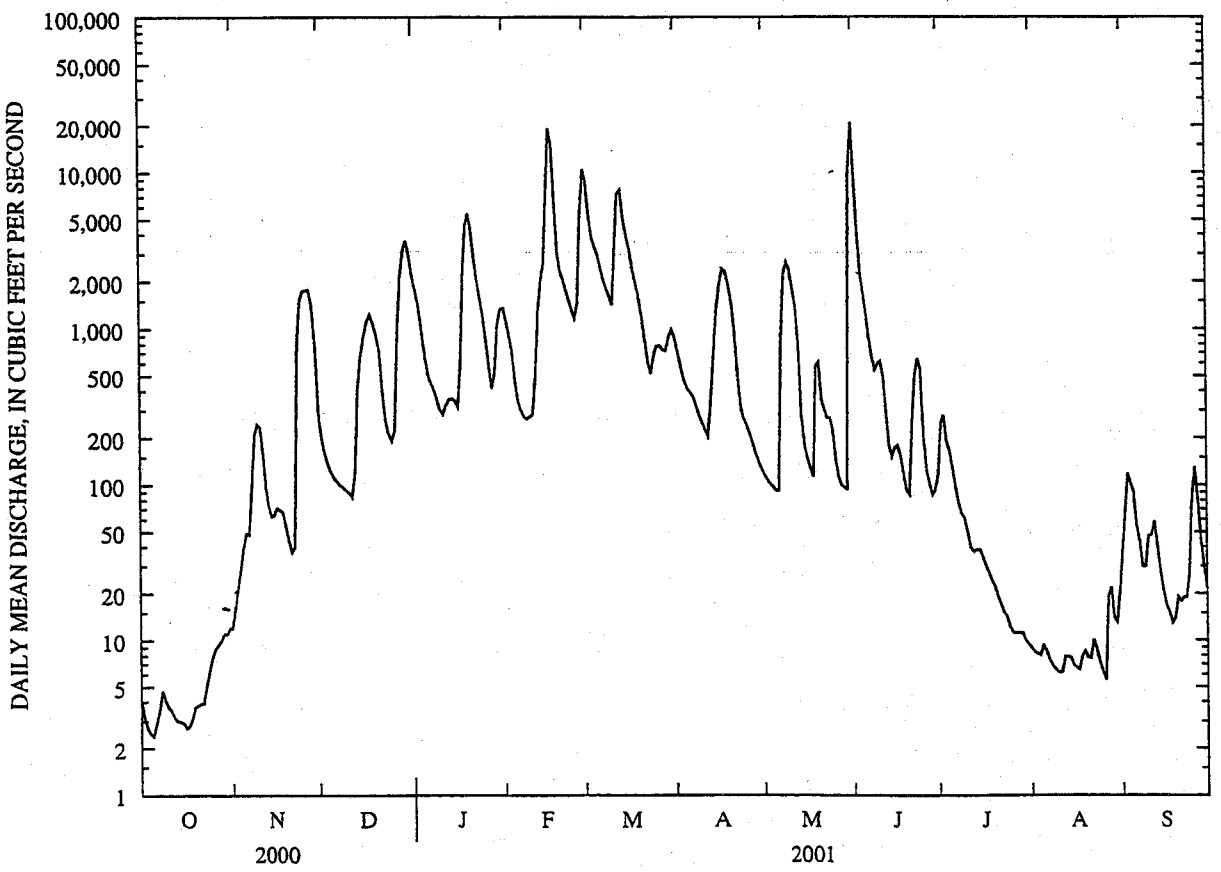
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2001, BY WATER YEAR (WY)

MEAN	113	247	561	666	852	862	750	508	437	126	50.1	92.5
MAX	1784	1143	1998	1980	2832	2802	4078	1701	2864	1949	346	2174
(WY)	1985	1975	1983	1962	2001	2001	1991	1966	1974	1989	1971	1974
MIN	1.51	3.66	33.5	38.8	44.6	112	90.6	33.6	8.91	1.81	.22	1.29
(WY)	1996	1996	1982	2000	1996	1967	1971	1996	1972	1964	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1962 - 2001	
ANNUAL TOTAL	95365.01		344473.1			
ANNUAL MEAN	261		944		436	
HIGHEST ANNUAL MEAN					1074	1974
LOWEST ANNUAL MEAN					94.4	1963
HIGHEST DAILY MEAN	3650	Dec 30	21000	Jun 1	35300	Apr 6 1997
LOWEST DAILY MEAN	.00	Aug 8	2.4	Oct 5	.00	Aug 24 1978
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 8	3.0	Oct 12	.00	Aug 8 2000
MAXIMUM PEAK FLOW			23600	Jun 1	[a]52700	Jun 8 1974
MAXIMUM PEAK STAGE			21.27	Jun 1	24.97	Jun 8 1974
INSTANTANEOUS LOW FLOW			2.3	Oct 4-6	.00	at times
ANNUAL RUNOFF (AC-FT)	189200		683300		316000	
ANNUAL RUNOFF (CFSM)	.68		2.45		1.13	
ANNUAL RUNOFF (INCHES)	9.21		33.28		15.39	
10 PERCENT EXCEEDS	755		2330		1230	
50 PERCENT EXCEEDS	56		189		94	
90 PERCENT EXCEEDS	.00		7.6		5.9	

[a]From rating curve extended above 31,000 ft^3/s

[e]Estimated



07363500 SALINE RIVER NEAR RYE

LOCATION.--Lat 33°42'03", long 92°01'33", in SW1/4NW1/4 sec.3, T.12 S., R.9 W., Bradley County, Hydrologic Unit 08040204, near left bank on downstream side of bridge on State Highway 15, 3.6 mi southwest of Rye, 5.8 mi upstream from Hudgin Creek, and at mile 71.0.

DRAINAGE AREA.--2,102 mi^2.

PERIOD OF RECORD.--August 1937 to current year.

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

GAGE.--No estimated daily discharges. Water-stage recorder. Datum of gage is 97.06 ft above sea level. Prior to May 30, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 1927 reached a stage of 30.5 ft, discharge, about 73,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

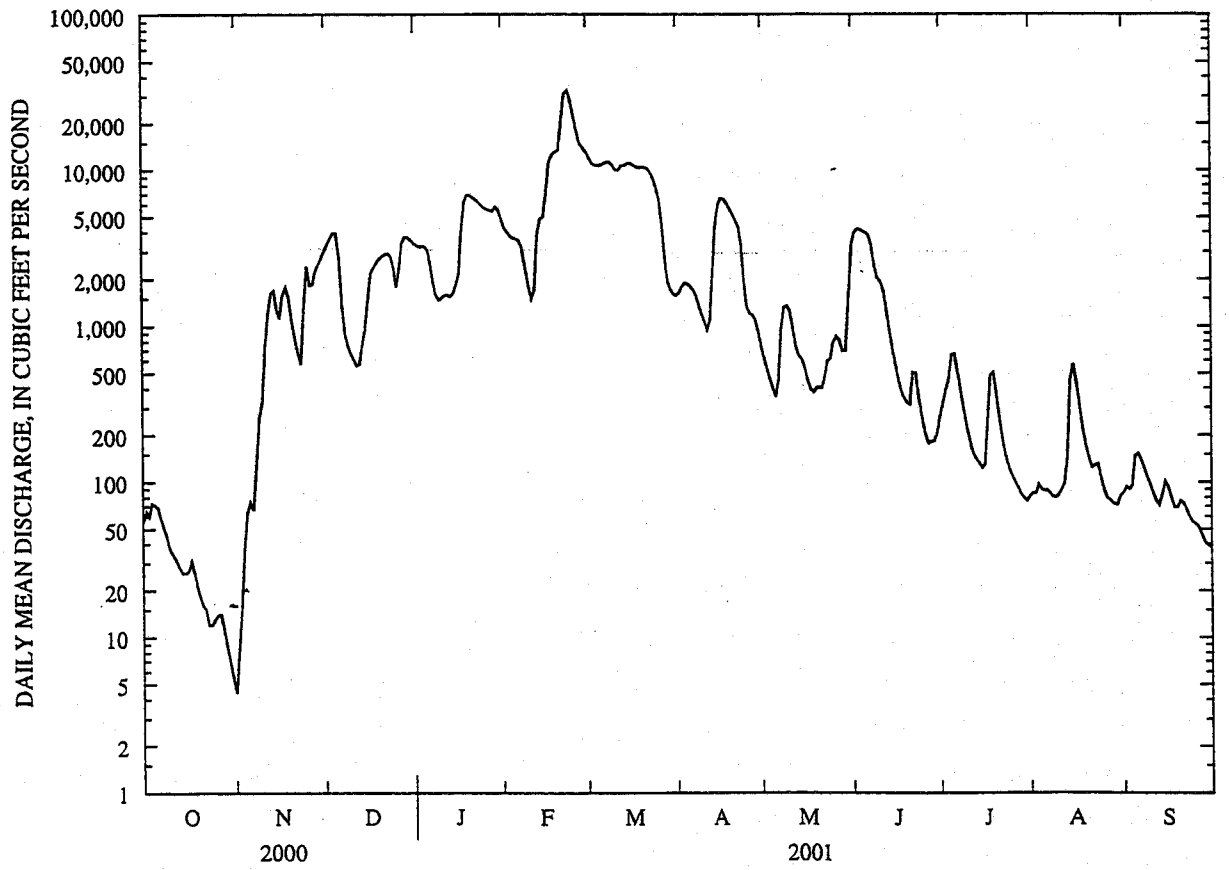
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	4.4	3030	3420	4850	13200	1570	758	3290	263	81	86
2	65	8.6	3350	3310	4290	12000	1640	624	3980	317	85	94
3	60	16	3680	3220	4000	11100	1800	529	4200	386	85	91
4	73	38	3960	3250	3800	10800	1900	456	4160	450	97	97
5	71	63	3920	3240	3660	10700	1880	400	4060	654	91	148
6	69	74	2810	3080	3610	10800	1790	355	3960	661	88	153
7	59	66	1360	2570	3530	11100	1700	459	3810	514	89	141
8	51	128	894	1940	3170	11300	1550	973	3280	385	86	125
9	44	262	749	1600	2430	11300	1340	1330	2430	289	81	110
10	37	331	667	1480	1810	10800	1180	1360	2030	225	80	99
11	34	749	610	1500	1510	10000	1060	1250	1920	183	83	87
12	31	1210	560	1570	1720	10000	952	943	1680	153	90	77
13	28	1620	573	1590	3850	10700	1090	739	1270	141	98	71
14	26	1690	761	1550	4850	10700	2300	646	929	132	142	82
15	26	1290	966	1620	5010	11000	4400	612	700	123	456	101
16	27	1130	1440	1830	7220	11200	5920	542	556	129	572	93
17	31	1570	2220	2170	11300	10900	6580	448	450	259	434	79
18	26	1780	2410	4100	12600	10600	6540	397	377	485	302	69
19	21	1520	2590	6180	13200	10400	6150	379	345	505	219	69
20	18	1080	2740	6900	13600	10500	5660	405	322	383	172	76
21	16	833	2850	6900	20700	10500	5170	406	315	264	143	74
22	15	671	2910	6730	31200	10300	4710	404	504	194	125	67
23	12	575	2910	6520	32900	9690	4290	474	500	154	129	60
24	12	1350	2790	6270	28400	8880	3280	598	354	131	131	56
25	13	2430	2390	6010	22700	7810	1910	621	267	116	109	54
26	14	1840	1790	5750	18000	6540	1320	793	211	106	91	51
27	14	1860	2320	5620	15000	4660	1210	863	178	98	80	46
28	11	2240	3440	5510	14100	2720	1190	813	183	91	77	41
29	8.5	2490	3750	5450	---	1940	1100	696	184	83	73	39
30	6.8	2740	3720	5850	---	1720	935	701	205	79	72	38
31	5.4	---	3560	5560	---	1610	---	1550	---	76	82	---
TOTAL	980.7	31659.0	71720	122290	293010	285470	82117	21524	46650	8029	4543	2474
MEAN	31.6	1055	2314	3945	10460	9209	2737	694	1555	259	147	82.5
MAX	73	2740	3960	6900	32900	13200	6580	1550	4200	661	572	153
MIN	5.4	4.4	560	1480	1510	1610	935	355	178	76	72	38
AC-FT	1950	62800	142300	242600	581200	566200	162900	42690	92530	15930	9010	4910
CFSM	.02	.50	1.10	1.88	4.98	4.38	1.30	.33	.74	.12	.07	.04
IN.	.02	.56	1.27	2.16	5.19	5.05	1.45	.38	.83	.14	.08	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2001, BY WATER YEAR (WY)

MEAN	487	1199	2867	3814	5114	5374	5247	4556	1494	581	283	338
MAX	10570	9690	13280	14830	16710	13920	16340	21470	11950	8191	1573	4511
(WY)	1985	1958	1974	1946	1950	1945	1973	1958	1974	1989	1971	1950
MIN	15.4	50.7	111	143	307	706	640	352	80.5	32.5	10.6	4.95
(WY)	1939	1940	1940	1956	2000	1940	1972	1992	1972	1954	1954	1954

07363500 SALINE RIVER NEAR RYE--CONTINUED

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1938 - 2001	
ANNUAL TOTAL	336913.0		970466.7			
ANNUAL MEAN	921		2659		2600	
HIGHEST ANNUAL MEAN					5436	1973
LOWEST ANNUAL MEAN					704	1972
HIGHEST DAILY MEAN	4510	May 10	32900	Feb 23	72500	May 18 1968
LOWEST DAILY MEAN	4.4	Nov 1	4.4	Nov 1	3.8	Sep 16 1954
ANNUAL SEVEN-DAY MINIMUM	8.4	Oct 27	8.4	Oct 27	4.0	Sep 15 1954
MAXIMUM PEAK FLOW			33800	Feb 22-23	74500	May 18 1968
MAXIMUM PEAK STAGE			26.47	Feb 22	31.40	May 18 1968
INSTANTANEOUS LOW FLOW			3.6	Nov 1	3.5	Sep 27 1954
ANNUAL RUNOFF (AC-FT)	668300		1925000		1883000	
ANNUAL RUNOFF (CFSM)	.44		1.26		1.24	
ANNUAL RUNOFF (INCHES)	5.96		17.17		16.80	
10 PERCENT EXCEEDS	2800		8240		7430	
50 PERCENT EXCEEDS	398		833		676	
90 PERCENT EXCEEDS	21		58		64	



07364150 BAYOU BARTHOLOMEW NEAR MCGEHEE

LOCATION.--Lat 33°37'40", long 91°26'45", in NE1/4SW1/4 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 mile 200.5.

DRAINAGE AREA.--576 mi^2.

WATER-DISCHARGE RECORDS

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 sea level. 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.--No estimated daily discharges. Water-discharge records good except discharges below 50 ft^3/s, which are poor.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	42	1600	1090	1660	3920	1040	899	409	98	79	220
2	18	43	1580	1050	1610	3860	933	833	479	105	88	429
3	19	44	1520	989	1550	3820	836	759	466	103	98	587
4	20	45	1440	917	1480	3850	743	682	431	93	100	525
5	20	46	1340	846	1390	3750	658	600	402	85	95	453
6	20	46	1230	789	1300	3610	571	517	400	83	96	409
7	20	46	1130	736	1220	3470	487	433	400	85	106	381
8	19	55	1020	681	1130	3290	413	384	398	89	114	346
9	18	77	919	628	1040	3090	350	313	384	90	117	300
10	18	123	821	576	966	2860	284	253	361	89	124	254
11	17	164	728	536	891	2630	231	220	337	77	138	208
12	17	186	636	503	927	2610	204	223	320	66	135	164
13	18	195	568	476	1200	2670	252	264	316	94	134	127
14	30	199	551	451	1380	2620	359	323	319	154	133	97
15	45	203	535	425	1520	2690	627	370	322	163	134	74
16	58	208	651	398	2010	2700	822	396	319	148	139	61
17	66	209	716	428	2550	2690	853	395	307	125	152	54
18	69	202	731	705	2940	2660	847	377	286	106	170	50
19	69	188	729	1090	3280	2620	862	349	255	102	191	44
20	67	166	728	1330	3540	2550	928	314	222	113	212	38
21	66	141	738	1490	3710	2460	1000	277	192	134	225	33
22	64	118	751	1650	3810	2340	1070	241	176	143	224	27
23	62	103	762	1790	3840	2210	1130	209	171	140	211	23
24	59	404	765	1890	3820	2070	1170	184	165	130	191	21
25	57	863	757	1920	3850	1920	1160	161	152	118	172	19
26	55	1110	749	1900	3770	1780	1130	142	133	98	158	17
27	53	1260	927	1850	3760	1640	1100	129	111	73	149	17
28	51	1390	1100	1770	3940	1510	1060	122	95	60	143	16
29	48	1500	1160	1710	---	1370	1010	116	89	58	140	16
30	46	1580	1160	1720	---	1250	958	113	92	62	143	15
31	44	---	1130	1690	---	1140	---	244	---	66	163	---
TOTAL	1249	10956	29172	34024	64084	81650	23088	10842	8509	3150	4474	5025
MEAN	40.3	365	941	1098	2289	2634	770	350	284	102	144	168
MAX	69	1580	1600	1920	3940	3920	1170	899	479	163	225	587
MIN	16	42	535	398	891	1140	204	113	89	58	79	15
AC-FT	2480	21730	57860	67490	127100	162000	45800	21510	16880	6250	8870	9970
CFSM	.07	.63	1.63	1.91	3.97	4.57	1.34	.61	.49	.18	.25	.29
IN.	.08	.71	1.88	2.20	4.14	5.27	1.49	.70	.55	.20	.29	.32

RED RIVER BASIN

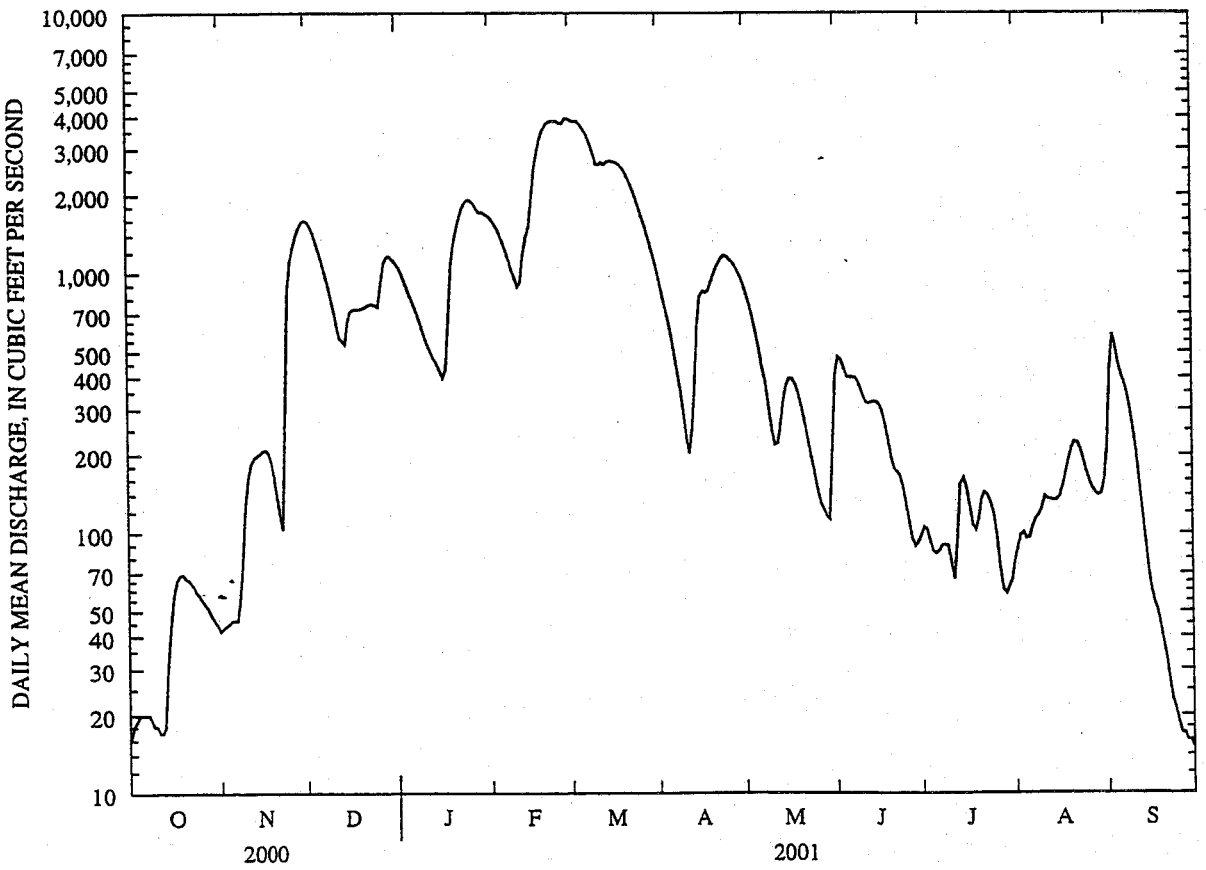
07364150 BAYOU BARTHOLOMEW NEAR MCGEHEE

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	165	341	720	1026	1417	1405	1207	1046	455	213	151	150
MAX	1491	2240	2835	3900	5085	4006	3127	5972	2575	3688	1032	1792
(WY)	1985	1958	1973	1946	1990	1997	1991	1958	1974	1989	1989	1974
MIN	8.45	6.88	31.9	39.3	98.3	189	82.8	73.0	22.1	6.03	.44	14.4
(WY)	1996	1996	1982	1966	2000	1954	1966	1965	1972	1954	1956	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001	
ANNUAL TOTAL	110615		276223			
ANNUAL MEAN	302		757		687	
HIGHEST ANNUAL MEAN					1488	1973
LOWEST ANNUAL MEAN					149	1972
HIGHEST DAILY MEAN	1960	Apr 6	3940	Feb 28	6870	May 11 1958
LOWEST DAILY MEAN	12	Sep 15	15	Sep 30	.20	Aug 15 1956
ANNUAL SEVEN-DAY MINIMUM	13	Sep 12	17	Sep 24	.20	Aug 15 1956
MAXIMUM PEAK FLOW			3950	Feb 28	6870	May 11 1958
MAXIMUM PEAK STAGE			20.58	Feb 28	[a]25.49	May 11 1958
INSTANTANEOUS LOW FLOW			15	Sep 30	.20	Aug 15 1956
ANNUAL RUNOFF (AC-FT)	219400		547900		498000	
ANNUAL RUNOFF (CFSM)	.52		1.31		1.19	
ANNUAL RUNOFF (INCHES)	7.14		17.84		16.22	
10 PERCENT EXCEEDS	782		2030		2000	
50 PERCENT EXCEEDS	100		349		243	
90 PERCENT EXCEEDS	19		47		31	

[a]At present datum



07369680 BAYOU MACON AT EUDORA

LOCATION.--Lat 33°06'09", long 91°15'08", in SE1/4SE1/4 sec.25, T.18 S., R.2 W., Chicot County, Hydrologic Unit 08030100, near left bank on downstream side of bridge on U.S. Highway 65, 0.6 mi south of Eudora.

DRAINAGE AREA.--500 mi².

PERIOD OF RECORD.--October 1988 to current year. Gage-height record and results of discharge measurements since January 1938, are contained in reports of the U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 80.92 ft above sea level. Satellite telemeter at station.

REMARKS.--Records good. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1938, 27.43 ft May 10, 22, 1958.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	59	187	480	189	1820	e83	e85	251	106	82	381
2	67	60	158	339	149	1740	e81	e84	162	85	74	465
3	66	74	132	279	124	e1700	e79	e82	122	80	84	345
4	65	71	111	236	100	e1450	e77	e82	e90	64	94	239
5	64	77	96	202	93	e1200	e76	e82	e82	95	99	255
6	80	83	86	169	86	e950	e74	e80	103	103	98	271
7	74	92	77	140	78	741	e73	e80	108	99	91	168
8	64	123	75	123	71	626	e73	e80	e98	101	88	141
9	63	224	73	107	67	620	e72	e79	e90	93	98	e122
10	62	160	72	94	66	394	e72	e79	e84	64	202	e116
11	62	111	71	109	64	216	e71	e79	e88	e57	239	e112
12	62	88	71	126	424	852	e160	e78	e95	67	136	e94
13	62	78	82	104	1020	1450	358	e78	90	91	141	e89
14	62	71	105	88	751	985	241	e78	85	180	142	e85
15	61	67	183	75	440	1150	441	e78	93	164	122	e82
16	61	70	929	69	1110	852	377	e77	83	109	111	e78
17	61	74	974	219	1790	521	229	e77	92	70	109	e76
18	61	67	535	1130	1520	385	158	e77	90	90	155	e74
19	61	68	280	2140	1060	308	125	e90	e70	80	138	e72
20	61	66	199	2190	662	248	107	138	e65	65	116	e70
21	61	64	163	1770	645	198	e104	114	e62	e58	110	e68
22	61	63	132	e1220	646	153	e101	219	e72	71	100	67
23	60	63	109	e700	573	128	e97	178	94	81	94	65
24	59	483	96	408	512	115	e93	111	100	72	93	65
25	60	1380	88	324	592	108	e92	e92	99	e63	93	64
26	59	1120	86	263	496	e102	e91	e82	77	70	93	63
27	60	656	1230	219	772	e98	e90	e77	e70	112	90	63
28	60	364	1900	182	1760	e94	e89	e74	184	213	92	62
29	59	242	1920	227	---	e90	e87	e72	201	210	93	62
30	59	217	1360	294	---	e88	e86	e70	137	146	101	62
31	59	---	882	236	---	e85	---	258	---	102	211	---
TOTAL	1943	6435	12462	14262	15860	19467	3957	3010	3137	3061	3589	3976
MEAN	62.7	214	402	460	566	628	132	97.1	105	98.7	116	133
MAX	80	1380	1920	2190	1790	1820	441	258	251	213	239	465
MIN	59	59	71	69	64	85	71	70	62	57	74	62
AC-FT	3850	12760	24720	28290	31460	38610	7850	5970	6220	6070	7120	7890

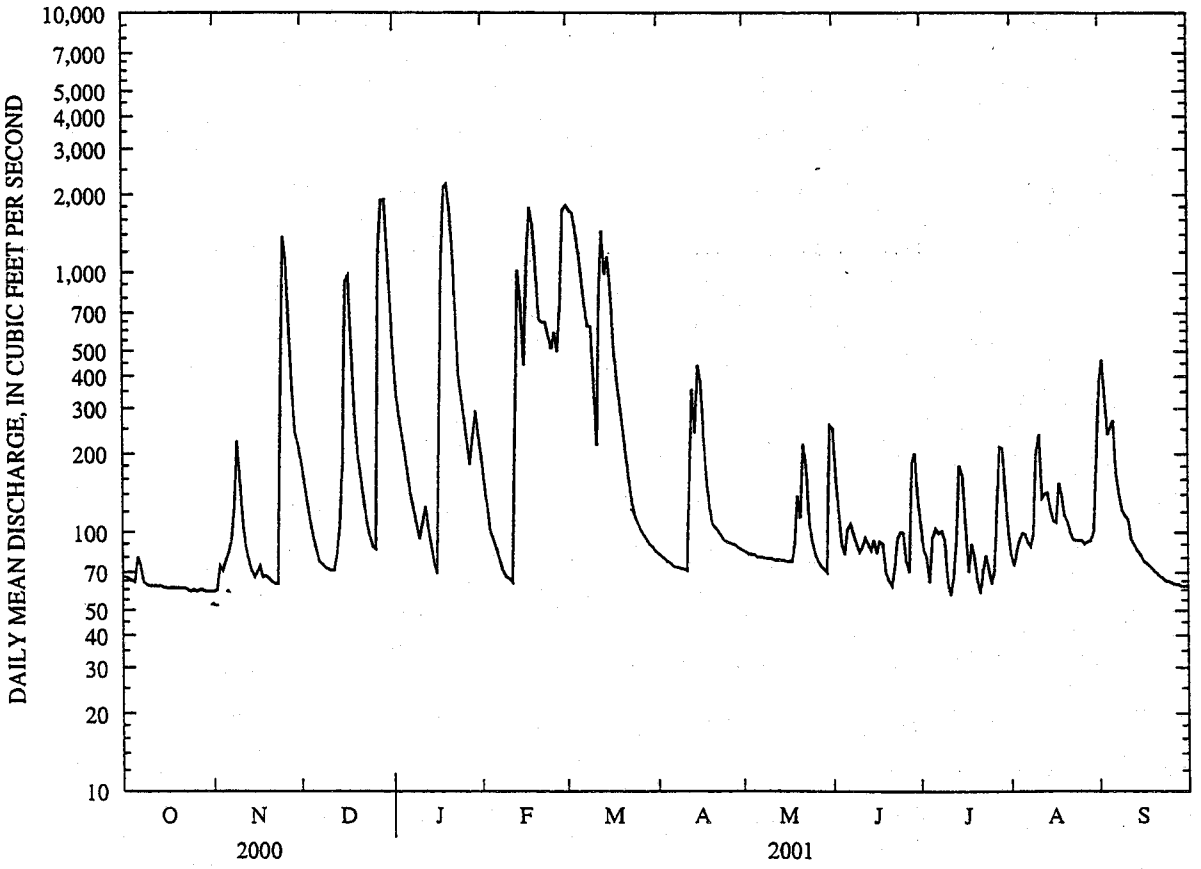
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2001, BY WATER YEAR (WY)

MEAN	89.3	123	286	475	512	401	401	293	183	259	162	97.6
MAX	297	218	651	924	1174	858	1053	1510	330	847	425	150
(WY)	1995	1992	1991	1999	1991	1995	1991	1991	1989	1994	1994	1994
MIN	41.8	51.5	58.5	51.0	51.1	98.1	63.0	72.0	105	90.5	83.7	61.8
(WY)	1994	1996	2000	2000	2000	1993	1998	1992	2001	1997	1997	1997

07369680 BAYOU MACON AT EUDORA--CONTINUED

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1988 - 2001	
ANNUAL TOTAL	66494		91159			
ANNUAL MEAN	182		250		272	
HIGHEST ANNUAL MEAN					493	1991
LOWEST ANNUAL MEAN					130	1996
HIGHEST DAILY MEAN	2670	Apr 4	2190	Jan 20	4170	Apr 23 1995
LOWEST DAILY MEAN	35	Feb 22	57	Jul 11	1.7	Sep 23 1988
ANNUAL SEVEN-DAY MINIMUM	37	Feb 18	59	Oct 26	34	Sep 28 1988
MAXIMUM PEAK FLOW			2290	Jan 19	4280	Apr 23 1995
MAXIMUM PEAK STAGE			18.70	Jan 19	24.41	Apr 29 1991
INSTANTANEOUS LOW FLOW			58	Nov 1	32	May 21 1995
ANNUAL RUNOFF (AC-FT)	131900		180800		197400	
10 PERCENT EXCEEDS	308		658		605	
50 PERCENT EXCEEDS	88		94		108	
90 PERCENT EXCEEDS	43		64		56	

[e]Estimated



07344370 RED RIVER AT SPRING BANK, AR

LOCATION.--Lat. 33°04'50", Long. 93°51'42", in SW 1/4 NW 1/4 sec.24, T.19 S., R.27 W., Lafayette County, near right bank on downstream side of bridge on State highway 160, 0.1 mi downstream from Sulphur River, 4.5 mi upstream from Arkansas-Louisiana State line, and 2.5 mi east of intersection of U.S. Highway 71 and State Highway 160 at Doddridge, AR.

PERIOD OF RECORD.--October 1, 1995 to July 10, 1996 daily observer record. July 11, 1998 to current year.

GAGE.--Water-stage recorder. Prior to July 11, 1996, observer record of daily readings only.

REMARKS.--Records good except for days with gage heights above 24.00 feet and erratic bubbler gage readings, April 5 to May 16, which are fair. Datum of gage not determined. Satellite telemetry at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 140,000 ft^3/s, Mar. 14, gage height, 33.37 ft; minimum discharge, 2,020 ft^3/s, Oct. 25, 26, gage height, 11.98 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3410	2190	56600	e79000	30300	108000	57600	28600	e51200	20200	8500	7330
2	2990	2570	57400	e73000	39200	124000	55200	25500	55300	23000	8470	10100
3	2790	2990	57700	e66000	47200	131000	48000	23100	55300	26200	8550	12700
4	2770	3600	56700	62500	47100	133000	42000	21300	59300	27100	8670	12100
5	2840	4860	56400	59500	42700	131000	41500	20100	59100	23700	8790	e10800
6	3270	6940	56400	56700	36000	127000	43100	20400	55300	21100	9290	e9900
7	3920	10300	55700	56500	31400	125000	41800	20500	49600	19100	9000	8990
8	4400	18900	53200	56700	29800	118000	41000	24300	44300	18100	7320	8520
9	3930	32900	48100	56000	29000	113000	39800	28600	38200	18600	6530	8490
10	3290	40900	44600	54400	28000	112000	36400	29100	32600	17800	6730	9360
11	3040	42400	41700	53000	27100	112000	32800	28500	30800	16200	6310	10600
12	3010	44000	e37000	51500	27600	121000	29600	28100	29700	14700	5930	10900
13	2900	44600	e32000	49800	29800	132000	29000	27000	28700	12900	5990	9850
14	2640	45900	28800	47900	31700	138000	31800	26400	26900	11000	6450	8770
15	2410	46400	25800	46000	36300	133000	37600	26100	25900	9610	6350	8090
16	2320	44000	25200	44700	57100	127000	43100	e25000	25900	9020	5500	7950
17	2180	42000	26600	41600	79800	120000	46700	e24000	26600	8630	5310	7660
18	2100	40800	26200	45500	97400	112000	50000	e22000	26100	8200	5170	7310
19	2080	39100	25100	53900	102000	106000	51200	20900	24600	7840	4810	6170
20	2160	36700	23900	59600	97800	105000	49700	19200	23300	7870	4630	5900
21	2220	34300	23900	61200	85400	103000	44000	19400	21100	8260	4820	6140
22	2260	30900	23200	58800	79800	99900	37600	19700	18900	8910	5200	6900
23	2230	27400	19700	53500	81200	91100	33000	21100	16900	8910	5260	6990
24	2130	32300	18100	49000	82300	82200	29600	25300	16300	9090	5170	7370
25	2030	48000	17700	42400	79900	76200	28800	25900	17300	9830	4970	8120
26	2040	61300	18800	37900	74100	71300	29900	25800	18000	9960	4710	11600
27	2130	64400	27600	35100	74600	69200	35200	28000	18300	10000	4680	13500
28	2240	66900	53700	33800	90400	70600	37800	31400	18100	9820	4580	11900
29	2410	66300	74400	33900	---	71700	35900	29800	18600	8750	4600	10200
30	2370	63600	85900	32100	---	68000	32500	e29000	19200	8550	4940	8910
31	2220	---	83800	30100	---	62300	---	e42500	---	8520	5320	---
TOTAL	82730	1047450	1281900	1581600	1595000	3293500	1192200	786600	951400	421470	192550	273120
MEAN	2669	34920	41350	51020	56960	106200	39740	25370	31710	13600	6211	9104
MAX	4400	66900	85900	79000	102000	138000	57600	42500	59300	27100	9290	13500
MIN	2030	2190	17700	30100	27100	62300	28800	19200	16300	7840	4580	5900
AC-FT	164100	2078000	2543000	3137000	3164000	6533000	2365000	1560000	1887000	836000	381900	541700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2001, BY WATER YEAR (WY)

MEAN	7057	12930	23370	40150	32370	48790	28590	20600	20920	12420	5853	6528
MAX	18140	34920	41350	87290	56960	106200	39740	25680	31770	16960	6470	9104
(WY)	1999	2001	2001	1998	2001	2001	2001	1999	2000	2000	1999	2001
MIN	2518	2183	6406	4203	5312	11020	16420	10300	6655	4176	4614	4154
(WY)	2000	2000	2000	2000	2000	2000	2000	1998	1998	1998	1998	1999

07344370 RED RIVER AT SPRING BANK, AR--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1998 - 2001	
ANNUAL TOTAL	5997070		12699520			
ANNUAL MEAN	16390		34790		21600	
HIGHEST ANNUAL MEAN					34790	2001
LOWEST ANNUAL MEAN					10730	2000
HIGHEST DAILY MEAN	85900	Dec 30	138000	Mar 14	138000	Mar 14 2001
LOWEST DAILY MEAN	2030	Oct 25	2030	Oct 25	1910	Nov 24 1999
ANNUAL SEVEN-DAY MINIMUM	2150	Oct 21	2150	Oct 21	2070	Nov 21 1999
MAXIMUM PEAK FLOW			140000	Mar 14	140000	Mar 14 2001
MAXIMUM PEAK STAGE			33.37	Mar 14	34.05	Jan 12 1998
INSTANTANEOUS LOW FLOW			b2020	Oct 25	a1890	Nov 24 1999
INSTANTANEOUS LOW STAGE			b11.98	Oct 25	b11.98	Oct 25 2000
ANNUAL RUNOFF (AC-FT)	11900000		25190000		15650000	
10 PERCENT EXCEEDS	42500		79300		51800	
50 PERCENT EXCEEDS	9760		27400		12200	
90 PERCENT EXCEEDS	3620		4590		3740	

a Also occurred on Nov. 25, 1999.
b Also occurred on Oct. 26, 2000.
e Estimated

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.35	12.19	27.37	---	23.24	31.87	26.90	21.27	---	19.11	15.45	14.95
2	13.00	12.59	27.48	---	24.81	32.63	26.47	20.60	26.48	19.79	15.44	16.06
3	12.81	13.01	27.52	---	26.08	32.93	25.16	20.04	26.47	20.56	15.47	16.95
4	12.80	13.54	27.39	28.12	26.06	33.02	24.02	19.62	27.18	20.76	15.52	16.76
5	12.87	14.47	27.36	27.74	25.39	32.93	23.92	19.35	27.15	19.96	15.57	---
6	13.26	15.71	27.36	27.39	24.28	32.74	24.24	19.41	26.47	19.32	15.76	---
7	13.80	17.30	27.26	27.37	23.44	32.67	23.98	19.45	25.45	18.82	15.65	15.64
8	14.16	20.39	26.92	27.40	23.13	32.39	23.83	20.32	24.46	18.55	14.96	15.46
9	13.81	23.71	26.21	27.30	22.97	32.14	23.59	21.28	23.19	18.69	14.60	15.45
10	13.28	25.12	25.70	27.09	22.77	32.09	22.90	21.39	21.99	18.46	14.69	15.79
11	13.06	25.36	25.24	26.90	22.58	32.09	22.16	21.27	21.60	18.02	14.50	16.25
12	13.03	25.60	---	26.69	22.68	32.50	21.50	21.17	21.37	17.57	14.32	16.36
13	12.93	25.70	---	26.46	23.12	32.99	21.38	20.93	21.13	17.02	14.35	15.97
14	12.67	25.89	22.93	26.18	23.50	33.26	21.95	20.80	20.71	16.39	14.57	15.56
15	12.43	25.97	22.29	25.91	24.31	33.04	23.14	20.73	20.48	15.88	14.52	15.29
16	12.33	25.60	22.17	25.71	27.40	32.77	24.24	---	20.48	15.66	14.10	15.23
17	12.17	25.28	22.48	25.23	30.03	32.45	24.94	---	20.64	15.51	14.01	15.11
18	12.08	25.09	22.39	25.83	31.73	32.08	25.52	---	20.54	15.33	13.93	14.95
19	12.06	24.83	22.15	27.02	32.18	31.76	25.74	19.53	20.17	15.19	13.73	14.43
20	12.14	24.41	21.86	27.75	31.77	31.71	25.48	19.13	19.86	15.20	13.62	14.30
21	12.22	23.98	21.87	27.96	30.60	31.64	24.42	19.17	19.34	15.36	13.74	14.41
22	12.26	23.35	21.69	27.66	30.04	31.44	23.14	19.25	18.76	15.62	13.94	14.77
23	12.23	22.63	20.84	26.97	30.19	30.88	22.21	19.57	18.23	15.61	13.98	14.81
24	12.11	23.60	20.39	26.35	30.30	30.22	21.51	20.56	18.05	15.68	13.93	14.98
25	12.00	26.17	20.30	25.35	30.05	29.62	21.32	20.70	18.34	15.96	13.82	15.29
26	12.01	27.96	20.59	24.62	29.45	29.01	21.56	20.68	18.53	16.01	13.68	16.58
27	12.11	28.35	22.62	24.13	29.49	28.69	22.65	21.15	18.60	16.04	13.66	17.21
28	12.24	28.63	26.94	23.90	30.82	28.91	23.18	21.88	18.56	15.96	13.60	16.68
29	12.43	28.56	29.46	23.91	---	29.06	22.79	21.55	18.68	15.55	13.61	16.09
30	12.39	28.25	30.65	23.58	---	28.51	22.11	---	18.85	15.47	13.81	15.61
31	12.22	---	30.44	23.20	---	27.63	---	---	---	15.46	14.01	---
MAX	14.16	28.63	30.65	---	32.18	33.26	26.90	21.88	27.18	20.76	15.76	17.21
MIN	12.00	12.19	20.30	23.20	22.58	27.63	21.32	19.13	18.05	15.19	13.60	14.30

07364100 OUACHITA RIVER NEAR ARKANSAS-LOUISIANA STATE LINE

LOCATION.--Lat 33°01'55", long 92°05'16", in SE ¼ NE ¼ sec.25, T.19 S., R.10 W., Union County, Hydrologic Unit 08040202, on right bank 500 ft below lock and dam No. 6, 1.6 mi north of Arkansas-Louisiana State line, 3.5 mi downstream from Missouri Pacific Railroad Co. bridge, and 4.5 mi southeast of Felsenthal, Ark.

DRAINAGE AREA.--10,787 mi².

PERIOD OF RECORD.--April 1958 to current year (daily gage heights and daily discharges below 19.0 ft stage only). Gage-height record for some periods collected at same site since 1912 are contained in reports of Corps of Engineers, Vicksburg District.

REVISED RECORDS.--WDR LA-75-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 44.09 ft above sea level (levels by Corps of Engineers). Prior to Aug. 16, 1958, nonrecording gage at same site and datum. Water-stage recorder with telemetry for Ouachita River at Sterlington (station 07364535) used as auxiliary gage for this station. Prior to Oct. 1, 1980, water-stage recorder for Ouachita River at Alabama Landing near Haile (station 07364103) was used as auxiliary gage for this station.

REMARKS.--Records poor. Discharge computed for stages below bankfull, about 19 ft. Considerable regulation by 5 reservoirs in Arkansas, combined capacity, 3,107,880 acre-ft and a series of navigation locks and dams. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 43.04 ft, May 14, 15, 1958 (discharge not determined); minimum daily discharge, 190 ft³/s, Sept. 13, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum gage height since 1912, 44.2 ft, Apr. 11, 12, 1945; minimum, -0.3 ft, Nov. 11, 1916; minimum since 1928, 5.8 ft, Aug. 25, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 37.62 ft, Mar. 19; minimum discharge, 770 ft³/s, Oct. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1040	1110							14300	7680	1480	3390
2	1010	1060								8480	2140	3750
3	990	1100								7600	2560	4410
4	956	1170								5860	2720	3310
5	937	1170								6110	2790	2840
6	1270	1490								5990	2690	2500
7	1230	2820						e9300		4850	1600	2580
8	1110	3550	16500							4560	1370	3150
9	1060	2670	14800							5840	1990	2920
10	1040	2370	12100							5230	2340	2440
11	990	5290	10700							4420	2510	1760
12	955	4430	8060							3500	2940	1950
13	945	2950	4830							4310	2920	2030
14	924	2060	7390							4600	2620	1900
15	893	4750	8830							4140	1910	1610
16	884	7260	12300							4730	1940	1400
17	828	5560	14900					e13400	16800	3470	2210	1760
18	852	3500						e12600	e14400	2850	2910	2250
19	851	2640						e13200	e11200	2800	2930	2340
20	965	2120						e12500	8500	3950	2820	1650
21	1100	3690						e12600	6980	3750	1940	1500
22	1060	1690						e10800	7480	3910	1670	1760
23	1130	1190						e9800	6170	4060	2380	1470
24	1190	2850						14000	6130	2350	1900	1530
25	1190	10300						14300	5290	1880	1720	1360
26	1040	14600						13800	3980	2980	2370	1650
27	1030							12300	3300	3590	2200	1540
28	1100							10800	3190	3700	2500	1400
29	1200				---			8760	4810	2490	1720	1350
30	1240				---			8620	6200	2250	2130	1370
31	1210	---			---		---	11400	---	1410	2520	---
TOTAL	32220	---	---	---	---	---	---	---	---	133340	70440	64870
MEAN	1039	---	---	---	---	---	---	---	---	4301	2272	2162
MAX	1270	---	---	---	---	---	---	---	---	8480	2940	4410
MIN	828	1060	---	---	---	---	---	8620	3190	1410	1370	1350

e Estimated

07364100 OUACHITA RIVER NEAR ARKANSAS-LOUISIANA STATE LINE--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.01	8.07	21.21	23.00	27.94	34.07	35.38	24.39	17.05	12.43	8.15	9.68
2	7.97	8.03	21.29	23.30	27.92	34.75	35.02	23.37	18.59	12.94	8.68	9.92
3	7.93	8.09	21.33	---	27.85	35.32	34.67	22.41	19.74	12.43	9.08	10.37
4	7.88	8.20	21.14	---	27.75	35.82	34.31	21.30	20.59	11.34	9.22	9.66
5	7.85	8.19	20.74	---	27.58	36.20	33.93	20.26	20.96	11.45	9.27	9.31
6	8.20	8.45	20.07	24.48	27.34	36.50	33.55	19.26	21.29	11.40	9.16	9.04
7	8.22	9.58	19.08	24.69	27.02	36.71	33.15	18.73	21.58	10.69	8.29	9.08
8	8.12	10.14	18.56	24.80	26.66	36.87	32.76	19.63	21.79	10.47	8.07	9.52
9	8.03	9.46	17.59	24.83	26.25	37.02	32.36	20.79	21.93	11.25	8.57	9.40
10	7.98	9.16	16.10	24.79	25.82	37.09	31.94	21.00	21.96	10.89	8.90	8.98
11	7.91	11.35	15.16	24.70	25.35	37.11	31.51	21.22	21.92	10.31	8.98	8.40
12	7.85	10.78	13.54	24.51	24.91	37.21	31.15	21.23	21.78	9.66	9.29	8.61
13	7.83	9.67	11.35	24.27	24.63	37.32	30.79	20.97	21.53	10.21	9.30	8.69
14	7.80	8.99	12.85	24.04	24.46	37.38	30.38	20.73	21.10	10.47	9.06	8.54
15	7.76	10.93	13.73	23.76	24.40	37.51	30.02	20.14	20.51	10.14	8.52	8.34
16	7.74	12.69	15.90	23.55	24.59	37.57	29.73	19.01	19.40	10.51	8.56	8.13
17	7.67	11.60	17.45	23.55	25.08	37.61	29.51	18.15	18.14	9.70	8.78	8.46
18	7.69	10.11	18.65	23.91	25.69	37.63	29.32	17.49	16.72	9.23	9.36	8.87
19	7.69	9.40	19.37	24.44	26.36	37.62	29.15	17.68	14.95	9.12	9.33	8.86
20	7.82	8.94	---	24.90	27.01	37.60	29.00	17.40	13.34	10.01	9.26	8.34
21	7.98	10.23	---	25.32	27.68	37.56	28.86	17.34	12.24	9.89	8.58	8.25
22	8.01	8.62	19.76	25.75	28.37	37.51	28.69	16.83	12.41	9.95	8.34	8.47
23	8.13	8.18	19.85	26.15	29.07	37.43	28.49	16.52	11.55	10.08	8.96	8.22
24	8.23	9.58	19.55	26.51	29.79	37.35	28.27	16.93	11.52	8.95	8.57	8.22
25	8.21	14.61	19.07	26.82	30.59	37.23	27.94	17.06	10.96	8.50	8.38	8.08
26	7.99	17.56	18.90	27.08	31.37	37.07	27.54	16.79	10.07	9.28	8.91	8.37
27	7.99	19.81	19.68	27.30	32.18	36.86	27.10	15.98	9.67	9.80	8.82	8.31
28	8.10	20.80	20.92	27.47	33.23	36.62	26.59	15.10	9.58	9.85	8.98	8.14
29	8.23	20.89	21.96	27.66	---	36.35	26.02	13.84	10.56	8.97	8.35	8.09
30	8.30	21.04	22.40	27.82	---	36.06	25.38	13.66	11.49	8.77	8.68	8.11
31	8.24	---	22.73	27.91	---	35.72	---	15.31	---	8.07	9.11	---
MAX	8.30	21.04	22.73	27.91	33.23	37.63	35.38	24.39	21.96	12.94	9.36	10.37
MIN	7.67	8.03	11.35	---	24.40	34.07	25.38	13.66	9.58	8.07	8.07	8.08

DAILY STAGE FOR 2001

35180 CADDO LAKE AT CADDO LAKE DAM (LA.) STATION NO. R-95

LOCATION. LAT. 32-42-14, LONG 93-55-12. UPSTREAM SIDE AT SOUTH END OF DAM, THREE MILES NORTHEAST OF MOORINGSPORT, LA., AND 23 MILES UPSTREAM OF TWELVEMILE BAYOU. TWELVEMILE BAYOU ENTERS RED RIVER AT MILE 303.1.

GAGE. SATELLITE, BUBBLE GAGE

GENERAL INFORMATION. DRAINAGE AREA, 2,744 SQUARE MILES. THE ORIGINAL DAM WAS COMPLETED IN 1914. WORK ON A REPLACEMENT DAM WAS BEGUN IN AUG. 1968, AND COMPLETED IN JUNE 1971. THE CREST OF THE SPILLWAY IS AT ELEVATION 168.5 FEET, NGVD. THE CAPACITY OF THE LAKE AT THIS ELEVATION IS 129,000 ACRE-FEET.

RECORDS AVAILABLE. STAGE, JAN. 1921 TO DATE.

EXTREMES. HIGHEST, 182.59 FEET ON MAY 5, 1958. LOWEST, 166.0 FEET ON NOV. 2, 1934.

DAILY EIGHT A.M. STAGE IN FEET GAGE ZERO IS AT NVGD

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	170.3	----	172.9	170.8	169.9	166.0	169.2	168,5	168.7	168.9	169.4	169.4
2	170.3	170.6	173.4	170.8	169.9	166.0	169.2	168.5	168.8	168.9	169.4	169.6
3	170.3	170.5	173.8	170.8	169.9	166.0	169.1	---	168.8	168.9	169.4	169.7
4	170.3	170.5	174.3	170.7	169.8	166.0	169.1	---	168.8	168.9	169.4	169.8
5	170.0	170.4	174.8	170.7	169.9	---	169.1	---	168.9	168.9	169.5	169.9
6	170.9	170.4	175.1	170.7	169.9	169.7	169.1	---	---	168.9	169.4	169.9
7	170.7	170.4	175.2	170.6	170.0	169.9	169.0	---	169.0	168.9	169.4	169.9
8	---	170.3	175.1	170.6	169.9	170.0	169.0	168.4	168.9	168.8	169.4	170.0
9	170.4	170.3	174.9	170.5	170.1	170.4	169.0	168.4	169.0	168.8	169.4	170.0
10	170.3	170.2	174.5	170.5	170.1	170.6	169,0	168.4	169.1	168.8	169.4	169.9
11	170.3	170.2	174.1	170.4	170.1	166.0	168.9	168.4	169.2	169.0	169.4	169.9
12	170.3	170.4	173.9	170.4	170.2	166.0	168.9	168.4	169.2	169.2	---	170.1
13	170.2	170.5	173.9	170.3	170.3	166.0	168.9	168.4	169.2	169.8	169.4	170.3
14	170.3	170.5	173.8	170.3	170.3	166.0	168.8	168.5	169.2	170.0	---	170.6
15	170.2	170.5	174.1	170.3	170.3	---	168.8	168.4	---	170.3	---	170.6
16	170.2	170.9	174.3	170.2	170.2	170.4	168.8	168.5	169.1	170.4	---	170.8
17	170.3	171.7	174.2	170.2	170.2	170.2	168.8	168.6	169.1	170.3	---	171.8
18	170.8	172.1	174.1	170.2	---	170.1	168.8	168.6	---	170.2	---	171.0
19	171.3	172.8	173.9	170.2	170.1	169.9	168.7	168.6	169.1	170.1	---	---
20	171.6	173.5	173.7	170.1	170.1	169.8	168.7	168.6	168.9	170.0	169.2	172.9
21	171.7	174.1	173.3	170.1	170.0	169.7	168.7	168.6	168.9	169.9	169.1	---
22	171.8	174.4	172.9	170.1	170.0	169.7	168.7	168.6	168.9	169.8	169.1	173.2
23	---	174.3	172.4	170.1	170.0	----	168.3	168.6	168.9	169.7	169.0	173.0
24	171.6	173.9	172.0	170.1	169.8	---	169.4	168.6	168.9	169.6	169.1	172.7
25	171.4	173.5	171.8	---	169.9	169.4	169.1	168.6	168.9	169.5	168.9	172.3
26	171.2	173.0	171.5	170.0	169.8	169.3	---	168.5	---	169.5	168.9	171.9
27	171.0	172.5	171.2	170.0	169.8	169.3	168.6	168.6	168.9	169.4	168.9	171.5
28	170.8	172.7	171.1	170.0	169.9	169.3	168.6	168.6	169.0	169.4	168.9	171.1
29	170.9	---	170.9	169.9	169.9	169.2	168.6	168.5	168.9	169.4	169.1	170.9
30	---	---	170.9	169.9	166.0	169.2	168.5	168.5	168.9	169.4	169.2	170.7
31	170.7	---	170.9	---	166.0	---	168.5	168.5	---	169.4	---	170.5
MEAN	170.9	171.7	173.3	170.3	169.7	168.6	168.9	---	169.0	169.4	---	170.8
MAX	171.8	174.4	175.2	170.8	170.3	170.6	169.4	---	169.2	170.4	---	173.2
MIN	170.2	170.2	170.9	169.9	166.0	166.0	168.3	---	168.7	168.8	---	169.4

THE MEAN STAGE FOR THE YEAR 170.1
HIGHEST STAGE WAS 175.20 7 MAR 2001
LOWEST STAGE WAS 166.01 30 MAY 2001

07300500 SALT FORK RED RIVER AT MANGUM, OK

LOCATION.--Lat 34°51'30", long 99°30'30", in SW ¼ SE ¼ sec.34. T.5 N, R.22 W., Greer County, Hydrologic Unit 11120202, near left bank on downstream side of pier of bridge on State Highway 34, 0.5 mi south of Mangum, 13.0 mi downstream from Fish Creek, and at mile 35.5.

DRAINAGE AREA.--1,566 mi^2, of which 209 mi^2 is probably noncontributing.

PERIOD OF RECORD.--April 1905 to June 1906, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1241: 1938.

GAGE.--Water-stage recorder. Datum of gage is 1,490.87 ft above sea level (levels by U.S. Bureau of Reclamation). Apr. 11, 1905 to June 30, 1906, nonrecording gage at site 0.2 mi upstream at different datum. Oct. 1, 1937 to Nov. 8, 1938, nonrecording gage at present site and datum.

REMARKS.--Records fair. U.S. Geological Survey satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)

No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	40	23	e29	120	112	88	19	182	.00	.00	.00
2	.00	34	22	e30	107	103	83	17	126	.00	.00	.00
3	.00	33	22	e32	96	102	74	38	97	.00	.00	.00
4	.00	32	23	e40	86	118	69	676	82	.00	.00	.00
5	.00	32	24	e45	78	105	63	1320	63	.00	.00	.00
6	.00	33	25	e50	74	99	61	394	51	.00	.00	.00
7	.00	37	25	e90	69	95	59	284	41	.00	.00	.00
8	.00	45	25	97	69	98	58	184	35	.00	.00	.00
9	e.00	41	26	79	86	112	59	142	31	.00	.00	.00
10	e.00	38	26	70	112	182	67	115	27	.00	.00	.00
11	.00	36	25	68	136	166	63	114	22	.00	.00	.00
12	.00	32	e24	64	113	141	56	119	18	.00	4.9	.00
13	.00	28	e22	66	101	123	56	128	21	.00	.13	.00
14	.00	26	e24	62	97	109	56	108	18	.00	.00	.00
15	.00	26	43	57	92	93	54	77	14	.00	.00	.00
16	.00	24	50	53	86	80	48	61	12	.00	.00	25
17	.00	22	44	52	83	75	45	49	8.9	.00	.00	5.7
18	.00	22	34	51	77	71	45	55	6.1	.00	2.8	3.5
19	.00	20	35	51	73	75	42	358	5.4	.00	5.3	1.9
20	.00	21	32	53	71	81	42	446	4.6	.00	.12	.82
21	.00	21	31	52	72	83	42	301	4.3	.00	.00	.28
22	e1.6	22	31	48	71	84	43	240	3.8	.00	.00	.06
23	1.3	22	29	47	75	80	40	167	5.1	.00	.00	.00
24	9.7	29	28	49	170	75	38	122	6.0	.00	.00	.00
25	65	31	27	48	242	73	35	92	4.9	.00	.00	.00
26	131	27	e27	48	189	74	30	73	3.1	.00	.00	.00
27	115	23	e27	48	136	78	26	65	.50	.00	.00	.00
28	80	23	e29	61	123	87	24	58	.27	.00	.00	.00
29	66	23	e30	86	---	92	21	59	.09	.00	.00	.00
30	43	23	e31	144	---	96	20	192	.01	.00	.00	.00
31	45	---	e30	131	---	92	---	259	---	.00	.00	---
TOTAL	557.60	866	894	1901	2904	3054	1507	6332	893.07	0.00	13.25	37.26
MEAN	18.0	28.9	28.8	61.3	104	98.5	50.2	204	29.8	.000	.43	1.24
MAX	131	45	50	144	242	182	88	1320	182	.00	5.3	25
MIN	.00	20	22	29	69	71	20	17	.01	.00	.00	.00
AC-FT	1110	1720	1770	3770	5760	6060	2990	12560	1770	.00	26	74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2001, BY WATER YEAR (WY)

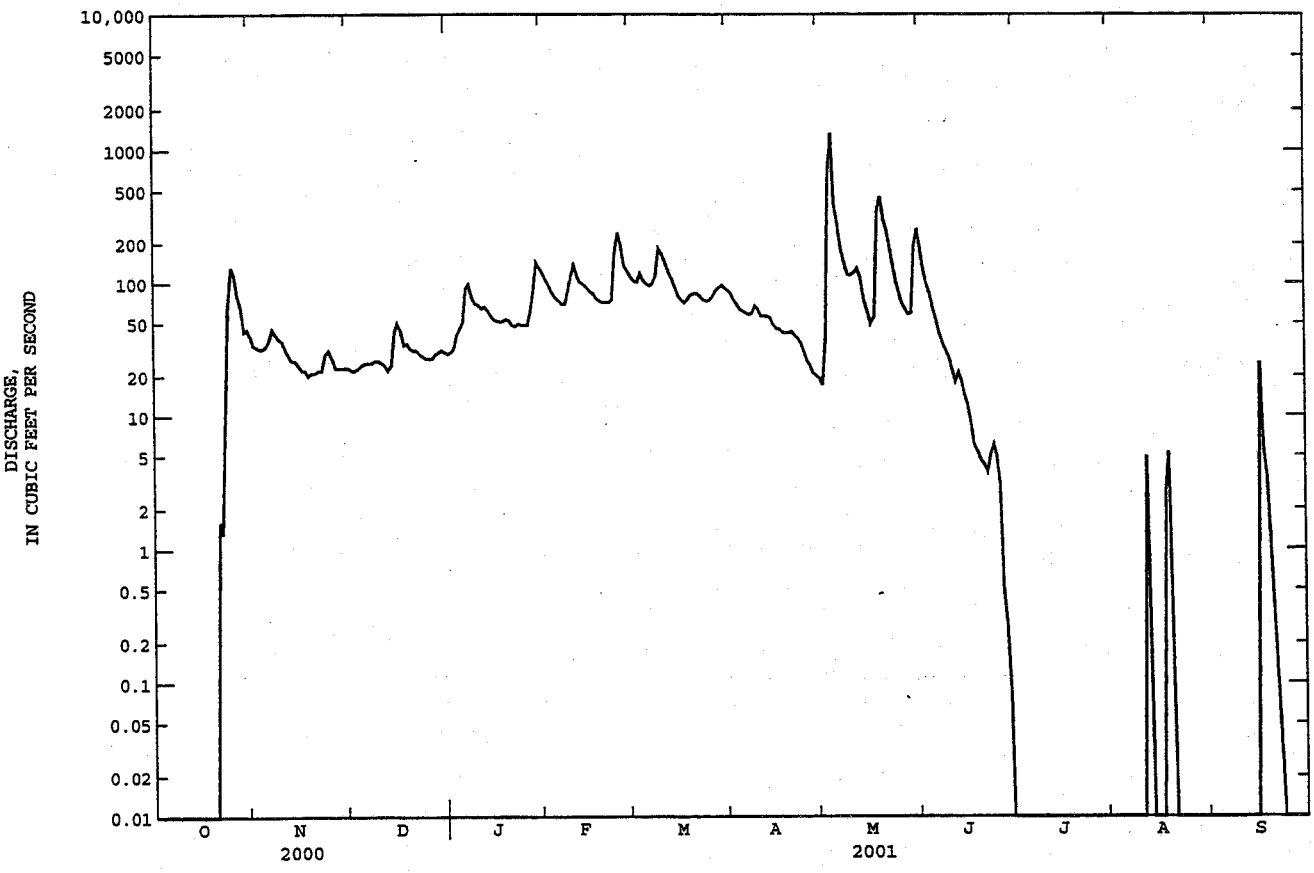
MEAN	76.7	32.0	38.5	47.6	57.4	56.5	105	260	236	64.2	39.6	50.1
MAX	919	196	148	199	263	344	1292	1389	1602	575	539	424
(WY)	1961	1987	1992	1960	1998	1998	1997	1957	1941	1953	1995	1995
MIN	.000	.000	.000	.000	.000	.12	.000	.000	.000	.000	.000	.000
(WY)	1941	1940	1940	1940	1953	1971	1955	1953	1952	1963	1943	1939

e Estimated

07300500 SALT FORK RED RIVER AT MANGUM, OK--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1938 - 2001	
ANNUAL TOTAL	21249.68		18959.18			
ANNUAL MEAN	58.1		51.9		88.7	
HIGHEST ANNUAL MEAN					277	1941
LOWEST ANNUAL MEAN					12.3	1940
HIGHEST DAILY MEAN	835	Mar 24	1320	May 5	22600	May 28 1978
LOWEST DAILY MEAN	.00	at times	.00	at times	[a].00	Oct 2 1937
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 11	.00	Oct 1	.00	Aug 14 1938
MAXIMUM PEAK FLOW			2790	May 5	72000	May 16 1957
MAXIMUM PEAK STAGE			8.43	May 5	14.70	Jun 16 1938
ANNUAL RUNOFF (AC-FT)	42150		37610		64260	
10 PERCENT EXCEEDS	134		113		130	
50 PERCENT EXCEEDS	27		30		19	
90 PERCENT EXCEEDS	.00		.00		.00	

[a]No flow at times in most years.



07301420 SWEETWATER CREEK NEAR SWEETWATER, OK

LOCATION.--Lat 35°25'20", long 99°58'08", in NW ¼ NE ¼ sec.20, T.11 N, R.26 W., Roger Mills-Beckham County line, Hydrologic Unit 11120302, on right bank downstream bridge piling of State Highway 152, 0.4 mi downstream from Freezeout Creek, 3.3 mi west of Sweetwater, and at mile 16.0.

DRAINAGE AREA.--424 mi^2, of which 20 mi^2 is probably noncontributing.

PERIOD OF RECORD.--April 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,087.76 ft above sea level.

REMARKS.--Records good. U.S. Bureau of Reclamations' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	56	28	e17	71	55	45	23	72	12	1.4	1.7
2	1.1	51	28	e16	58	66	45	24	63	11	1.3	1.4
3	1.1	45	28	e20	51	65	44	25	58	11	1.2	1.2
4	1.1	42	28	e28	47	57	43	301	49	11	1.1	1.5
5	1.1	44	29	30	44	51	42	317	47	10	.99	2.6
6	1.2	46	29	49	43	47	42	142	73	9.6	.99	5.0
7	1.3	40	28	65	41	45	47	92	72	8.9	.91	5.8
8	1.6	38	29	69	42	49	52	81	53	8.0	.90	4.5
9	2.0	37	28	65	61	100	44	70	47	7.4	.88	4.5
10	2.2	35	29	59	70	97	41	65	43	7.1	1.1	3.7
11	2.5	34	e22	56	61	76	41	71	37	6.7	1.8	3.5
12	2.8	33	e20	53	58	72	45	68	31	6.4	1.6	3.1
13	3.0	31	e19	51	57	66	40	60	29	6.1	1.9	2.6
14	3.8	31	e18	49	54	60	38	49	28	6.3	1.9	2.2
15	6.8	31	e25	44	50	54	37	43	24	6.6	1.8	2.3
16	11	30	e27	43	48	50	35	38	24	6.7	1.6	3.8
17	14	29	e29	43	45	48	32	35	e22	7.2	1.5	4.8
18	10	29	31	44	43	47	32	45	e22	6.1	2.2	5.1
19	8.9	29	32	43	43	48	33	121	e21	5.3	2.4	4.7
20	8.1	29	33	42	43	49	32	427	e21	4.9	2.2	4.4
21	8.3	29	32	41	41	51	31	325	20	4.4	1.7	4.3
22	12	29	32	41	41	48	31	134	22	4.0	1.2	4.3
23	21	29	31	41	42	46	29	92	19	3.5	1.1	4.1
24	81	29	e24	40	58	43	27	78	18	3.0	1.0	5.5
25	241	29	e21	39	102	41	27	70	17	2.7	.93	5.8
26	339	29	e18	39	72	42	26	61	15	2.4	1.4	4.8
27	126	29	e17	39	60	46	25	55	14	2.3	1.7	4.1
28	86	29	e25	48	56	51	25	53	13	2.1	2.2	3.7
29	79	28	e29	79	---	53	24	133	12	2.1	2.3	3.4
30	67	28	e22	92	---	50	23	142	12	1.8	2.3	3.2
31	58	---	e20	84	---	48	---	96	---	1.6	2.0	---
TOTAL	1203.1	1028	811	1469	1502	1721	1078	3336	998	188.2	47.50	111.6
MEAN	38.8	34.3	26.2	47.4	53.6	55.5	35.9	108	33.3	6.07	1.53	3.72
MAX	339	56	33	92	102	100	52	427	73	12	2.4	5.8
MIN	1.1	28	17	16	41	41	23	23	12	1.6	.88	1.2
AC-FT	2390	2040	1610	2910	2980	3410	2140	6620	1980	373	94	221

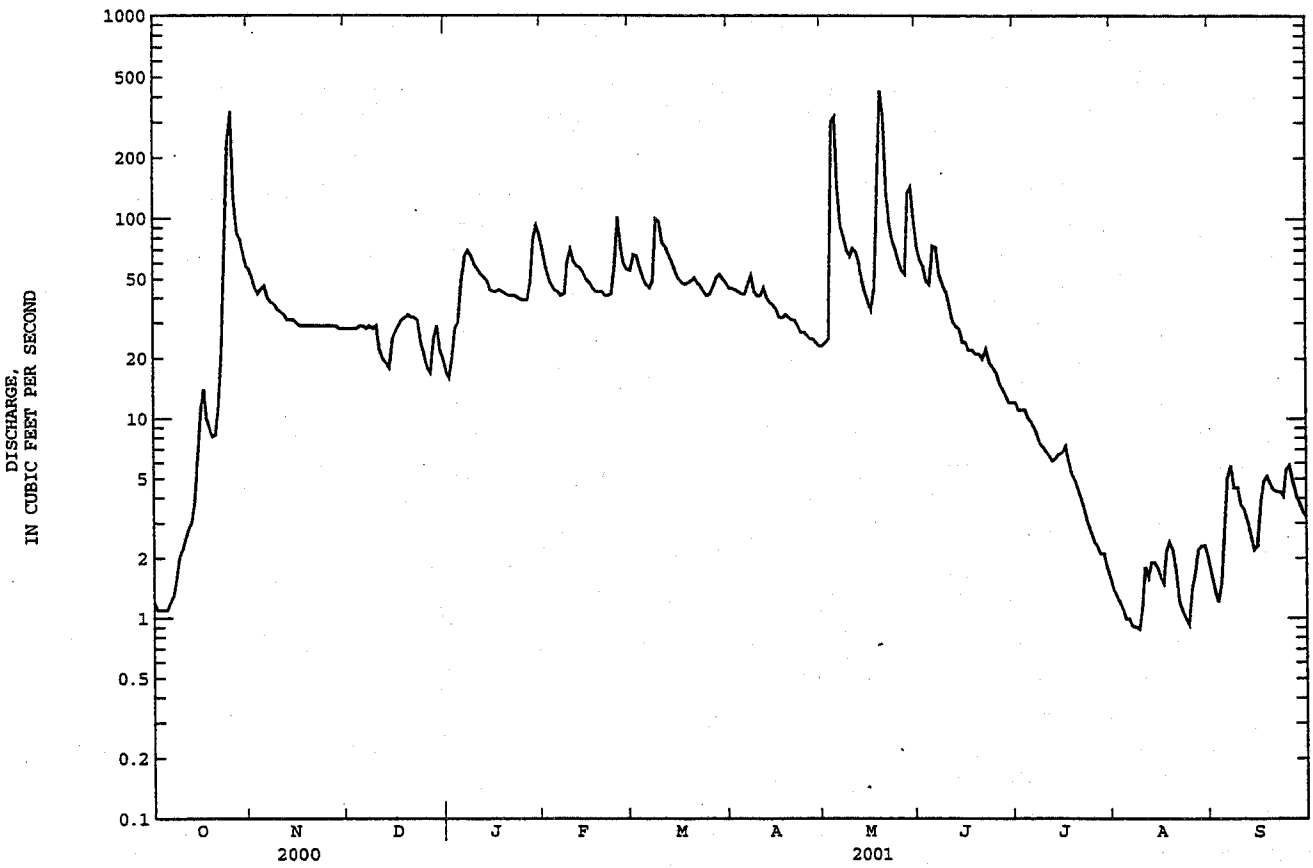
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)

MEAN	17.9	22.3	25.4	29.2	31.6	40.1	39.4	45.1	40.3	12.8	7.32	11.2
MAX	72.2	61.1	51.5	53.7	53.6	85.6	126	150	115	31.6	38.7	51.6
(WY)	1987	1987	1998	1998	2001	1998	1997	1997	1995	1997	1995	1988
MIN	.20	5.23	6.73	11.2	15.2	17.9	16.2	18.1	7.08	.97	.080	.084
(WY)	1995	1995	1995	1995	1995	1991	1991	1991	1994	1994	1994	1994

e Estimated

07301420 SWEETWATER CREEK NEAR SWEETWATER, OK--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1986 - 2001	
ANNUAL TOTAL	10940.64		13493.40			
ANNUAL MEAN	29.9		37.0		27.1	
HIGHEST ANNUAL MEAN					53.0	1997
LOWEST ANNUAL MEAN					10.9	1994
HIGHEST DAILY MEAN	339	Oct 26	427	May 20	755	May 25 1997
LOWEST DAILY MEAN	.62	Sep 12,15	.88	Aug 9	.00	at times
ANNUAL SEVEN-DAY MINIMUM	.63	Sep 14	.98	Aug 4	.00	Sep 28 1994
MAXIMUM PEAK FLOW			515	May 20	1940	Jun 3 1995
MAXIMUM PEAK STAGE			12.17	May 20	15.89	Jun 3 1995
INSTANTANEOUS LOW FLOW					.00	Aug 27 1994
ANNUAL RUNOFF (AC-FT)	21700		26760		19630	
10 PERCENT EXCEEDS	57		70		50	
50 PERCENT EXCEEDS	23		29		21	
90 PERCENT EXCEEDS	1.2		1.9		2.0	



07301500 NORTH FORK RED RIVER NEAR CARTER, OK

LOCATION.--Lat 35°10'05", long 99°30'25", in NW ¼ SE ¼ sec.15, T.8 N., R.22 W., Beckham County, Hydrologic Unit 11120302, on left bank on downstream side of roadway on State Highway 34, 3.0 mi south of Carter, 10.8 mi downstream from Timber Creek, and at mile 110.5.

DRAINAGE AREA.--2,337 mi^2, of which 399 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to September 1962. Annual maximum and occasional low-flow measurements, water years 1963-64. August 1964 to current year.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,673.71 ft above sea level.

REMARKS.--Records fair. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 5	0100	5,790	9.12	May 20	0500	5,830	9.15

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	218	96	e145	254	242	234	119	433	59	1.5	.74
2	.00	187	92	e150	237	268	233	119	316	57	1.2	.32
3	.00	157	90	e160	227	316	235	214	272	54	.73	.00
4	.00	139	92	e170	208	299	230	1810	254	52	.32	.20
5	.00	138	92	e180	197	266	225	4750	234	48	.05	3.1
6	.00	133	93	e200	184	244	219	1480	256	45	.01	32
7	.00	132	94	218	173	231	219	807	293	40	.00	8.3
8	.00	125	96	228	181	240	216	551	301	36	.00	5.3
9	.00	123	96	231	226	347	222	400	262	34	.00	4.0
10	.00	124	98	217	334	467	220	398	227	33	.00	3.2
11	.00	123	e95	202	292	415	215	363	202	30	.53	2.6
12	.00	117	e85	190	272	347	205	566	184	28	1.4	2.3
13	.00	112	e78	182	266	356	215	e450	169	26	2.2	1.8
14	.00	108	e70	168	257	286	206	385	162	26	2.0	1.5
15	.00	101	e95	159	252	269	195	283	142	25	1.8	1.9
16	.00	99	e120	151	248	259	188	254	129	26	7.3	2.0
17	.43	97	e140	143	230	243	178	242	119	26	2.9	2.6
18	1.7	96	130	138	219	223	171	1160	112	18	5.2	2.3
19	2.3	96	118	143	206	226	166	1470	104	e17	19	2.1
20	2.7	97	115	e139	204	225	163	5380	96	e15	14	2.0
21	4.1	97	109	e138	204	223	159	1710	91	e13	5.4	2.4
22	13	94	102	144	203	223	163	780	92	e11	2.5	2.2
23	27	90	103	144	211	218	165	461	109	e9.0	1.3	1.3
24	30	87	e100	144	557	213	162	346	93	6.2	.49	.58
25	257	86	e95	142	457	209	148	296	86	5.5	.00	.13
26	554	90	e90	140	298	207	140	276	81	4.9	3.1	.00
27	335	93	e90	137	292	210	133	250	75	4.3	2.8	.00
28	356	96	e100	159	265	232	128	291	71	4.9	2.1	.00
29	321	98	e145	249	---	253	124	360	64	4.7	1.4	.00
30	296	98	e150	252	---	260	122	1250	61	3.1	1.2	.00
31	215	---	e150	265	---	254	---	769	---	2.2	1.0	---
TOTAL	2415.23	3451	3219	5428	7154	8271	5599	27990	5090	763.8	81.43	84.87
MEAN	77.9	115	104	175	256	267	187	903	170	24.6	2.63	2.83
MAX	554	218	150	265	557	467	235	5380	433	59	19	32
MIN	.00	86	70	137	173	207	122	119	61	2.2	.00	.00
AC-FT	4790	6850	6380	10770	14190	16410	11110	55520	10100	1510	162	168

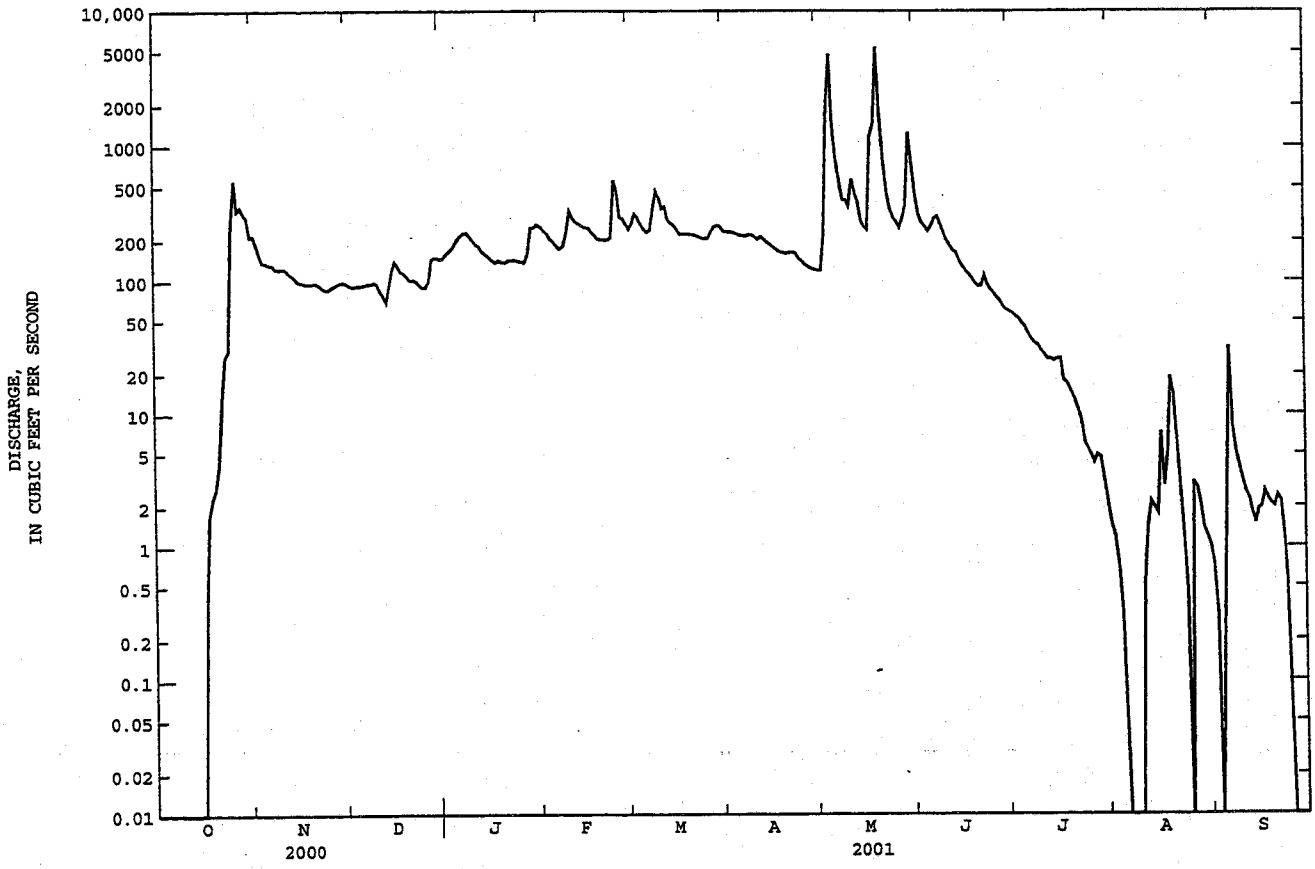
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2001, BY WATER YEAR (WY)

MEAN	92.5	60.8	67.8	80.9	105	117	152	414	288	74.0	47.4	55.1
MAX	1195	360	333	362	365	466	1253	2713	1560	828	560	432
(WY)	1987	1987	1998	1998	1960	1998	1997	1977	1995	1950	1995	1996
MIN	.000	.000	.000	.000	.000	.000	.079	.000	.60	.000	.000	.000
(WY)	1946	1946	1953	1953	1953	1955	1971	1971	1966	1954	1952	1945

e Estimated

07301500 NORTH FORK RED RIVER NEAR CARTER, OK--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1945 - 2001	
ANNUAL TOTAL	49312.95		69547.33			
ANNUAL MEAN	135		191		130	
HIGHEST ANNUAL MEAN					356	1987
LOWEST ANNUAL MEAN					12.9	1981
HIGHEST DAILY MEAN	2590	Jun 29	5380	May 20	20700	May 26 1959
LOWEST DAILY MEAN	.00	at times	.00	at times	.00	at times
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 4	.00	Oct 1	.00	May 24 1945
MAXIMUM PEAK FLOW			5830	May 20	53400	May 26 1959
MAXIMUM PEAK STAGE			9.15	May 20	15.08	Jun 4 1995
ANNUAL RUNOFF (AC-FT)	97810		137900		94040	
10 PERCENT EXCEEDS	269		307		231	
50 PERCENT EXCEEDS	88		125		38	
90 PERCENT EXCEEDS	.00		.56		.00	



07315500 Red River near Terral, OK

LOCATION.--Lat 33°52'43", long 97°56'03", Jefferson County, Hydrologic Unit 11130201, on left bank at downstream side of bridge abutment on U.S. Highway 81, 0.5 mi downstream from Chicago, and Rock Island Railroad Co. bridge, 1.2 mi south of Terral, 3.6 mi downstream from Little Wichita River, and at mile 872.

DRAINAGE AREA.--28,723 mi^2 of which 5,936 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Apr. 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 770.31 ft above sea level. Prior to Jan. 12, 1939, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records fair, except those daily discharges from Oct 26 to May 10, which are poor. Since installation of gage in Apr. 1938, at least 10% of contributing drainage area has been regulated by upstream reservoirs. There are many small diversions upstream from station for irrigation, oil field operations, and for municipal uses.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1935, reached a stage of 27.2 ft, although floods in 1891 and on May 1, 1908, are reported to have reached about the same stage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	6520	4210	2820	6270	13900	1550	578	8680	528	301	884
2	103	5420	3910	2680	5080	13200	1660	587	14100	526	282	672
3	99	5430	3720	2380	4180	10100	1740	603	8710	510	263	560
4	101	17300	3550	2180	3600	6240	1820	640	6980	528	271	493
5	124	12600	3380	2040	3280	4700	1890	1080	7520	534	281	454
6	122	9820	3120	2040	2990	3970	2050	16200	7390	503	270	421
7	98	5810	2950	2480	2880	3470	2050	12800	5940	473	257	425
8	93	4540	2740	2930	2710	3100	1870	11100	5020	452	257	437
9	90	7260	2500	2870	2660	3300	1820	8930	3820	427	252	605
10	95	11200	2410	2910	3060	4260	1860	5080	2550	410	252	964
11	92	7780	2320	2930	3710	6170	2060	3670	2170	392	258	934
12	80	5750	2270	2990	4130	6190	2030	2950	2010	363	275	675
13	84	4610	2250	3460	3860	6630	3120	2340	1740	359	305	556
14	85	3750	2180	3720	3710	5610	2760	1920	1430	358	309	475
15	104	3010	2210	3250	5430	4780	2090	1700	1310	351	327	426
16	142	2300	2220	2920	11400	e4320	1650	1520	1190	336	427	400
17	138	2070	2110	2740	9570	e3980	1160	1240	1020	332	451	442
18	146	2170	2270	2620	7130	e3640	916	1100	940	337	495	465
19	187	2110	2390	2670	6460	e3300	791	1200	880	344	583	530
20	333	2090	2310	2630	6090	e3960	706	1630	821	341	684	607
21	516	2060	2120	2590	5520	e2700	672	12300	759	334	558	674
22	671	2070	1880	2460	4880	e2600	664	18500	704	322	491	727
23	856	1870	1670	2390	4580	e2460	627	13300	661	317	510	720
24	7090	5080	1550	2290	4690	1800	589	8540	642	317	494	583
25	8480	11400	1500	2210	5450	1210	571	7190	617	304	463	469
26	e25700	7780	1650	2070	8920	1510	555	6860	594	307	401	424
27	e57800	5920	2180	1910	16200	1230	538	7130	573	307	430	370
28	37800	6730	2910	1910	11200	1100	537	7820	568	306	399	315
29	18400	6040	2520	3720	---	1170	565	6610	548	309	549	273
30	13900	4970	2680	7290	---	1290	575	4720	541	304	594	246
31	7610	---	2600	7440	---	1290	---	5030	---	304	869	---
TOTAL	181261	175460	78280	91540	159640	133180	41486	174868	90428	11835	12558	16226
MEAN	5847	5849	2525	2953	5701	4296	1383	5641	3014	382	405	541
MAX	57800	17300	4210	7440	16200	13900	3120	18500	14100	534	869	964
MIN	80	1870	1500	1910	2660	1100	537	578	541	304	252	246
AC-FT	359500	348000	155300	181600	316600	264200	82290	346900	179400	23470	24910	32180

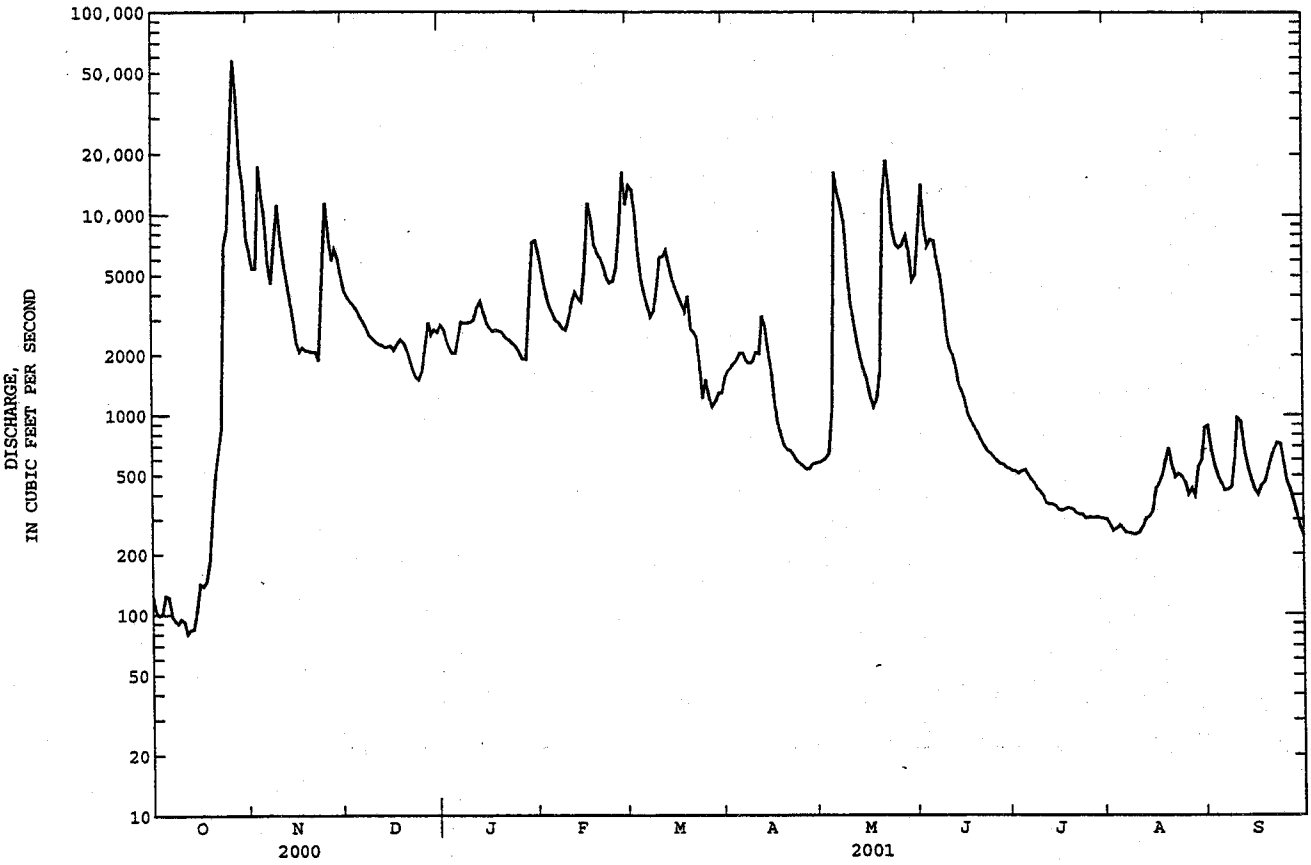
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2001, BY WATER YEAR (WY)

MEAN	3003	1558	1152	971	1422	2076	2607	6526	6200	1650	1320	1988
MAX	23900	9713	11810	5306	9320	14710	18080	43580	37460	8077	14730	9653
(WY)	1987	1987	1992	1992	1987	1998	1990	1957	1941	1950	1995	1986
MIN	108	102	91.2	76.5	136	66.1	142	134	517	158	155	100
(WY)	1953	1940	1939	1940	1953	1940	1971	1971	1966	1964	1970	2000

e Estimated

07315500 Red River near Terral, OK--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1938 - 2001	
ANNUAL TOTAL	726028		1166762			
ANNUAL MEAN	1984		3197		2538	
HIGHEST ANNUAL MEAN					8925	1987
LOWEST ANNUAL MEAN					523	1953
HIGHEST DAILY MEAN	57800	Oct 27	57800	Oct 27	215000	Jun 7 1995
LOWEST DAILY MEAN	54	Sep 25	80	Oct 12	46	Mar 20 1940
ANNUAL SEVEN-DAY MINIMUM	59	Sep 22	88	Oct 8	47	Mar 18 1940
MAXIMUM PEAK FLOW			69800	Oct 27	236000	Jun 7 1995
MAXIMUM PEAK STAGE			19.81	Oct 27	33.60	Oct 22 1983
ANNUAL RUNOFF (AC-FT)	1440000		2314000		1839000	
10 PERCENT EXCEEDS	5000		7410		5640	
50 PERCENT EXCEEDS	535		1910		608	
90 PERCENT EXCEEDS	124		305		178	



07316500 WASHITA RIVER NEAR CHEYENNE, OK

LOCATION.--Lat 35°37'35", long 99°40'05", in SE ¼ sec.5, T.13 N., R.23 W., Roger Mills County, Hydrologic Unit 11130301, on left bank on downstream side of bridge on U.S. Highway 283, 0.5 mi downstream from Sergeant Major Creek, 1.0 mi north of Cheyenne, 5.2 mi upstream from Dead Indian Creek, and at mile 543.9.

DRAINAGE AREA.--794 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,900.98 ft above sea level. May 1, 1938, to Nov. 16, 1946, and Oct. 1, 1947, to Jan. 11, 1948, nonrecording gage at site 50 ft upstream and datum 5.00 ft higher. Jan. 12, 1948 to Dec. 31, 1976, at site 50 ft upstream and datum 5.00 ft higher. Jan. 1, 1977, to Dec. 20, 1979, at site 50 ft upstream at present datum.

REMARKS.--Records good. Flow regulated since 1961 by numerous flood-retarding structures. U.S. Army Corps of Engineers' satellite telemeter at site.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 3, 1934, reached a stage of 1.7 ft lower than that in 1954, at site on upstream side of highway fill (at old bridge site).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	50	31	e22	78	79	64	38	93	14	.41	.00
2	.00	45	30	e21	72	84	63	38	79	14	.30	.00
3	.00	41	30	e30	69	84	64	40	70	13	.13	.00
4	.00	38	30	e43	66	80	62	102	66	12	.05	.00
5	.00	40	30	49	63	75	62	216	301	9.7	.00	.00
6	.00	41	30	53	61	72	63	174	165	9.0	.00	.00
7	.00	39	31	58	59	69	69	124	152	8.7	.00	.39
8	.00	36	31	61	60	70	66	98	109	7.9	.00	.68
9	.00	35	31	61	83	79	63	82	82	7.2	.00	.60
10	.00	34	32	60	86	83	60	71	67	6.7	.00	.66
11	.00	33	e29	61	83	83	62	65	56	5.6	.00	.55
12	.22	33	e27	59	80	87	58	61	49	5.2	.00	.41
13	.81	32	e26	58	78	82	56	57	46	5.2	.00	.20
14	3.5	31	e24	54	76	79	53	53	40	5.0	.00	.25
15	11	31	32	51	72	75	52	50	35	8.6	.00	.42
16	24	31	34	50	68	72	49	46	32	8.4	.00	1.2
17	10	30	32	50	64	69	49	44	29	6.6	.00	3.6
18	7.8	30	34	50	62	68	48	46	28	5.4	.03	2.5
19	6.8	30	32	49	62	69	48	71	25	4.4	.07	2.0
20	6.4	30	32	48	61	69	48	175	24	3.4	.00	1.7
21	7.5	30	32	48	60	68	47	253	23	2.8	.00	1.5
22	12	30	31	47	57	68	50	189	22	2.3	.00	1.3
23	11	31	e30	48	61	66	51	134	20	1.9	.00	1.8
24	28	32	e26	47	81	64	45	98	19	1.6	.00	1.5
25	138	32	e23	46	83	62	44	81	18	1.4	.00	1.5
26	201	32	e20	46	83	62	44	71	17	1.2	.00	1.6
27	124	31	e19	47	83	64	41	67	16	1.1	.00	1.3
28	89	31	e28	58	78	66	38	70	15	1.0	.00	.97
29	86	30	e31	79	---	67	37	89	14	.92	.00	1.1
30	66	30	e26	85	---	67	37	115	13	.66	.00	1.2
31	55	---	e25	81	---	65	---	116	---	.49	.00	---
TOTAL	888.03	1019	899	1620	1989	2247	1593	2934	1725	175.37	0.99	28.93
MEAN	28.6	34.0	29.0	52.3	71.0	72.5	53.1	94.6	57.5	5.66	.032	.96
MAX	201	50	34	85	86	87	69	253	301	14	.41	3.6
MIN	.00	30	19	21	57	62	37	38	13	.49	.00	.00
AC-FT	1760	2020	1780	3210	3950	4460	3160	5820	3420	348	2.0	57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2001, BY WATER YEAR (WY)

MEAN	8.92	10.0	12.1	15.7	20.2	27.7	33.6	51.2	41.4	8.66	4.60	5.69
MAX	72.9	64.3	67.7	80.7	71.0	138	146	348	203	61.7	32.8	44.7
(WY)	1987	1987	1998	1998	2001	1998	1997	1977	1982	1982	1995	1997
MIN	.000	.000	.000	.026	1.50	2.22	1.08	.000	.005	.000	.000	.000
(WY)	1964	1964	1964	1973	1973	1967	1971	1971	1970	1964	1963	1964

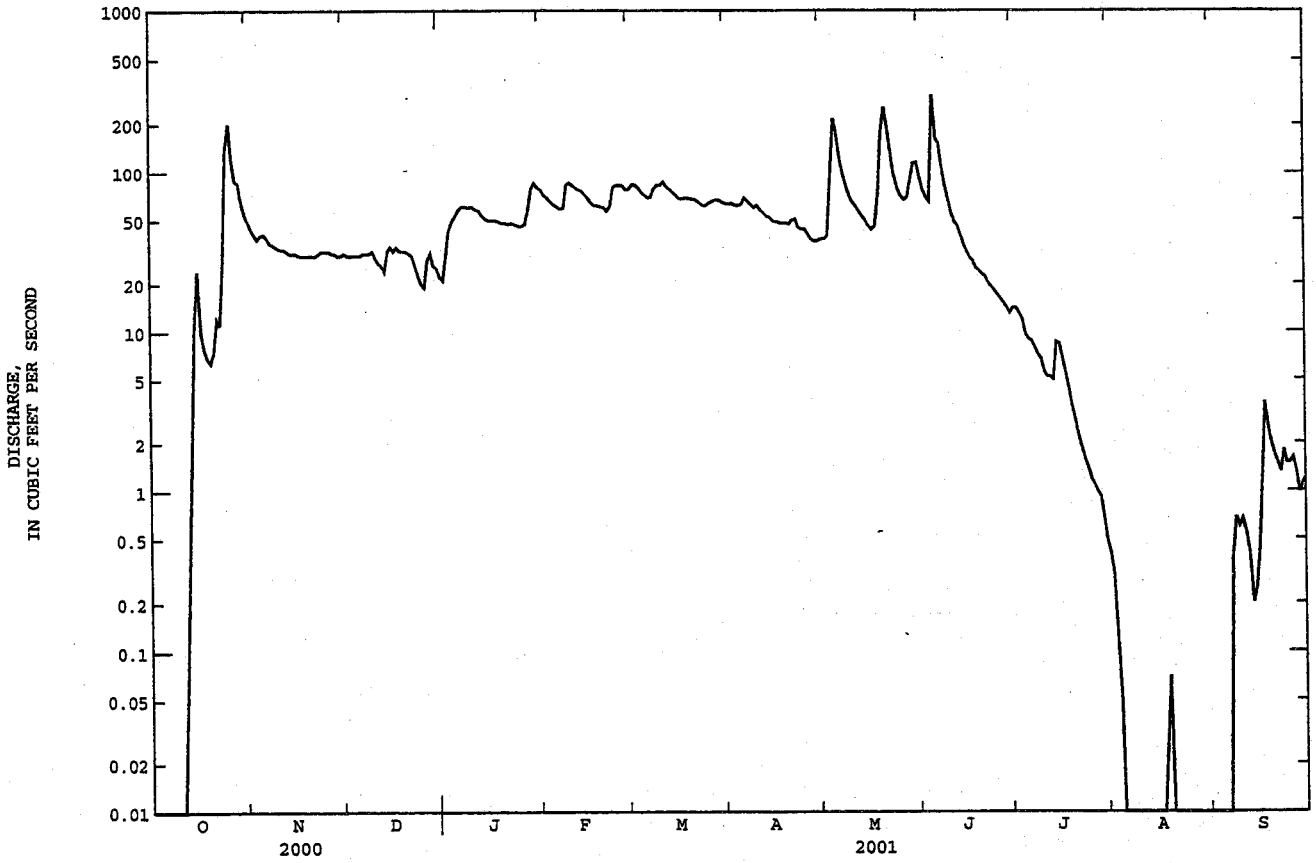
e Estimated

RED RIVER BASIN

07316500 WASHITA RIVER NEAR CHEYENNE, OK--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1962 - 2001	
ANNUAL TOTAL	10583.14		15119.32			
ANNUAL MEAN	28.9		41.4		[a]20.0	
HIGHEST ANNUAL MEAN					64.0	1997
LOWEST ANNUAL MEAN					2.60	1972
HIGHEST DAILY MEAN	286	Mar 23	301	Jun 5	1560	Apr 23 1990
LOWEST DAILY MEAN	.00	Aug 28-Oct. 11	.00	several days	.00	most years
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 28	.00	Oct 1	.00	Oct 1 1961
MAXIMUM PEAK FLOW			504	Jun 5	[b]7250	Apr 22 1990
MAXIMUM PEAK STAGE			11.64	Jun 5	[c]16.60	Apr 22 1990
ANNUAL RUNOFF (AC-FT)	20990		29990		14460	
10 PERCENT EXCEEDS	55		82		44	
50 PERCENT EXCEEDS	24		33		7.6	
90 PERCENT EXCEEDS	.00		.00		.00	

[a]Prior to regulation, water years 1938-60, 41.7 ft^3/s.
[b]Maximum discharge for period of record 69,800 ft^3/s, Apr. 29, 1954, from rating curve extended above 27,000 ft^3/s on basis of contracted opening.
[c]Maximum gage-height for period of record, 20.24 ft, Apr. 29, 1954, present datum.



07331000 WASHITA RIVER NEAR DICKSON, OK

LOCATION.--Lat 34°14'00", long 96°58'32", in SW 1/4 SE 1/4 sec.3, T.4 S., R.3 E., Carter County, Hydrologic Unit 11130303, on right bank on downstream side of bridge on U.S. Highway 177, 1.3 mi downstream from Caddo Creek, 3.2 mi north of Dickson, 12.0 mi northeast of Ardmore, and at mile 63.4.

DRAINAGE AREA.--7,202 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to Oct. 1, 1979, published as Washita River near Durwood.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1281: 1935 (M).

GAGE.--Water-stage recorder. Datum of gage is 650.57 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Feb. 16, 1939, nonrecording gage, at same site and datum. Dec. 15, 1950, to Feb. 19, 1952, nonrecording gage, at site 500 ft upstream, at same datum. Apr. 24, 1975, to May 8, 1986, water-stage recorder, at site 500 ft upstream, at same datum.

REMARKS.--Records fair. Some diversions for irrigation upstream from station. Flow regulated by Fort Cobb Reservoir (station 07325900) since March 1959; by Foss Reservoir (station 07324300) since February 1961; and by numerous flood-retarding structures. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	4970	2590	3460	7150	6880	1360	1060	5920	2480	199	241
2	125	4510	2330	3130	5910	5720	1310	945	5240	1670	202	223
3	110	3990	2170	2890	4820	4780	1320	889	5720	1290	202	243
4	98	5910	2010	2720	4090	4200	1440	1100	5540	1090	189	279
5	93	5640	1830	2740	3630	3770	1450	3830	4610	984	187	327
6	90	7820	1690	2880	3370	3470	1460	2640	4110	896	180	356
7	95	5690	1590	2860	3160	3240	1410	2220	3840	824	171	359
8	95	5170	1530	2900	2910	3080	1360	2010	3520	762	165	598
9	90	8420	1180	3070	3120	2930	e1520	2630	3330	704	160	486
10	91	5630	1080	2770	3970	2890	e1550	2640	3280	660	160	774
11	87	4260	1010	2890	3570	2810	e1900	2440	3250	609	161	408
12	85	3500	967	3370	3280	2870	2810	2160	3100	568	169	267
13	84	3050	1040	3060	3150	3160	e2900	1970	3000	534	159	221
14	92	2740	948	2920	3220	2980	e3150	1960	3030	516	156	208
15	118	2490	842	2790	8590	2580	e6020	1890	3080	480	159	2500
16	e630	2300	1240	2600	27800	2340	e3900	1950	2910	454	201	6790
17	e280	2080	1580	2630	20300	1950	e3320	1910	2790	434	249	3820
18	189	1930	1570	2610	11800	1850	e3160	1660	2720	417	379	3520
19	171	1780	1350	2500	8720	1860	e2470	1560	2510	413	429	5990
20	194	1640	1370	2370	6900	1890	1970	3780	2290	397	520	7170
21	282	1490	1340	2290	5610	1830	1870	5950	2210	385	689	e11000
22	611	1370	1310	2180	4800	1760	1820	4880	2120	357	586	5970
23	1090	1360	1160	2100	4640	1760	1840	4970	2050	332	427	4310
24	5940	5390	1200	2050	9300	1750	1920	5150	1930	305	322	3580
25	14600	10900	1250	2030	10900	1910	1880	4380	1650	287	259	3080
26	11000	6140	4360	1970	7780	1680	1720	3500	1420	269	275	2600
27	22000	4580	6850	1950	6240	1570	1470	3200	1250	257	248	2300
28	13100	3770	4560	2190	7160	1480	1350	7080	1120	239	236	2020
29	11000	3270	5300	13800	---	1490	1260	5930	1050	233	228	1760
30	8980	2880	4450	14800	---	1520	1200	4760	1640	233	285	1530
31	6260	---	3890	9690	---	1410	---	5290	---	213	270	---
TOTAL	97830	124670	65587	112210	195890	83410	62110	96334	90230	19292	8222	72930
MEAN	3156	4156	2116	3620	6996	2691	2070	3108	3008	622	265	2431
MAX	22000	10900	6850	14800	27800	6880	6020	7080	5920	2480	689	11000
MIN	84	1360	842	1950	2910	1410	1200	889	1050	213	156	208
AC-FT	194000	247300	130100	222600	388500	165400	123200	191100	179000	38270	16310	144700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2001, BY WATER YEAR (WY)

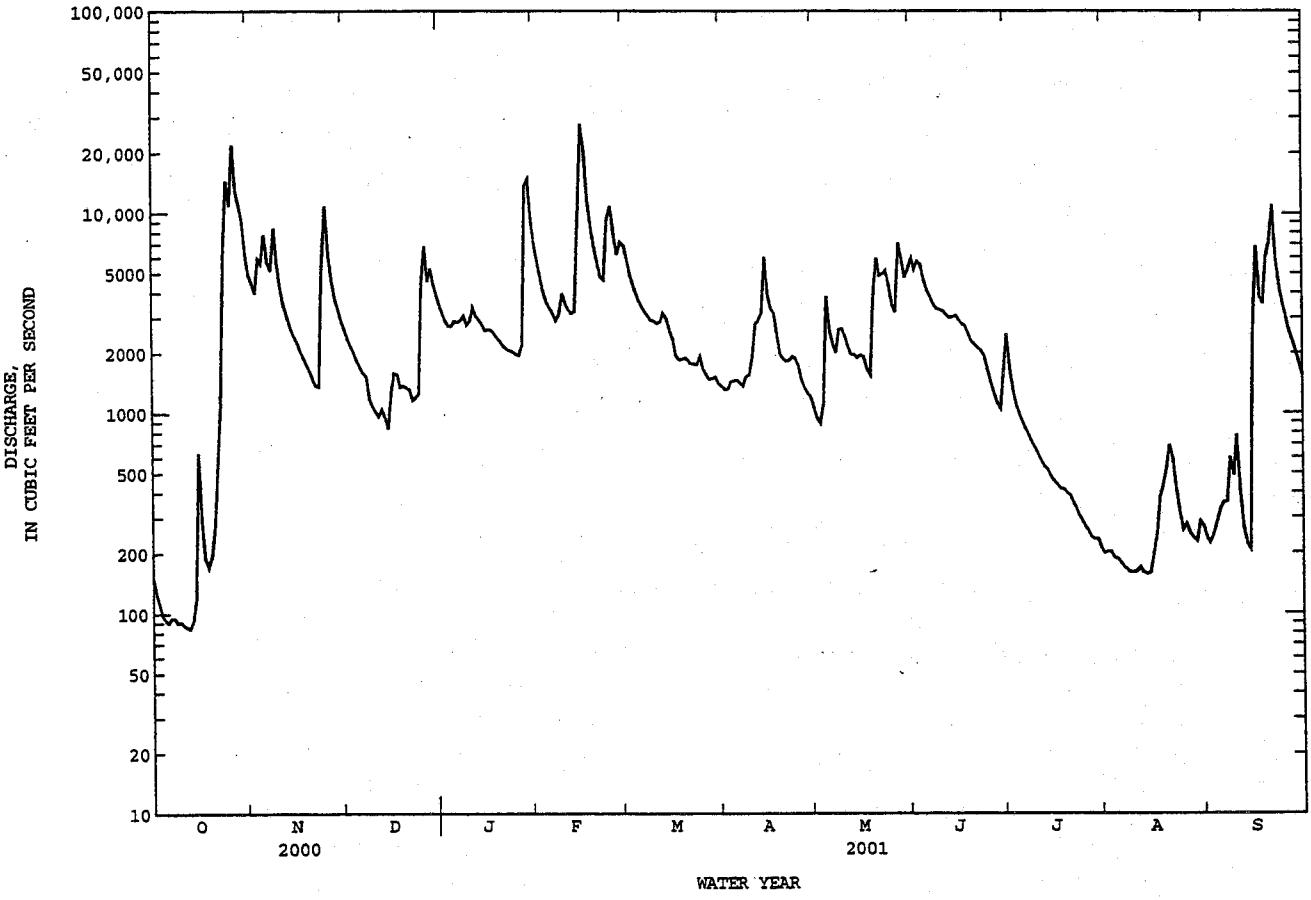
MEAN	1528	1650	1414	1250	1592	2449	2451	4113	3550	1023	601	1162
MAX	8274	5879	9324	6061	6996	10890	15940	18720	14090	4042	3048	5236
(WY)	1987	1987	1992	1998	2001	1990	1990	1993	1995	1987	1995	1991
MIN	30.4	73.5	103	103	93.6	78.4	210	249	158	31.4	12.8	42.1
(WY)	1964	1964	1967	1967	1967	1967	1971	1971	1966	1964	1972	1972

e Estimated

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1962 - 2001	
ANNUAL TOTAL	659620		1028715			
ANNUAL MEAN	1802		2818		[a]1898	
HIGHEST ANNUAL MEAN					5644	1987
LOWEST ANNUAL MEAN					340	1964
HIGHEST DAILY MEAN	22000	Oct 27	27800	Feb 16	94400	May 3 1990
LOWEST DAILY MEAN	60	Sep 22	84	Oct 13	[b].10	Aug 11 1964
ANNUAL SEVEN-DAY MINIMUM	67	Sep 17	89	Oct 8	.30	Aug 8 1964
MAXIMUM PEAK FLOW			30700	Feb 16	[c]118000	May 3 1990
MAXIMUM PEAK STAGE			25.53	Feb 16	45.24	May 30 1987
ANNUAL RUNOFF (AC-FT)	1308000		2040000		1375000	
10 PERCENT EXCEEDS	4710		5940		4310	
50 PERCENT EXCEEDS	839		1970		730	
90 PERCENT EXCEEDS	93		218		142	

[a]Prior to regulation, water years 1929-58, 1,573 ft^3/s.
[b]No flow Aug. 28, Sept. 14 to Oct. 1, 7-12, 1956.
[c]Gage height 44.26 ft.



07300000 Salt Fork Red River near Wellington, TX

LOCATION.--Lat 34°57'27", long 100°13'14", Collingsworth County, Hydrologic Unit 11120202, near center of stream at downstream side of bridge on U.S. Highway 83, 4 mi downstream from Fort Worth and Denver (Burlington) Railway Co. bridge, 4.5 mi south of Lutie, and 7.2 mi north of Wellington.

DRAINAGE AREA.--1,222 mi^2, of which 209 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,941.41 ft above sea level. Satellite telemeter at station.

REMARKS.--Records fair. Since water year 1967, at least 10% of contributing drainage area has been regulated. There are several small diversions upstream from gage for irrigation.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--14 years (water years 1953-66) prior to completion of Greenbelt Lake, 72.6 ft^3/s (52,600 acre-ft/yr).

EXTREMES FOR PERIOD PRIOR TO REGULATION (WATER YEARS 1953-66).--Maximum discharge, 146,000 ft^3/s May 16, 1957 (gage height, 19.00 ft), from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of 63,400 ft^3/s; minimum, 0.1 ft^3/s June 19, 1952.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	24	19	36	176	85	40	12	29	5.2	1.8	3.6
2	5.6	20	19	40	76	143	40	12	33	5.0	1.9	3.7
3	5.5	18	19	37	47	99	33	20	25	4.6	1.9	8.0
4	5.5	19	19	59	45	59	32	1920	18	4.4	1.8	7.3
5	5.9	21	19	219	46	49	28	1080	13	4.1	1.8	6.7
6	6.3	23	20	169	49	45	30	498	12	4.1	1.8	4.9
7	6.9	26	19	81	43	43	34	231	11	4.0	1.7	4.3
8	6.7	28	19	45	50	114	50	98	10	3.6	1.8	4.0
9	e6.6	25	20	39	240	399	33	63	10	3.4	2.2	3.6
10	e6.5	22	20	41	130	235	28	96	9.7	3.3	2.6	3.3
11	e6.2	21	18	45	80	170	31	155	8.7	3.1	2.6	3.5
12	6.4	20	15	e45	66	131	29	91	8.3	2.9	4.3	3.5
13	6.4	19	15	e43	64	86	26	52	8.9	3.2	3.2	3.6
14	6.4	19	18	e40	61	62	24	45	7.6	3.4	2.8	4.1
15	7.2	19	19	36	50	53	21	44	7.0	3.4	3.0	4.5
16	7.2	19	24	37	42	38	19	42	6.5	4.7	2.8	4.6
17	6.9	19	21	45	38	31	19	41	6.3	4.4	2.5	4.2
18	6.8	19	21	45	35	37	20	59	6.2	3.2	3.1	4.1
19	6.7	19	19	33	37	43	20	274	6.1	3.0	2.5	4.2
20	6.9	19	19	26	42	46	19	392	5.9	2.9	1.9	4.4
21	10	19	18	35	40	46	19	301	6.4	2.8	1.6	4.5
22	10	19	18	41	40	43	20	56	6.2	2.5	3.5	4.4
23	13	20	19	43	138	40	17	41	5.9	2.4	2.5	4.2
24	35	20	19	51	375	34	15	24	6.1	2.1	2.2	3.9
25	80	19	18	54	294	31	15	18	5.9	2.1	2.6	4.0
26	103	17	24	59	208	36	13	16	5.8	2.0	5.7	3.7
27	27	17	21	55	141	46	13	22	5.5	2.1	4.2	3.1
28	25	17	23	208	89	62	12	17	5.2	2.1	4.0	3.0
29	31	18	23	285	---	58	12	91	5.4	2.2	3.7	2.9
30	24	19	24	247	---	52	11	354	5.2	1.9	3.7	2.8
31	21	---	36	221	---	44	---	48	---	1.9	3.6	---
TOTAL	507.1	604	625	2460	2742	2460	723	6213	299.8	100.0	85.3	126.6
MEAN	16.4	20.1	20.2	79.4	97.9	79.4	24.1	200	9.99	3.23	2.75	4.22
MAX	103	28	36	285	375	399	50	1920	33	5.2	5.7	8.0
MIN	5.5	17	15	26	35	31	11	12	5.2	1.9	1.6	2.8
AC-FT	1010	1200	1240	4880	5440	4880	1430	12320	595	198	169	251

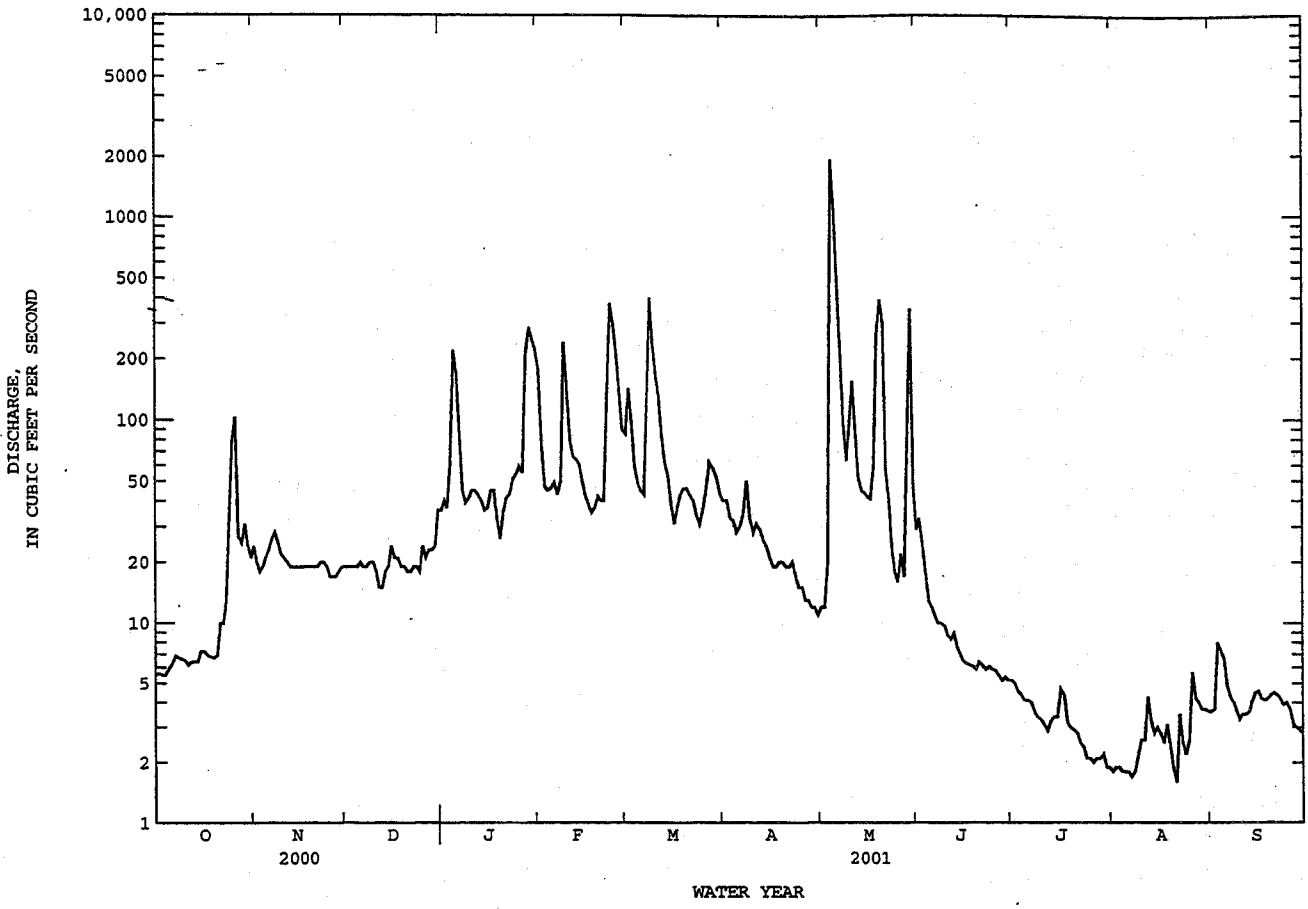
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001z, BY WATER YEAR (WY)

MEAN	30.7	28.3	28.0	32.6	39.8	48.3	92.2	112	145	29.0	27.3	30.0
MAX	279	213	92.4	86.0	117	165	1218	468	1006	155	301	113
(WY)	1987	1987	1992	1993	1998	1998	1997	1977	1995	1993	1968	1981
MIN	4.28	8.03	3.59	10.5	10.9	8.15	6.10	2.61	8.17	2.65	1.68	2.22
(WY)	1981	1981	1984	1971	1967	1972	1971	1971	1970	1970	1970	1984

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1967 - 2001z	
ANNUAL TOTAL	15879.4		16945.8			
ANNUAL MEAN	43.4		46.4		53.4	
HIGHEST ANNUAL MEAN					165	1997
LOWEST ANNUAL MEAN					10.5	1971
HIGHEST DAILY MEAN	1530	Mar 23	1920	May 4	17500	Apr 3 1997
LOWEST DAILY MEAN	1.8	Aug 29	1.6	Aug 21	.40	Jun 2 1985
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 1	1.8	Aug 1	.73	May 27 1985
MAXIMUM PEAK FLOW			5360	May 4	81100	Apr 3 1997
MAXIMUM PEAK STAGE			6.28	May 4	17.10	Apr 3 1997
ANNUAL RUNOFF (AC-FT)	31500		33610		38710	
10 PERCENT EXCEEDS	66		87		73	
50 PERCENT EXCEEDS	20		19		17	
90 PERCENT EXCEEDS	3.9		3.0		4.2	

e Estimated
z Period of regulated streamflow.

07300000 Salt Fork Red River near Wellington, TX--Continued



07301410 Sweetwater Creek near Kelton, TX

LOCATION.--Lat 35°28'23", long 100°07'14", Wheeler County, Hydrologic Unit 11120302, near center of stream at downstream side of bridge on Farm Road 592, 5 mi north of Kelton, 8 mi upstream from Texas-Oklahoma State line, and 8.5 mi northeast of Wheeler.

DRAINAGE AREA.--287 mi^2, of which 20 mi^2 probably is noncontributing.

PERIOD OF RECORD.--Nov. 1961 to current year.
Water-quality records.--Chemical data: Oct. 1969 to June 1985.

GAGE.--Water-stage recorder. Datum of gage is 2,230 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No known regulation. There are many small diversions upstream from the station for ranch use. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1882, about 20 ft May 16, 1957, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

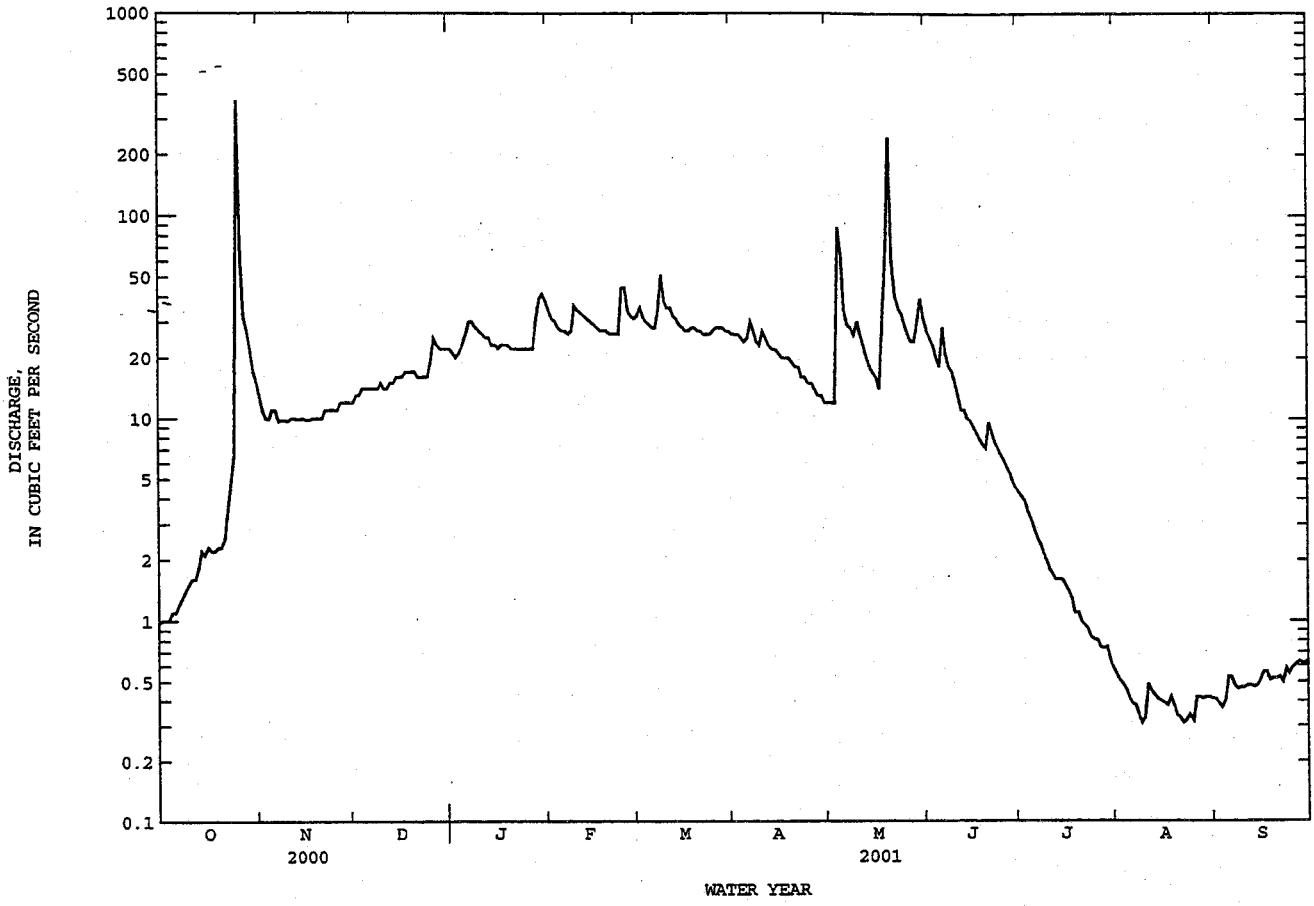
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.98	13	12	22	34	32	26	12	27	4.3	.55	.41
2	1.0	11	13	21	31	35	26	12	25	4.1	.51	.39
3	1.0	10	13	20	30	32	26	12	23	3.9	.49	.37
4	1.0	9.9	14	21	28	30	25	88	20	3.5	.46	.40
5	1.1	11	14	23	27	29	24	64	18	3.2	.42	.53
6	1.1	11	14	26	27	28	25	34	28	2.9	.39	.53
7	1.2	9.7	14	30	26	28	30	29	21	2.6	.38	.48
8	1.3	9.8	14	30	27	34	27	28	18	2.4	.34	.46
9	1.4	9.8	14	28	36	51	24	26	17	2.2	.31	.47
10	1.5	9.7	15	27	34	38	23	30	15	2.0	.33	.47
11	1.6	10	14	26	33	35	27	26	13	1.8	.49	.48
12	1.6	10	14	25	32	35	25	23	11	1.7	.45	.48
13	1.8	9.9	15	25	31	32	23	20	11	1.6	.43	.47
14	2.2	9.9	15	23	30	31	22	18	10	1.6	.41	.48
15	2.1	10	16	23	29	29	22	17	9.7	1.6	.40	.51
16	2.3	9.8	16	22	28	28	21	16	9.1	1.5	.39	.56
17	2.2	9.8	16	23	27	27	20	14	8.5	1.4	.38	.56
18	2.2	10	17	23	27	27	20	28	7.9	1.3	.42	.51
19	2.3	10	17	23	27	28	20	66	7.4	1.1	.38	.52
20	2.3	10	17	22	26	28	19	244	7.1	1.1	.34	.52
21	2.5	10	17	22	26	27	18	60	9.5	.99	.33	.53
22	3.5	11	16	22	26	27	18	40	8.5	.95	.31	.50
23	4.6	11	16	22	26	26	16	35	7.6	.91	.32	.58
24	6.5	11	16	22	44	26	16	33	7.1	.83	.34	.55
25	371	11	16	22	44	26	15	29	6.6	.81	.32	.59
26	65	11	19	22	34	27	15	26	6.2	.80	.42	.61
27	32	12	25	22	32	28	14	24	5.7	.74	.42	.63
28	27	12	23	31	31	28	13	24	5.3	.73	.41	.62
29	22	12	22	39	---	28	13	30	4.8	.74	.42	.62
30	17	12	22	41	---	27	12	39	4.5	.64	.42	.64
31	15	---	22	38	---	27	---	31	---	.59	.41	---
TOTAL	598.28	317.3	508	786	853	934	625	1178	372.5	54.53	12.39	15.47
MEAN	19.3	10.6	16.4	25.4	30.5	30.1	20.8	38.0	12.4	1.76	.40	.52
MAX	371	13	25	41	44	51	30	244	28	4.3	.55	.64
MIN	.98	9.7	12	20	26	26	12	12	4.5	.59	.31	.37
AC-FT	1190	629	1010	1560	1690	1850	1240	2340	739	108	25	31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2001, BY WATER YEAR (WY)

MEAN	8.50	10.5	12.2	13.5	16.3	18.9	22.3	26.4	23.1	6.08	5.22	7.23
MAX	42.1	34.5	27.1	27.6	30.5	42.2	100	196	86.3	32.3	42.7	40.9
(WY)	1987	1975	1998	1998	2001	1998	1997	1977	1965	1967	1963	1988
MIN	.30	1.05	3.11	5.78	6.82	9.09	8.72	3.38	2.80	.44	.000	.027
(WY)	1985	1985	1984	1995	1995	1977	1971	1971	1966	1974	1964	1984

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1962 - 2001	
ANNUAL TOTAL	4466.36		6254.47			
ANNUAL MEAN	12.2		17.1		14.0	
HIGHEST ANNUAL MEAN					33.5	1997
LOWEST ANNUAL MEAN					4.89	1984
HIGHEST DAILY MEAN	371	Oct 25	371	Oct 25	1820	May 21 1977
LOWEST DAILY MEAN	.34	Sep 12	.31	Aug 9	.00	Jul 29 1964
ANNUAL SEVEN-DAY MINIMUM	.37	Sep 7	.33	Aug 19	.00	Jul 29 1964
MAXIMUM PEAK FLOW			828	Oct 25	2890	May 20 1977
MAXIMUM PEAK STAGE			13.50	Oct 25	15.73	May 20 1977
INSTANTANEOUS LOW FLOW					.00	Jul 29 1964
ANNUAL RUNOFF (AC-FT)	8860		12410		10140	
10 PERCENT EXCEEDS	22		31		23	
50 PERCENT EXCEEDS	8.2		14		10	
90 PERCENT EXCEEDS	.76		.48		.88	

07301410 Sweetwater Creek near Kelton, TX--Continued



07308500 Red River near Burkburnett, TX

LOCATION.--Lat 34°06'36", long 98°31'53", Cotton County, Okla., Hydrologic Unit 11130102, on downstream guardrail of downstream bridge on U.S. Highways 277 and 281, 2.5 mi northeast of Burkburnett, and at mile 933.

DRAINAGE AREA.--20,570 mi^2, of which 5,936 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to Aug. 1925 (monthly discharge only), Dec. 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 952.57 ft above sea level. July 11, 1924, to Aug. 31, 1925, nonrecording gage at site 1,000 ft downstream at same datum. Dec. 16, 1959, to Jan. 11, 1960, nonrecording gage at present site and datum. Satellite telemeter at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No known regulation. There are many small diversions upstream from station for irrigation, but total amounts are unknown. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 3, 1957, reached a stage of 13.54 ft, from floodmarks. According to local residents, higher stages occurred in 1891 and June 1941.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	1900	673	619	1620	1700	710	350	8180	313	105	301
2	40	1280	619	597	1300	1530	723	346	4600	354	108	245
3	28	4860	596	586	1080	1430	719	383	3960	341	107	225
4	20	8760	574	575	964	1310	715	578	3340	312	100	225
5	15	3100	561	576	932	1230	713	3590	2930	290	93	257
6	13	2310	561	604	1020	1170	726	12100	2680	268	94	236
7	13	1730	564	648	1030	1110	662	9040	2260	247	95	373
8	15	1680	548	758	996	1120	665	7010	1590	231	96	916
9	15	2220	539	897	1070	1230	649	4690	1330	216	89	664
10	16	1740	529	911	1220	2430	645	3750	1230	210	82	420
11	16	1250	521	928	1320	1730	832	3150	1180	207	82	313
12	16	959	513	967	1350	2380	762	2690	1040	206	90	240
13	16	794	498	923	1290	1780	648	2340	875	200	e172	210
14	20	702	506	871	1280	1480	618	2280	775	195	288	193
15	41	667	517	824	1930	1180	552	2050	726	187	266	188
16	60	597	539	745	2000	1070	506	1900	672	e194	255	193
17	123	567	540	711	1530	1010	476	1800	635	192	285	228
18	292	537	540	698	1260	985	465	1820	567	186	428	383
19	302	506	544	e675	1180	930	450	1860	534	178	273	445
20	207	492	546	e660	1030	894	439	5230	495	162	261	560
21	188	e280	528	e640	951	843	428	14300	467	155	365	589
22	609	e200	516	e610	913	794	409	12500	438	154	359	363
23	3390	e1700	506	e590	931	762	365	7950	408	153	325	282
24	2600	e1000	492	572	1140	724	362	5880	381	157	212	255
25	3320	e700	508	562	1910	704	360	4130	366	161	169	202
26	11300	e480	577	544	4640	725	356	3790	347	149	156	177
27	15600	e740	556	557	2640	753	352	3760	334	144	190	156
28	7100	1110	518	763	2210	762	349	1360	324	133	313	140
29	5170	943	503	1430	---	727	351	1530	351	139	881	119
30	3200	784	539	1690	---	724	349	2180	332	126	793	106
31	2430	---	587	1800	---	708	---	3480	---	112	434	---
TOTAL	56226	44588	16858	24531	40737	35925	16356	127817	43347	6272	7566	9204
MEAN	1814	1486	544	791	1455	1159	545	4123	1445	202	244	307
MAX	15600	8760	673	1800	4640	2430	832	14300	8180	354	881	916
MIN	13	200	492	544	913	704	349	346	324	112	82	106
AC-FT	111500	88440	33440	48660	80800	71260	32440	253500	85980	12440	15010	18260

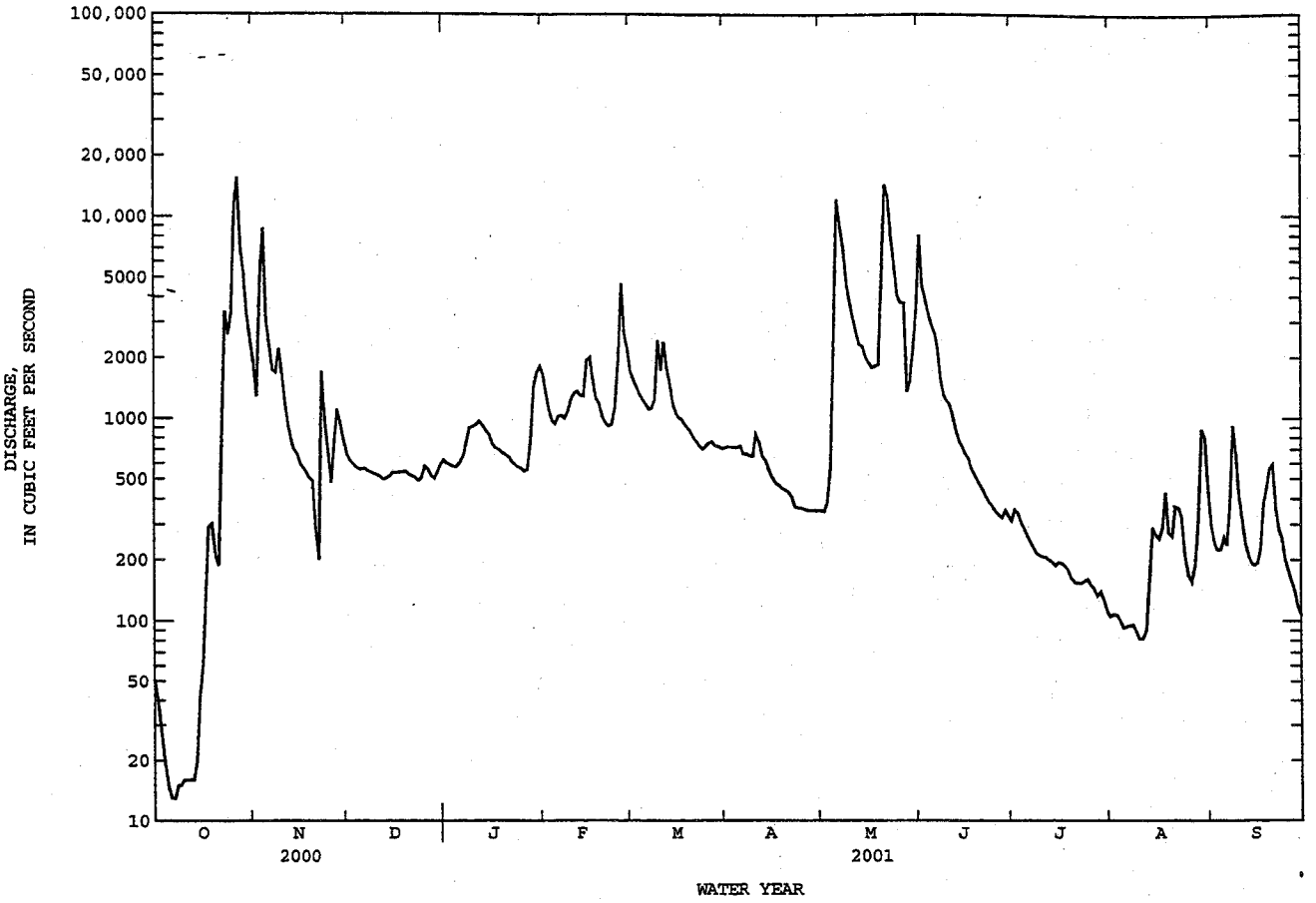
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2001, BY WATER YEAR (WY)

MEAN	1516	700	580	510	736	990	1115	2413	3406	872	870	1336
MAX	14900	4960	4435	2293	4986	10050	13040	12470	24780	5947	10540	6381
(WY)	1987	1987	1992	1998	1998	1998	1997	1977	1995	1975	1995	1996
MIN	21.9	.96	2.98	5.53	8.37	7.97	.15	11.4	148	.058	1.29	32.2
(WY)	1971	1971	1971	1971	1971	1971	1971	1971	1970	1970	1964	1983

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1960 - 2001	
ANNUAL TOTAL	333495		429427			
ANNUAL MEAN	911		1177		1258	
HIGHEST ANNUAL MEAN					4424	1987
LOWEST ANNUAL MEAN					178	1964
HIGHEST DAILY MEAN	18500	Mar 25	15600	Oct 27	144000	Jun 6 1995
LOWEST DAILY MEAN	13	Oct 6	13	Oct 6	.00	Jul 19 1964
ANNUAL SEVEN-DAY MINIMUM	15	Oct 5	15	Oct 5	.00	Jul 19 1964
MAXIMUM PEAK FLOW			18200	Oct 27	174000	Jun 6 1995
MAXIMUM PEAK STAGE			8.04	Oct 27	16.90	Oct 21 1983
INSTANTANEOUS LOW FLOW					.00	Jul 19 1964
ANNUAL RUNOFF (AC-FT)	661500		851800		911200	
10 PERCENT EXCEEDS	2150		2500		2500	
50 PERCENT EXCEEDS	321		587		315	
90 PERCENT EXCEEDS	86		142		55	

e Estimated

07308500 Red River near Burkburnett, TX--Continued



07316000 RED RIVER NEAR GAINESVILLE, TX

LOCATION.--Lat 33°43'40", long 97°09'35", in SW ¼ sec.36, T.9 S., R.1 E., Love County, OK, Hydrologic Unit 11130201, on downstream right bank at end of bridge on Interstate 35, 0.2 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 5.0 mi downstream from Fish Creek, 4.5 mi southwest of Thackerville, OK, 7.0 mi north of Gainesville, and at mile 791.5.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--30,782 mi^2 of which 5,936 mi^2 probably is noncontributing.

PERIOD OF RECORD.--May 1936 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 627.91 ft above sea level. Prior to Jan. 17, 1939, and Feb. 13, 1965 to Nov. 14, 1966, nonrecording gage at same site and datum.

REMARKS.--Records poor. Flow slightly regulated by Lake Kemp (station 07312000 in Texas), since 1943 by Lake Altus (station 07302500 in Oklahoma), since 1946 by Lake Kickapoo (station 07314000 in Texas), since 1967 by Lake Arrowhead (station 07314800 in Texas) and Moss Lake (station 07315950 in Texas). U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 28	2400	56,300	23.74	Feb 17	1100	48,300	22.15
Nov 5	1600	31,700	19.08	Mar 1	0100	26,100	17.87
Nov 26	0100	26,500	17.97	May 23	0300	25,800	17.81

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	e13700	5530	e3400	13300	23300	e2900	e800	e6820	2350	e282	550
2	116	e9770	e4700	e2900	9900	e18600	e2800	e780	e8010	1190	e277	695
3	137	e7450	3420	e2400	7310	e15300	e2700	740	16700	931	e271	989
4	e120	8140	3130	e2000	6240	e12300	e2600	700	12600	e825	e264	920
5	115	29100	2840	e1800	5360	e8840	e2500	e1750	e8190	e779	e257	722
6	110	24400	2650	e1650	4270	e7480	e2450	e1750	6650	e751	e237	623
7	98	16300	2450	e1600	3830	e6370	e2400	e13000	e6010	e751	224	497
8	97	10400	2190	e1700	3610	e5570	e2300	e17200	e5220	e741	239	595
9	93	10300	2020	e1800	3500	e5220	e2200	e14000	e4830	e697	225	657
10	92	16900	1830	e1900	3400	e5060	e2100	e10900	e4340	e632	210	534
11	88	17100	1660	e2000	3250	e5160	e3100	e7140	e3800	e567	207	526
12	85	10900	1590	e2100	3700	e6670	2710	e5390	e3380	e523	209	814
13	83	7420	1610	e2400	4760	e8710	e2590	e4090	e3170	e490	253	1110
14	84	5620	1590	e2700	4430	e8600	e2600	e3410	e3300	e469	277	857
15	91	4550	1550	e3300	4370	e7480	e3260	e2940	e3130	e476	286	692
16	111	3790	1520	e3200	24300	e6110	e3560	e2540	e2740	e435	362	737
17	124	3200	1530	e2800	44700	e5250	e2950	e2220	e2530	431	336	1190
18	116	2660	1500	e2600	e29200	e4890	e2390	e2070	e2280	e412	312	668
19	124	2530	1440	e2500	e16500	e4400	e1800	e1780	e1980	e378	416	836
20	187	2430	1540	e2300	e11800	e3970	e1660	e3840	e1830	e363	524	1420
21	270	2290	1590	2140	e7670	e3690	e1510	e2970	e1710	e351	543	3130
22	373	2170	1510	2050	e6430	3500	e1440	e13900	e1610	e358	644	3380
23	638	2180	1410	1950	e6540	e3280	e1380	e24200	1560	e371	653	1580
24	644	4060	1290	1840	e12400	e3330	e1250	e19400	1470	e396	532	1080
25	3690	18500	1240	1750	e9300	e3380	e1100	e13400	1400	e371	469	952
26	13900	23900	4220	1650	e10900	e4410	e1050	e9970	1340	e341	493	824
27	34200	17000	10000	1590	e20400	e4000	e970	e8990	1320	e319	497	668
28	51800	e11200	9050	1660	24300	e3730	e950	e9590	1300	e305	433	562
29	44100	e8000	6940	6640	---	e3390	e900	e10200	1270	e297	377	493
30	27800	e7000	e4900	17300	---	e3260	e830	e9810	1920	e291	369	424
31	18900	---	e3800	17700	---	e3000	---	e8560	---	e285	353	---
TOTAL	198494	302960	92240	103320	305670	208250	62950	228030	122410	17876	11031	28725
MEAN	6403	10100	2975	3333	10920	6718	2098	7356	4080	577	356	958
MAX	51800	29100	10000	17700	44700	23300	3560	24200	16700	2350	653	3380
MIN	83	2170	1240	1590	3250	3000	830	700	1270	285	207	424
AC-FT	393700	600900	183000	204900	606300	413100	124900	452300	242800	35460	21880	56980

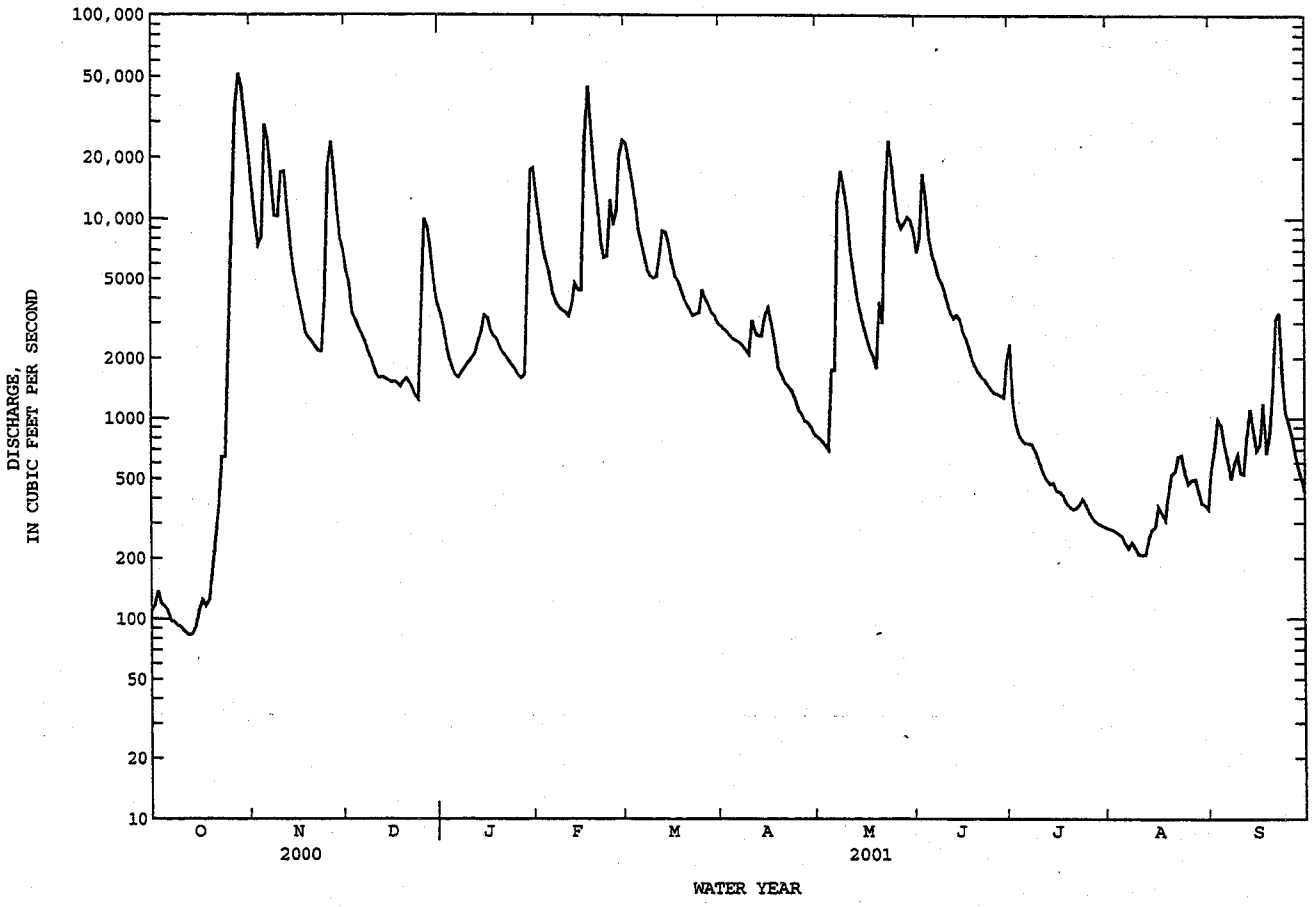
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2001, BY WATER YEAR (WY)

MEAN	3763	2071	1628	1300	1980	2944	3523	8000	8220	2161	1587	2458
MAX	31080	14020	14990	7258	10920	19590	27400	47780	43510	9857	20730	12880
(WY)	1942	1942	1992	1998	2001	1998	1990	1957	1941	1950	1995	1986
MIN	119	137	125	82.4	151	90.5	153	204	640	166	163	108
(WY)	1953	1955	1940	1940	1953	1940	1971	1971	1966	1964	1970	1956

e Estimated

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1937 - 2001	
ANNUAL TOTAL	947806		1681956			
ANNUAL MEAN	2590		4608		3304	
HIGHEST ANNUAL MEAN					11890	1987
LOWEST ANNUAL MEAN					651	1953
HIGHEST DAILY MEAN	51800	Oct 28	51800	Oct 28	232000	May 31 1987
LOWEST DAILY MEAN	83	Oct 13	83	Oct 13	48	Jan 18 1940
ANNUAL SEVEN-DAY MINIMUM	88	Oct 9	88	Oct 9	48	Jan 18 1940
MAXIMUM PEAK FLOW			56300	Oct 28	265000	May 31 1987
MAXIMUM PEAK STAGE			23.74	Oct 28	40.08	May 31 1987
INSTANTANEOUS LOW FLOW					100	Sep 17 2000
ANNUAL RUNOFF (AC-FT)	1880000		3336000		2394000	
10 PERCENT EXCEEDS	6100		12500		7340	
50 PERCENT EXCEEDS	641		2190		866	
90 PERCENT EXCEEDS	116		286		217	



07335500 RED RIVER AT ARTHUR CITY, TX

LOCATION.--Lat 33°52'30", long 95°30'06", in NW ¼ sec.11, T.8 S., R.17 E., Choctaw County, OK, Hydrologic Unit 11140101, on right downstream bank of bridge on U.S. Highway 271 at Arthur City, 10.6 mi downstream from Muddy Boggy River, 26.0 mi upstream from Kiamichi River, and at mile 633.1.

DRAINAGE AREA.--44,531 mi^2, of which 5,936 mi^2 probably is noncontributing.

PERIOD OF RECORD.--January to September 1905 (gage heights and discharge measurements only), October 1905 to December 1911, July 1936 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage- height records collected at same site since 1891 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1241: Drainage area. WSP 1311: 1906-11.

GAGE.--Water-stage recorder. Datum of gage is 380.07 ft above sea level. From 1905-11 nonrecording gage at St. Louis-San Francisco Railway Co. bridge 200 ft upstream at same datum. July 1, 1936, to Mar. 24, 1940, nonrecording gage at present site and datum.

REMARKS.--Records fair. Flow regulated since October 1943 by Lake Texoma (station 07331500), 92.8 mi upstream from station. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2440	4760	22600	18700	18300	51500	17300	e7000	31100	6030	6830	2290
2	2250	8130	21900	15100	16300	50500	16800	7050	23000	4960	6770	1350
3	e1000	7880	21100	11500	15800	44700	16400	5240	14500	4320	4280	1510
4	638	8170	21000	14400	14500	51600	16200	5080	10500	7120	3100	2540
5	e1200	8070	20100	15900	15200	54800	16100	5040	9940	7770	2890	2770
6	e1100	14200	14600	16200	14100	51600	16300	5300	11900	6720	2220	2380
7	e800	20800	12600	16400	13800	48200	16200	6270	13100	6480	1490	1790
8	e800	19700	10700	16300	13400	47000	14100	8690	12800	7070	1670	1340
9	e750	26900	9240	16100	13100	47000	e12000	8540	12100	6730	2650	1440
10	e700	28200	8510	15400	13200	47700	e11000	6730	10100	6660	2540	1390
11	e650	25900	5170	14900	13400	47700	10100	5870	8370	6840	2590	1500
12	e800	24100	4550	14900	13800	59100	e9000	5360	8790	6530	2470	1400
13	e810	22400	6670	15200	15600	59100	e8000	5930	9990	5910	1970	1570
14	e820	21600	7310	15300	28100	49300	14200	6870	9830	5300	1270	1590
15	e810	21600	8010	14800	31700	39800	18200	4650	8530	4820	1290	1520
16	e2800	21400	9540	14400	48000	37400	21500	4630	7450	5570	2360	1520
17	e940	21100	10300	15100	74100	41600	21000	5510	5170	5650	2890	1550
18	e800	19700	11000	19200	e60000	44400	18300	5460	2870	5560	2820	1460
19	e770	12200	10000	22000	e49000	43400	14200	5330	2020	5600	2770	2260
20	e780	11000	9580	19500	e45000	42700	e12000	5150	3650	6590	2710	2620
21	e800	11600	9050	16900	e48000	42300	e10000	4250	4800	6670	2630	6780
22	1400	11400	8400	15400	e44000	38200	e8000	3320	5120	6700	2590	9780
23	1580	11000	8130	14800	e42700	26900	13900	5880	5910	6690	2570	7220
24	999	17700	7990	14300	e39200	19700	21100	8820	5540	6680	2550	3880
25	746	26300	8200	13800	e51800	20500	15300	8080	6400	6710	2540	2400
26	1010	25900	25600	13500	e48700	23000	e11000	4370	6330	6690	2520	1860
27	1630	19800	51300	12600	e48600	20000	e9000	13500	6060	6720	2570	1900
28	1650	17400	40600	9640	50300	17800	e7000	20900	7480	6750	3040	1830
29	1810	21900	27200	7130	---	18000	e9000	21800	8100	6770	3050	1730
30	2070	23100	20900	14600	---	18900	e8000	21100	9100	6850	2790	1660
31	3020	---	20800	21400	---	18000	---	20200	---	6860	2770	---
TOTAL	38373	533910	472650	475370	899700	1222400	411200	251920	280550	196320	87200	74830
MEAN	1238	17800	15250	15330	32130	39430	13710	8126	9352	6333	2813	2494
MAX	3020	28200	51300	22000	74100	59100	21500	21800	31100	7770	6830	9780
MIN	638	4760	4550	7130	13100	17800	7000	3320	2020	4320	1270	1340
AC-FT	76110	1059000	937500	942900	1785000	2425000	815600	499700	556500	389400	173000	148400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2001, BY WATER YEAR (WY)

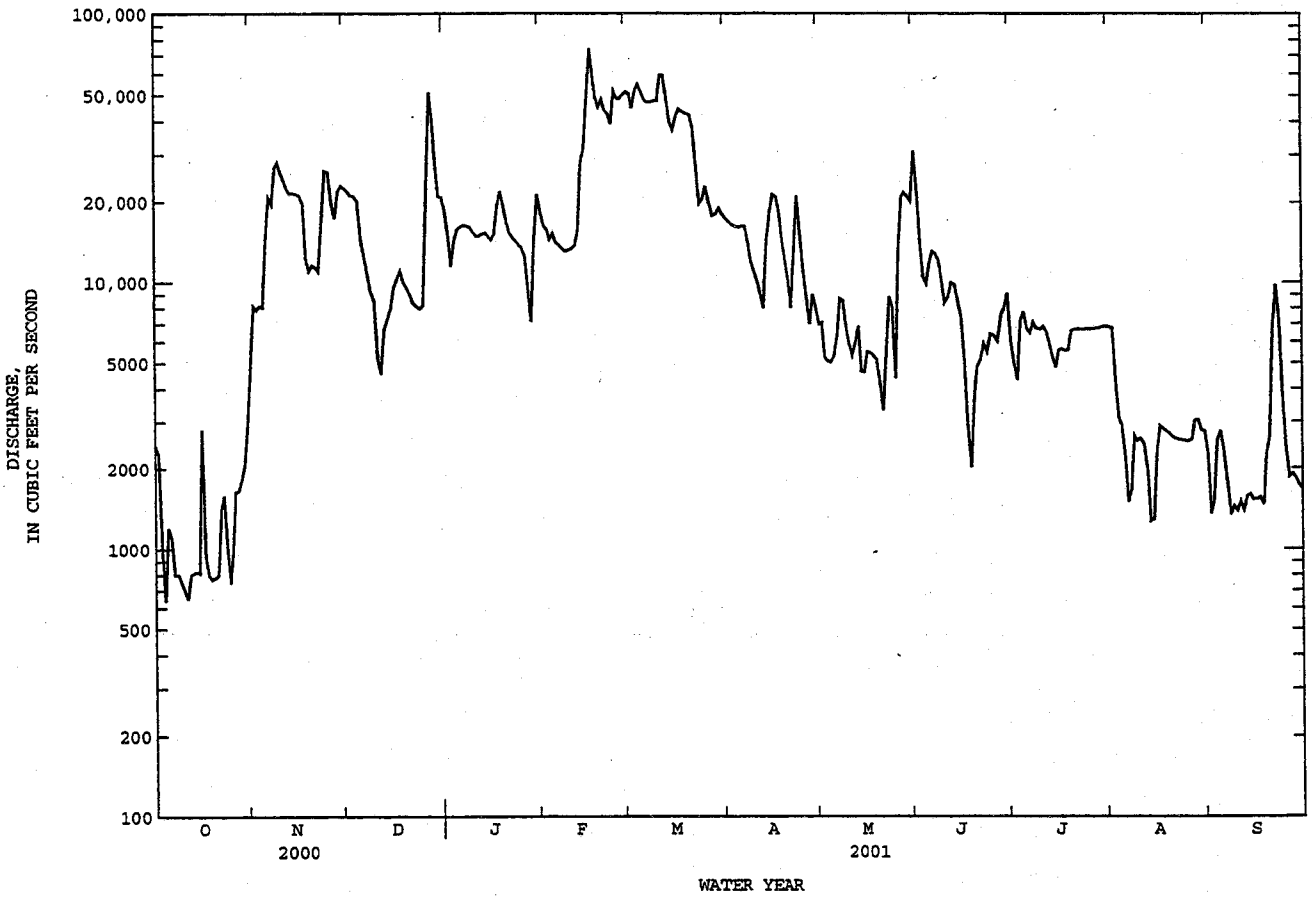
MEAN	6782	7522	7471	7072	8757	11190	11680	16860	17880	7784	4874	4767
MAX	40240	37170	32340	39930	32130	39430	55500	103900	83820	27700	34840	19010
(WY)	1982	1975	1992	1992	2001	2001	1990	1990	1957	1989	1950	1950
MIN	263	242	894	1126	1138	1118	1344	2837	2074	1586	1108	859
(WY)	1957	1957	1957	1964	1959	1967	1956	1980	1956	1956	1972	1988

e Estimated

07335500 RED RIVER AT ARTHUR CITY, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1945 - 2001	
ANNUAL TOTAL	2022015		4944423			
ANNUAL MEAN	5525		13550		[a]9379	
HIGHEST ANNUAL MEAN					23290	1990
LOWEST ANNUAL MEAN					2754	1964
HIGHEST DAILY MEAN	51300	Dec 27	74100	Feb 17	269000	May 4 1990
LOWEST DAILY MEAN	638	Oct 4	638	Oct 4	134	[b]Dec 11 1956
ANNUAL SEVEN-DAY MINIMUM	759	Oct 7	759	Oct 7	134	Dec 11 1956
MAXIMUM PEAK FLOW			80400	Feb 17	[c]275000	May 4 1990
MAXIMUM PEAK STAGE			18.35	Feb 17	[d]34.21	May 4 1990
ANNUAL RUNOFF (AC-FT)	4011000		9807000		6795000	
10 PERCENT EXCEEDS	12200		37700		24200	
50 PERCENT EXCEEDS	3260		8690		4320	
90 PERCENT EXCEEDS	1200		1560		1370	

[a]Prior to regulation, water years 1906-11, 1937-43, 9,266 ft^3/s.
[b]Also occurred Dec. 12, 1956.
[c]Maximum discharge for period of record, 400,000 ft^3/s, May 28, 1908.
[d]Maximum gage height for period of record, 43.2 ft, May 28, 1908.



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.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--39,720 mi^2, of which 5,936 mi^2 is probably noncontributing. At site used prior to October 1961 drainage area was 39,777 mi^2, of which 5,936 mi^2 probably was noncontributing.

PERIOD OF RECORD.--October 1923 to September 1989; December 1996 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 495.00 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 11.85 ft higher; Oct. 1, 1931, to Sept 24, 1934, at datum 12.07 ft higher; and July 29, 1942, to Sept. 30, 1961, at datum 2.36 ft higher; Sept. 25, 1934, to July 28, 1942, water-stage recorder at railway bridge 1.9 mi downstream at datum 12.36 ft higher. July 29, 1942 to Sept. 30, 1989, at same site and datum 5.00 ft higher.

REMARKS.--No estimated daily discharge. Records fair except for discharges less than 100 ft^3/s which are poor. Flow regulated since October 1943 by Lake Texoma (station 07331500). U.S. Army Corps of Engineers satellite telemeter at station.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	7040	17900	6300	5510	4830	11400	4240	11000	2730	3560	2550
2	2050	7020	17900	8280	3820	17300	11400	4240	6410	6970	2560	2670
3	1870	7040	17900	11100	11300	28500	11400	4230	6500	7320	2600	2680
4	1090	7020	14800	11100	11300	32700	11400	4260	8670	6080	316	562
5	1090	7070	11000	11200	11300	32600	11400	3340	11000	5960	133	255
6	199	7510	11000	11200	11300	32600	11500	3300	11000	6870	2500	526
7	42	13900	8270	11200	11400	32600	6730	4290	11000	6410	2860	617
8	43	17800	7770	11200	11400	32500	6230	4190	11000	6400	2370	238
9	919	17800	3290	11200	11400	32400	6210	4180	8610	6850	2710	254
10	1090	17900	3090	11300	11400	32500	6230	4150	8160	6590	2270	1180
11	1090	18000	6010	11300	11500	32800	6260	4170	9920	5880	267	1460
12	1080	17800	6260	11300	11500	29600	6180	4150	11000	5060	130	1440
13	1080	17800	7150	11300	11600	23900	6190	404	9520	4580	2130	1390
14	196	17900	6530	11300	8640	20600	6180	4720	7740	5810	2640	1420
15	43	17900	6360	11300	5230	24100	6160	5080	4350	5810	2690	424
16	1060	17900	7340	11400	6510	29900	6460	5080	165	5680	2710	181
17	991	14100	7390	11400	614	32300	2750	5080	46	5590	2700	928
18	1090	8250	7400	11400	264	32400	75	4820	4840	6930	2690	1130
19	1100	10800	7380	11400	10700	32400	64	408	5030	6930	2650	1140
20	2200	10800	7420	11400	11100	32400	6080	144	5410	6940	2690	1380
21	227	10800	7400	11400	13600	25200	6170	2250	6740	6950	2680	1250
22	53	8960	7450	11400	15300	14600	6230	3320	5920	6930	2710	397
23	1060	8630	7480	11500	15500	11300	6590	4100	7300	7000	2690	135
24	1100	8780	7470	11500	13800	11400	6390	2590	7310	6980	2690	903
25	1090	8580	7560	11500	13200	11300	6360	9220	6670	6990	2680	1050
26	1150	8490	8430	9550	15200	11300	6370	16500	7500	7040	2700	1010
27	1100	12200	7830	712	11900	11300	6390	16400	5630	7040	2690	999
28	44	17800	1830	107	1500	11400	4220	16500	4850	7090	2700	1010
29	71	17800	5980	5660	---	11400	4220	12900	3220	7090	2690	261
30	4940	17900	6320	5550	---	11400	6390	11000	2920	7120	332	49
31	7030	---	6240	5540	---	11300	---	11300	---	7090	150	---
TOTAL	36231	381290	256150	301999	277788	710830	199629	180556	209431	198710	67888	29489
MEAN	1169	12710	8263	9742	9921	22930	6654	5824	6981	6410	2190	983
MAX	7030	18000	17900	11500	15500	32800	11500	16500	11000	7320	3560	2680
MIN	42	7020	1830	107	264	4830	64	144	46	2730	130	49
AC-FT	71860	756300	508100	599000	551000	1410000	396000	358100	415400	394100	134700	58490

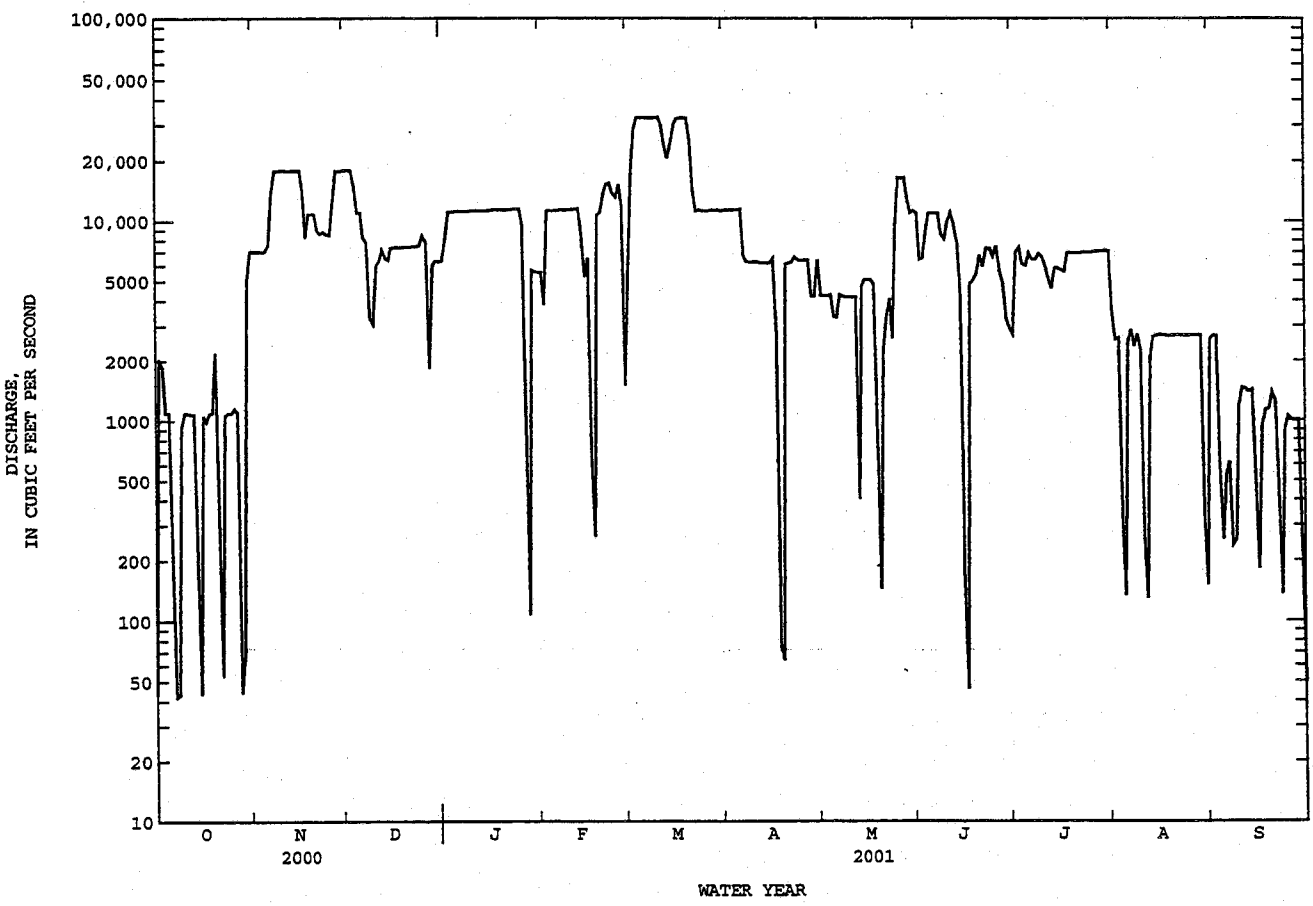
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2001, BY WATER YEAR (WY)

MEAN	4843	3748	3425	3667	3571	4767	4838	7555	11350	5470	3488	2613
MAX	27860	18880	13320	20630	13800	24760	20400	34710	66960	21820	25570	10330
(WY)	1987	1975	1997	1998	1987	1987	1945	1957	1957	1982	1950	1950
MIN	66.7	79.6	569	271	678	614	789	712	1449	1580	953	325
(WY)	1957	1957	1981	1945	1945	1976	1978	1959	1956	1956	1972	1984

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1945 - 2001	
ANNUAL TOTAL	1360927		2849991			
ANNUAL MEAN	3718		7808		[a]4891	
HIGHEST ANNUAL MEAN					16030	1987
LOWEST ANNUAL MEAN					1510	1964
HIGHEST DAILY MEAN	18000	Nov 11	32800	Mar 11	96200	Jun 5 1957
LOWEST DAILY MEAN	18	Feb 27	42	Oct 7	18	Feb 27 2000
ANNUAL SEVEN-DAY MINIMUM	25	Mar 8	519	Sep 4	25	Mar 8 2000
MAXIMUM PEAK FLOW			34100	Mar 11	[b]102000	Jun 5 1957
MAXIMUM PEAK STAGE			17.57	Mar 11	[c]26.26	Jun 5 1957
ANNUAL RUNOFF (AC-FT)	2699000		5653000		3543000	
10 PERCENT EXCEEDS	8450		16500		10700	
50 PERCENT EXCEEDS	2640		6460		2810	
90 PERCENT EXCEEDS	42		593		194	

[a]Prior to regulation, water years 1924-43, 5,684 ft^3/s.
[b]Maximum discharge for period of record, 201,000 ft^3/s May 21, 1935.
[c]Maximum gage height for period of record, 32.00 ft Apr. 25, 1942, site and datum then in use.



QUALITY DATA
WATER YEAR OCTOBER 2000 through SEPTEMBER 2001

(as recommended for inclusion in the annual report by the Engineering Committee)

07337000 RED RIVER AT INDEX--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947-1956, April 1980 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT											
18...	1130	81213	80513	1450	764	6.2	69.8	7.8	1670	21.0	382
JAN											
17...	1115	81213	80513	19500	781	8.7	65.3	8.3	1050	4.2	240
FEB											
28...	1330	81213	80513	53400	775	9.7	86.3	7.7	516	11.0	129
MAY											
09...	1400	81213	80513	6840	764	7.6	90.6	8.2	737	24.2	206
JUN											
20...	1200	81213	80513	6900	763	7.9	105	8.3	1130	29.9	280
AUG											
29...	1315	81213	80513	3490	772	7.6	97.3	8.4	1270	28.6	313

DATE	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT											
18...	100	32.0	6.50	4.23	190	51.5	130	130	1020	.070	1.2
JAN											
17...	63.0	20.0	4.30	2.05	73.0	39.3	160	170	643	<.010	.60
FEB											
28...	37.0	9.0	3.00	1.80	47.0	43.4	63.0	69.0	310	.021	1.4
MAY											
09...	56.0	16.0	3.60	2.15	71.0	42.4	92.0	97.0	432	.032	1.1
JUN											
20...	74.0	23.0	3.80	3.12	120	47.9	170	160	675	<.010	.79
AUG											
29...	81.0	27.0	5.00	3.69	150	50.5	190	190	784	<.010	1.1

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L) AS NH4) (71846)	NITROGEN, NITRATE DISSOLVED (MG/L) AS N) (00618)	NITROGEN, NITRATE DISSOLVED (MG/L) AS NO3) (71851)	NITROGEN, NO2+NO3 DISSOLVED (MG/L) AS N) (00631)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2) (71856)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4) (00660)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)
OCT										
18...	.090	.010	.044	.030	.066	.20	1.13	1.23	.031	<.020
JAN										
17...	--	--	--	.460	--	<.010	--	1.06	.061	.030
FEB										
28...	.027	--	--	.390	--	<.010	1.38	1.79	.092	.030
MAY										
09...	.041	--	--	.200	--	<.010	1.07	1.30	.061	<.020
JUN										
20...	--	--	--	<.020	--	<.010	--	--	--	<.020
AUG										
29...	--	--	--	<.020	--	<.010	--	--	--	<.020

DATE	PHOSPHORUS ORTHO DIS SOLVED (MG/L AS P (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	E COLI MTEF MF WATER (COLS./ 100 ML/ (31633)	COLI FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP KF STRP MR, WATER (COL/ 100 ML) (31673)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
OCT								
18...	.010	.120	120	77	84	95	225	881
JAN								
17...	.020	.150	80	73	160	61	564	29700
FEB								
28...	.030	.430	2200	1800	3800	59	1320	191000
MAY								
09...	.020	.200	400	480	260	89	310	5730
JUN								
20...	<.010	.070	E19	E19	E25	96	161	3000
AUG								
29...	<.010	.060	E6	E16	E27	100	168	1580

Remark Codes Used in This report:
< -- Less than
E -- Estimated value

07362000 OUACHITA RIVER AT CAMDEN--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947-52, October 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)
OCT 18...	0755	81213	80513	942	768	6.9	74.0	6.5	86	19.1	23.7	6.70	1.70
JAN 17...	0745	81213	80513	13000	780	9.2	67.3	7.7	72	3.3	22.5	6.70	1.40
FEB 28...	0930	81213	80513	25500	783	10.2	89.3	7.1	56	10.9	17.3	5.10	1.10
MAY 09...	0930	81213	80513	8260	767	6.5	74.3	7.0	55	22.4	16.1	4.80	1.00
JUN 20...	0700	81213	80513	2110	768	6.8	87.7	6.7	83	28.6	22.7	6.80	1.40
AUG 29...	0945	81213	80513	1820	778	6.8	84.1	7.6	70	27.3	20.4	5.70	1.50

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 18...	1.20	.554	6.2	34.8	4.2	11.0	50	<.010	.42	--	<.020	<.010	--
JAN 17...	1.20	.321	3.5	24.1	3.7	8.2	53	<.010	.21	--	.250	<.010	--
FEB 28...	1.10	.262	2.5	22.6	2.7	5.9	43	.012	.45	.015	.200	<.010	.438
MAY 09...	1.30	.380	3.5	30.0	3.7	5.2	28	.010	.70	.013	.140	<.010	.690
JUN 20...	.90	.511	5.6	33.8	4.7	8.8	55	.010	.46	.013	.140	<.010	.450
AUG 29...	1.10	.433	4.5	31.0	3.2	7.8	45	.020	<.20	.026	.090	<.010	--

DATE	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4) (00660)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
OCT 18...	--	--	<.020	<.010	<.020	120	100	E70	92	19	48
JAN 17...	.460	--	.020	<.010	.050	E90	70	120	95	30	1050
FEB 28...	.650	.031	.020	.010	.030	E380	160	110	96	29	2000
MAY 09...	.840	.031	<.020	.010	.070	880	1600	220	93	93	2070
JUN 20...	.600	--	<.020	<.010	.050	E17	E9	E21	99	23	131
AUG 29...	--	--	<.020	<.010	<.020	<2	E24	E4	91	29	143

Remark Codes Used in This report:
< -- Less than
E -- Estimated value

07364150 BAYOU BARTHOLOMEW NEAR MCGEHEE--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-1972, October 1973, January 1975, December 1975 to August 1976, Water years 1977 through 1979, and Water years 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)
OCT													
17...	1055	81213	80513	77	754	7.4	78	7.5	474	17.5	160	40.0	15.0
JAN													
16...	1345	81213	80513	388	781	7.8	59	7.7	86	4.9	24	6.10	2.20
FEB													
27...	1445	81213	80513	3840	780	7.2	64	7.0	51	10.9	16	3.90	1.40
MAY													
08...	1400	81213	80513	328	770	4.5	52	7.2	77	22.3	26	6.60	2.20
JUN													
19...	1100	81213	80513	253	767	5.2	64	7.3	202	26.5	63	16.0	5.60
AUG													
28...	1400	81213	80513	144	775	4.7	58	8.0	398	27.4	140	36.0	13.0

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT													
17...	4.70	1	30.0	28	44.0	12.0	266	<.010	.78	--	.030	<.010	--
JAN													
16...	3.20	.4	4.8	27	4.7	10.0	67	<.010	.69	--	.310	<.010	--
FEB													
27...	2.30	.3	2.4	22	1.7	3.8	41	.015	.81	.02	.140	<.010	.80
MAY													
08...	3.00	.3	3.7	22	3.0	4.8	61	.016	1.1	.02	.240	<.010	1.1
JUN													
19...	3.30	.7	12.0	28	15.0	8.6	126	.034	.97	.04	.610	<.010	.94
AUG													
28...	4.60	.8	23.0	25	36.0	6.3	235	.040	.70	.05	.130	<.010	.66

DATE	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4) (00660)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
OCT											
17...	.81	.153	.060	.050	.090	E590	590	370	95	69	14
JAN											
16...	1.0	.153	.070	.050	.130	E35	110	E43	92	41	43
FEB											
27...	.95	.245	.080	.080	.220	E180	130	220	97	88	912
MAY											
08...	1.3	.337	.120	.110	.340	E40	E53	200	98	69	61
JUN											
19...	1.6	.215	.070	.070	.210	40	50	82	96	63	43
AUG											
28...	.83	.337	.080	.110	.160	200	110	200	98	70	27

Remark codes used in this report:
< -- Less than
E -- Estimated value

07350500 RED RIVER AT COUSHATTA, LA

LOCATION.--Lat 32°00'45", long 93°21'10", in lot 23, T. 12 N., R. 10 W., Red River Parish, Hydrologic Unit 08040301 at bridge on U.S. Highway 84 at Coushatta, 11.0 mi downstream from Coushatta Bayou, and at mile 242.4.

DRAINAGE AREA.--63,362 mi^2.

PERIOD OF RECORD.--Water years 1970-1976, 1987 to current year.

REMARKS.--Water-quality samples are non-integrated and collected from center span of bridge. All dissolved constituents are results from water that has be filtered through 0.45 micron filters.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	COLOR (PLAT-INUM-COBALT UNITS) (00080)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV													
29...	1030	50	140	8.2	7.9	468	14.7	110	31.0	8.70	3.40	48.0	52
DEC													
21...	1410	80	43	12.5	8.0	421	6.1	100	28.0	7.90	3.10	42.0	50
JAN													
31...	0945	60	9.5	10.9	8.1	380	9.0	90	25.0	6.60	2.80	37.0	47
FEB													
28...	1350	60	89	9.0	7.8	225	12.4	63	19.0	3.70	2.30	18.0	42
MAR													
28...	1755	40	65	9.2	8.0	380	13.1	100	28.0	7.30	2.40	34.0	53
APR													
18...	0920	60	53	12.6	7.9	360	19.8	98	28.0	6.70	2.70	31.0	66
MAY													
30...	1335	40	15	9.6	7.5	419	25.6	120	34.0	8.30	2.90	37.0	79
JUN													
27...	1440	10	6.5	--	7.8	440	28.5	120	34.0	8.40	3.10	35.0	127
AUG													
01...	0930	5	.4	4.8	8.2	920	31.0	240	65.0	20.0	4.10	110	127
29...	1305	10	3.0	7.2	8.0	767	--	210	55.0	18.0	3.80	72.0	--
SEP													
26...	0915	20	8.0	5.3	7.6	366	25.6	120	32.0	8.90	3.30	31.0	98

DATE	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
NOV													
29...	59	67.0	.1	70.0	198	276	259	.90	.17	.2	<.01	E.140	.160
DEC													
21...	50	59.0	.1	62.0	47	258	232	.50	.08	.3	<.01	.080	.080
JAN													
31...	46	49.0	.1	52.0	52	233	201	.50	.08	.2	<.01	E.080	.090
FEB													
28...	43	23.0	<.1	27.0	109	136	118	.80	.09	.2	<.01	E.090	.110
MAR													
28...	57	51.0	.1	49.0	78	232	204	.59	.08	.3	<.01	.070	.090
APR													
18...	78	42.0	.1	41.0	51	214	191	<.20	.06	--	E.01	E.080	.110
MAY													
30...	79	50.0	.1	52.0	19	248	232	.82	.21	<.02	<.01	.070	.060
JUN													
27...	85	47.0	.1	45.0	12	--	249	.80	.03	M	<.01	.040	.080
AUG													
01...	136	140	.2	130	9	555	545	.70	.05	M	<.01	E.030	.050
29...	--	76.0	.2	74.0	7	--	384	1.0	.16	.1	<.01	E.030	.060
SEP													
26...	97	37.0	.1	37.0	8	226	208	.80	.16	.1	<.01	E.070	.100

07350500 RED RIVER AT COUSHATTA, LA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	TOTAL COLI-FORM, M ENDO MF, WTR (COL/ 100 ML) (31501)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)
NOV						
29...	9.4	3.1	18	610	230k	400
DEC						
21...	9.1	--	20	880	76	230
JAN						
31...	<.10	2.1	<5	1800	100	87
FEB						
28...	8.0	1.9	25	310	170	170
MAR						
28...	7.2	1.4	<10	1600	45k	50k
APR						
18...	8.1	2.0	23	470k	94k	E4k
MAY						
30...	9.0	4.3	22	48k	8k	590
JUN						
27...	8.2	--	19	<4	7k	46
AUG						
01...	6.6	--	15	60	80	140
29...	8.7	3.3	15	100	<2	4
SEP						
26...	7.6	--	<10	130	24	26

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	CYANIDE TOTAL (MG/L AS CN) (00720)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
JAN													
31...	1	<1.00	<1.00	<1	3.0	<.01	1500	1	58	<.10	2	<1.0	15
MAR													
28...	1	<1.00	<1.00	2	3.0	<.01	2200	1	91	<.10	3	<1.0	8
AUG													
01...	2	<1.00	<1.00	<1	1.2	E.01	130	<1	96	<.10	<1	<1.0	4

DATE	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	PHENOLS TOTAL (UG/L) (32730)
JAN		
31...	<1	<16
MAR		
28...	<1	<16
AUG		
01...	<1	E12

E Estimated value.
< Actual value is known to be less than the value shown.
k Counts outside acceptable range.
M Presence of material verified but not quantified.

07355500 RED RIVER AT ALEXANDRIA, LA

LOCATION.--Lat 31°18'46", long 92°26'34", in SE ¼ sec. 10, T. 4 N., R. 1 W., Rapides Parish, Hydrologic Unit 08040301, near center of span on downstream side of Murray Street bridge between Alexandria and Pineville, and 1.7 mi downstream from Bayou Rigolette. Water-quality sampling site at center of channel 0.3 mi downstream.

DRAINAGE AREA.--67,500 mi^2, of which 5,936 mi^2 above Denison Dam is noncontributing.

PERIOD OF RECORD.--Water years 1947, 1952-62, 1969, 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1952 to September 1963, June 1973 to September 1981.
WATER TEMPERATURES: October 1952 to September 1963, June 1973 to September 1984.
CHLORIDE: October 1974 to September 1984.
SUSPENDED-SEDIMENT DISCHARGE: October 1972 to September 1982.

REMARKS.--All dissolved constituents are results from water that has been filtered through 0.45 micron filters. Sample is a dip sample from centrum of flow.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,020 micromhos Oct.8, 1956; minimum daily, 133 micromhos June 24, 1953.
WATER TEMPERATURES: Maximum daily, 34.0 oC Aug. 2, 8, 10, 1956; minimum daily, 0.0 oC Dec. 24, 25, 1983.
CHLORIDE: Maximum daily, 420 mg/L Oct. 12, 1978; minimum daily, 8.6 mg/L Apr. 7, 1977.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,495,000 tons Dec. 9, 1973; minimum daily, 1,000 tons Oct. 10-22, 1972, Oct. 1 to Nov. 7, 1978, Sept. 27-30, Oct. 1-4, 1980, Jan. 30-31, Apr. 24-25, Oct. 1-6, 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	COLOR (PLAT-INUM-COBALT UNITS) (00080)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 29...	1340	50	240	7.7	7.6	570	12.9	140	37.0	11.0	3.60	63.0	52
DEC 21...	1100	80	47	12.1	7.8	390	13.4	93	25.0	7.40	3.10	38.0	46
JAN 31...	1720	60	9.6	13.3	7.6	295	--	74	21.0	5.20	2.50	27.0	38
FEB 28...	1100	80	110	8.5	7.9	196	13.1	59	18.0	3.40	2.30	14.0	41
MAR 28...	1020	80	70	8.4	7.8	345	13.5	92	26.0	6.60	2.40	30.0	52
APR 18...	1255	60	37	12.8	7.8	390	20.5	110	32.0	7.70	2.90	37.0	72
MAY 30...	1015	30	8.0	10.7	7.7	520	24.0	110	31.0	7.00	2.90	27.0	78
JUN 27...	1030	10	5.2	5.5	7.7	520	28.8	130	37.0	9.80	3.10	44.0	81
AUG 01...	1300	10	.7	6.8	8.2	750	26.4	200	55.0	16.0	3.90	80.0	121
29...	1045	5	2.7	6.3	8.0	1020	30.3	260	67.0	22.0	4.30	110	139
SEP 26...	1215	10	3.8	6.0	7.8	431	26.3	130	34.0	10.0	3.50	40.0	88

DATE	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
NOV 29...	53	91.0	.1	94.0	213	352	331	1.0	.20	.2	<.01	E.160	.190
DEC 21...	50	54.0	.1	57.0	52	238	214	.60	.11	.3	<.01	.080	.080
JAN 31...	39	36.0	<.1	40.0	56	196	154	.70	.09	.2	<.01	E.090	.090
FEB 28...	46	17.0	<.1	21.0	153	119	100	.90	.12	.2	<.01	E.120	.150
MAR 28...	53	44.0	<.1	44.0	86	210	184	.70	.08	.2	<.01	.080	.110
APR 18...	73	50.0	.1	50.0	40	246	223	.71	.10	.2	E.01	E.080	.090
MAY 30...	81	33.0	.1	37.0	15	202	185	.60	.04	<.02	<.01	--	--
JUN 27...	84	63.0	.1	61.0	8	282	266	.60	.04	M	<.01	.040	.060
AUG 01...	120	110	.2	98.0	9	437	435	.60	.03	M	<.01	E.020	.040
29...	136	150	.2	140	5	617	577	.50	.06	M	<.01	E.030	.040
SEP 26...	89	52.0	.2	50.0	6	267	243	.70	.12	.1	<.01	E.070	.100

07355500 RED RIVER AT ALEXANDRIA, LA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	TOTAL COLI-FORM, M ENDO MF, WTR (COL/ 100 ML) (31501)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)
NOV						
29...	10	2.5	11	1000	260	540
DEC						
21...	9.1	--	21	520	89	370
JAN						
31...	<.10	4.7	<5	400	100	180
FEB						
28...	10	2.0	24	52	40	170k
MAR						
28...	8.2	1.3	11	740	40k	26k
APR						
18...	7.9	1.2	26	180k	17k	8k
MAY						
30...	8.7	4.3	23	11k	<4	17k
JUN						
27...	7.1	.5	17	<4	5k	11k
AUG						
01...	7.2	--	26	27k	4k	<1
29...	8.8	1.0	16	1800	200	<13
SEP						
26...	7.9	--	17	96	32	3

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	CYANIDE TOTAL (MG/L AS CN) (00720)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
JAN													
31...	2	<1.00	<1.00	<1	2.3	<.01	1650	1	62	<.10	2	<1.0	8
MAR													
28...	2	<1.00	<1.00	2	2.8	<.01	2280	2	93	<.10	3	<1.0	8
AUG													
01...	2	<1.00	<1.00	<1	1.3	<.01	100	<1	40	<.10	<1	<1.0	5
SEP													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	2,4-DP TOTAL (UG/L) (82183)	2,4,5-T TOTAL (UG/L) (39740)	2,4-D, TOTAL (UG/L) (39730)	ALDRIN, TOTAL (UG/L) (39330)	CARBO-PHENO-THION WATER UNFLTRD (UG/L) (39786)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	CHLOR-PYRIFOS TOTAL RECOVER (UG/L) (38932)	DEF TOTAL (UG/L) (39040)	DI-AZINON, TOTAL (UG/L) (39570)	DI-ELDRIN TOTAL (UG/L) (39380)	DISUL-FOTON UNFILT RECOVER (UG/L) (39011)	ENDO-SULFAN I TOTAL (UG/L) (39388)
JAN													
31...	<1	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<1	<.04	<.01	.11	<.013	<.02	<.1	<.01	<.02	<.02	<.006	<.13	<.015
AUG													
01...	1	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
26...	--	<.04	<.01	.02	<.010	<.02	<.1	<.01	<.02	<.02	<.006	--	<.020

DATE	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	FONOFOS (DY-FONATE) WATER WHOLE TOT.REC (UG/L) (82614)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	LINDANE TOTAL (UG/L) (39340)	MALA-THION, TOTAL (UG/L) (39530)	METH-OXY-CHLOR, TOTAL (UG/L) (39480)	METHYL PARA-THION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	P,P'-DDD UNFILT RECOVER (UG/L) (39360)	P,P'-DDE, TOTAL (UG/L) (39365)	P,P'-DDT UNFILT RECOVER (UG/L) (39370)
JAN													
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<.014	<.01	<.01	<.009	<.014	<.006	<.03	<.01	<.01	<.01	<.007	<.006	<.009
AUG													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
26...	<.010	<.01	<.01	<.009	<.010	<.006	--	<.02	<.01	<.01	<.007	<.006	<.009

07355500 RED RIVER AT ALEXANDRIA, LA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	PARA-THION, TOTAL (UG/L) (39540)	PCB, TOTAL (UG/L) (39516)	PHENOLS TOTAL (UG/L) (32730)	PHORATE TOTAL (UG/L) (39023)	SILVEX, TOTAL (UG/L) (39760)	TOX-APHENE, TOTAL (UG/L) (39400)
JAN						
31...	--	--	<16	--	--	--
MAR						
28...	<.01	<.1	<16	<.04	<.01	<1
AUG						
01...	--	--	E14	--	--	--
SEP						
26...	<.01	<.1	--	<.04	<.01	<1

E Estimated value.
< Actual value is known to be less than the value shown.
k Counts outside acceptable range
M Presence of material verified but not quantified.

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1944 to September 1995; October 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1944 to January 1982, February 1984 to April 1990; December 1996 to current year.
WATER TEMPERATURE: April 1947 to January 1982, February 1984 to April 1990; December 1996 to current year.

REMARKS.--Samples were collected monthly and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were
determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,180 microsiemens, Sept. 29, 2000; minimum daily, 95 microsiemens, Nov. 2, 1951.
WATER TEMPERATURE: Maximum daily, 38.0°C, July 16, 1985; minimum daily, -0.5°C, Dec. 20, 1996, Jan. 12-18, 1997, Jan. 4, 5, 10, 1999.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,020 microsiements, Oct. 15; minimum, 138 microsiemens, Sept. 15.
WATER TEMPERATURE: Maximum, 36.0°C, July 25; minimum, 0.2°C, Dec. 13, 14.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (US/CM) (00095)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT													
18...	1530	80020	1028	10.42	189	753	128	11.1	8.4	1550	27.8	21.6	590
NOV													
09...	1530	80020	1028	17.00	8520	743	102	11.4	8.1	530	10.3	9.3	180
DEC													
21...	1530	80020	1028	11.67	1340	754	104	13.3	8.1	1230	6.4	4.4	600
JAN													
30...	1300	80020	1028	19.50	13700	739	93	11.1	8.3	521	15.4	6.5	220
FEB													
26...	1240	80020	1028	16.54	7680	752	95	10.4	8.2	970	19.3	10.4	300
MAR													
22...	1500	80020	1028	12.50	1740	748	99	10.0	8.3	1300	23.7	13.7	610
APR													
12...	1730	80020	1028	13.19	3420	740	77	6.8	8.3	1370	21.8	19.8	620
MAY													
25...	0930	80020	1028	14.49	4520	747	87	7.6	8.0	932	19.5	21.1	400
JUN													
06...	1140	80020	1028	14.07	4110	747	100	7.8	8.2	802	32.3	26.5	360
JUL													
17...	1250	80020	1028	10.80	440	750	156	11.4	8.4	1560	35.0	30.4	650
AUG													
24...	1200	80020	1028	10.63	328	745	106	8.0	8.3	1140	35.6	28.7	410
SEP													
12...	1030	80020	1028	10.53	278	751	95	8.0	8.4	946	--	22.8	330

DATE	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)
OCT													
18...	450	135	62.1	4.38	2	101	27	147	179	.0	111	.5	4.5
NOV													
09...	66	50.8	13.1	3.31	.5	16.2	16	115	140	.0	17.5	.2	10.0
DEC													
21...	350	160	48.2	3.13	.9	51.7	16	250	305	.0	59.9	.4	11.4
JAN													
30...	92	58.9	17.6	3.01	.5	18.5	15	127	155	.0	18.1	.2	7.1
FEB													
26...	120	75.1	26.5	3.52	.7	27.3	16	172	210	.0	24.2	.3	7.8
MAR													
22...	370	151	56.3	3.60	.9	52.4	16	242	285	5	57.0	.4	9.0
APR													
12...	420	144	63.8	3.87	1	66.8	19	200	232	6	70.3	.4	6.9
MAY													
25...	270	102	36.5	5.73	.8	36.8	16	134	163	.0	32.4	.4	10.7
JUN													
06...	220	91.1	31.4	5.50	.6	27.9	14	136	166	.0	24.4	.3	11.0
JUL													
17...	560	128	79.1	4.65	2	89.0	23	89	92	8	88.3	.5	11.4
AUG													
24...	260	96.5	40.5	3.91	2	77.1	29	151	172	6	78.2	.5	12.6
SEP													
12...	200	70.9	36.3	4.00	1	56.6	27	125	143	5	72.8	.4	5.1

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)
OCT													
18...	521	1.00	<.041	--	--	--	--	<.047	--	<.006	--	--	<.060
NOV													
09...	68.5	1.8	E.021	.403	2.2	--	1.78	.412	.030	.009	--	.147	E.048
DEC													
21...	348	.69	.047	.710	1.4	.06	3.14	.723	.043	.013	.64	.120	E.050
JAN													
30...	97.6	2.4	.057	.483	2.8	.07	2.14	.492	.030	.009	2.3	.101	E.049
FEB													
26...	147	2.3	E.038	.479	2.8	--	2.12	.492	.043	.013	--	.120	E.051
MAR													
22...	397	.84	<.041	.782	1.6	--	3.46	.794	.038	.012	--	.126	<.060
APR													
12...	443	1.6	E.039	--	--	--	--	E.041	--	E.004	--	--	<.060
MAY													
25...	296	4.6	<.040	--	5.3	--	--	.706	--	E.005	--	.123	E.053
JUN													
06...	238	3.2	<.040	--	3.7	--	--	.484	--	E.003	--	.178	.079
JUL													
17...	610	2.5	<.040	--	--	--	--	<.050	--	<.006	--	--	<.060
AUG													
24...	312	1.0	<.040	--	--	--	--	E1.30	--	E.017	--	--	E.031
SEP													
12...	246	.98	<.040	--	--	--	--	<.050	--	E.003	--	--	<.060

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT													
18...	<.018	.175	65	1.40	524	1030	3.0	3	119	130	<8.00	<.11	E.7
NOV													
09...	.048	1.02	1180	.34	5760	251	E1.1	6	85.4	420	<8.00	E.11	<.8
DEC													
21...	.039	.154	88	1.14	3030	837	2.2	3	164	184	<8.00	.21	.9
JAN													
30...	.033	1.30	1600	.41	11100	300	E1.3	5	94.6	511	<8.00	.16	<.8
FEB													
26...	.039	1.04	1650	.57	8640	417	E1.9	6	127	456	<8.00	.12	<.8
MAR													
22...	.041	.299	286	1.19	4110	875	2.0	3	176	244	<8.00	<.11	<.8
APR													
12...	<.018	.480	540	1.25	8500	920	E1.9	5	173	311	<8.00	.14	E.5
MAY													
25...	.040	2.08	2410	.82	7370	604	E1.4	13	141	788	<8.00	.33	<.8
JUN													
06...	.058	1.40	1830	.70	5700	514	3.2	10	130	518	<8.00	.30	<.8
JUL													
17...	<.020	.145	46	1.45	1270	1060	3.5	4	160	162	<8.00	<.10	<.8
AUG													
24...	E.035	E.171	192	.97	630	712	5.4	12	104	163	<8.00	<.10	<.8
SEP													
12...	<.020	.191	44	.77	426	567	3.2	4	96.1	138	<8.00	<.10	<.8

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, DISSOLVED (UG/L AS CU) (01040)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, DISSOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)
OCT													
18...	<1	<4.7	2.0	<10	520	E.06	1	<3.2	76	<.23	<.14	<53.0	<66
NOV													
09...	14	<4.7	17.6	M	12100	<.08	22	<3.2	925	<.23	<.14	<53.0	<66
DEC													
21...	1	<4.7	5.8	<10	1220	E.07	3	10.2	74	<.23	<.14	<53.0	<66
JAN													
30...	18	<4.7	19.6	M	14500	E.06	21	9.1	1040	<.23	<.14	<53.0	E41
FEB													
26...	16	<4.7	17.1	<10	12900	E.07	20	E2.2	835	<.23	<.14	<53.0	<66
MAR													
22...	4	<4.7	5.6	<10	3360	.09	4	6.9	267	<.23	<.14	<53.0	<66
APR													
12...	5	<4.7	10.9	<10	4830	.31	7	6.7	470	<.01	<.01	<53.0	<66
MAY													
25...	30	<5.0	41.0	<10	23700	<.08	34	<3.0	2220	<.01	.05	<50.0	E34
JUN													
06...	6	<5.0	22.6	<10	7660	.68	20	<3.0	1340	<.01	.05	<50.0	<66
JUL													
17...	<1	<5.0	2.5	<10	300	E.06	1	5.1	74	<.01	<.01	<50.0	<66
AUG													
24...	2	<5.0	5.0	<10	2750	<.08	3	<3.0	240	<.01	<.01	<50.0	<66
SEP													
12...	2	<5.0	4.7	<10	1520	E.04	2	<3.0	149	<.01	<.01	<50.0	<66

DATE	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, DISSOLVED (UG/L AS AG) (01075)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ALDRIN, TOTAL (UG/L) (39330)	ALPHA BHC TOTAL (UG/L) (39337)	ALPHA-HCH-D6 SUR SCD 1608 WATER UNFLTRD PERCENT (99778)	AROCLOR 1016/ 1242 PCB WATER UNFLTRD (UG/L) (81648)	AROCLOR 1221 PCB TOTAL (UG/L) (39488)	AROCLOR 1232 PCB TOTAL (UG/L) (39492)	AROCLOR 1248 PCB TOTAL (UG/L) (39500)
OCT													
18...	<2.4	<2.6	<.2	<.43	<20	<31	--	--	--	--	--	--	--
NOV													
09...	<2.4	<2.6	<.2	<.43	<20	46	--	--	--	--	--	--	--
DEC													
21...	E1.4	<2.6	<.2	<.43	<20	E19	--	--	--	--	--	--	--
JAN													
30...	<2.4	<2.6	<.2	<.43	<20	51	--	--	--	--	--	--	--
FEB													
26...	<2.4	<2.6	<.2	<.43	<20	46	--	--	--	--	--	--	--
MAR													
22...	<2.4	<2.6	<.2	<.43	<20	<31	--	--	--	--	--	--	--
APR													
12...	<2.4	E1.9	<.2	<.43	E12	38	<.040	<.03	77	<.10	<1	<.1	<.1
MAY													
25...	<2.0	<3.0	<.2	<.40	<20	106	--	--	--	--	--	--	--
JUN													
06...	<2.0	<3.0	<.2	<.40	<20	53	--	--	--	--	--	--	--
JUL													
17...	<2.0	<3.0	<.2	<.40	<20	<31	--	--	--	--	--	--	--
AUG													
24...	<2.0	E1.8	<.2	<.40	<20	E18	--	--	--	--	--	--	--
SEP													
12...	<2.0	<3.0	<.2	<.40	<20	<31	--	--	--	--	--	--	--

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	AROCLOR 1254 PCB TOTAL (UG/L) (39504)	AROCLOR 1260 PCB TOTAL (UG/L) (39508)	BETA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (39338)	CHLOR-DANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	CHLOR-DANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	DELTA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (34259)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDO-SULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDO-SULFAN II TOTAL (UG/L) (34356)	ENDO-SULFAN SULFATE TOTAL (UG/L) (34351)	ENDRIN ALDE-HYDE TOTAL (UG/L) (34366)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)
OCT 18...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 09...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB 26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR 22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR 12...	<.1	<.1	<.03	<.1	<.1	<.1	<.09	<.020	<.1	<.04	<.6	<.2	<.060
MAY 25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN 06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 17...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG 24...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 12...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	ISODRIN SUR SCD 1608 WTR, UNFLTRD PERCENT (90570)	LINDANE TOTAL (UG/L) (39340)	PCB 207 SUR SCD 1608 WATER UNFLTRD PERCENT (99781)	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	P,P' DDT, TOTAL (UG/L) (39300)	TOX-APHENE, TOTAL (UG/L) (39400)
OCT 18...	--	--	--	--	--	--	--	--	--
NOV 09...	--	--	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	--	--	--	--	--	--	--
FEB 26...	--	--	--	--	--	--	--	--	--
MAR 22...	--	--	--	--	--	--	--	--	--
APR 12...	<.800	<.030	60	<.030	84	<.1	<.04	<.1	<2
MAY 25...	--	--	--	--	--	--	--	--	--
JUN 06...	--	--	--	--	--	--	--	--	--
JUL 17...	--	--	--	--	--	--	--	--	--
AUG 24...	--	--	--	--	--	--	--	--	--
SEP 12...	--	--	--	--	--	--	--	--	--

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	1640	1170	1380	620	602	611	991	924	963	773	658	715
2	1340	1170	1270	632	607	618	1010	991	1000	887	773	835
3	1390	1260	1300	635	559	613	1080	1000	1040	907	866	889
4	1590	1390	1490	584	477	530	1110	1070	1090	958	898	924
5	1730	1590	1680	499	332	443	1100	1060	1080	975	946	959
6	1720	1660	1680	436	331	388	1120	1100	1110	977	964	969
7	1790	1670	1730	494	414	441	1160	1120	1140	974	961	967
8	1890	1780	1850	523	440	488	1190	1160	1170	1080	973	1010
9	1940	1860	1900	504	418	449	1330	1180	1260	1170	1080	1140
10	1950	1890	1930	538	443	467	1350	1330	1340	1120	962	1040
11	1920	1890	1900	672	538	632	1350	1340	1350	962	916	938
12	1930	1890	1910	690	665	679	1370	1350	1360	956	910	924
13	1970	1920	1950	728	667	694	1360	1350	1360	953	924	932
14	1990	1940	1980	776	728	748	1370	1340	1350	1020	953	1000
15	2020	1640	1930	848	776	814	1370	1310	1340	1020	999	1010
16	1730	702	1000	928	848	887	1330	1280	1300	1020	999	1010
17	1250	853	1010	1000	928	962	1340	1300	1320	1020	987	1010
18	1590	1250	1460	1070	1000	1040	1300	1270	1280	998	982	989
19	1680	1590	1640	1080	1070	1080	1350	1300	1330	1040	997	1020
20	1630	1480	1560	1080	1070	1080	1350	1270	1290	1070	1040	1050
21	1560	1450	1520	1100	1080	1080	1280	1270	1280	1180	1070	1130
22	1590	931	1320	1120	1100	1110	1310	1280	1300	1260	1180	1220
23	1030	835	940	1140	1100	1130	1400	1310	1370	1310	1260	1290
24	1200	435	794	1120	438	658	1450	1400	1430	1310	1300	1300
25	538	419	463	438	328	379	1470	1440	1460	1320	1300	1310
26	556	356	488	523	412	496	1440	420	831	1350	1320	1330
27	356	284	304	711	523	618	530	446	482	1350	1340	1350
28	403	346	371	792	711	747	595	503	546	1340	885	1280
29	471	379	434	840	792	814	663	466	576	885	406	579
30	500	450	490	924	840	876	552	466	505	563	410	492
31	608	499	550	---	---	---	658	552	608	662	563	632
MONTH	2020	284	1300	1140	328	719	1470	420	1120	1350	406	1010

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	664	584	613	946	731	837	1480	1470	1480	1500	1400	1450
2	895	664	784	731	690	704	1500	1470	1490	1520	1500	1520
3	1000	895	963	791	714	764	1480	1470	1480	1540	1500	1520
4	984	839	885	827	786	803	1480	1380	1420	1540	595	1480
5	868	832	844	881	825	853	1390	1360	1380	968	396	723
6	955	868	913	951	880	914	1360	1340	1350	1160	887	1070
7	1000	955	982	1020	951	987	1350	1330	1340	1080	893	1010
8	1040	982	1030	1060	1020	1040	1340	1320	1330	1160	1060	1080
9	1060	1020	1040	1090	1060	1080	1330	1310	1320	1440	1160	1310
10	1060	901	946	1110	1080	1090	1380	1320	1360	1500	1180	1400
11	990	909	944	1140	1110	1120	1380	996	1190	1180	1040	1090
12	1060	990	1040	1170	1140	1160	1400	1220	1310	1190	1120	1170
13	1090	1030	1050	1220	1080	1170	1400	1190	1340	1180	1050	1110
14	1140	996	1090	1150	1080	1100	1230	995	1160	1070	1030	1040
15	1150	377	878	1230	1150	1190	995	563	642	1120	1070	1100
16	377	282	302	1230	1200	1210	907	634	784	1180	1110	1150
17	445	288	369	1300	1230	1280	996	907	962	1290	1160	1210
18	526	445	486	1330	1300	1310	1120	979	1060	1320	1290	1300
19	600	526	564	1390	1330	1360	1150	1110	1130	---	---	1350
20	667	600	632	1390	1300	1350	1200	1150	1180	---	---	e1000
21	716	665	692	1320	1260	1290	1240	1200	1230	---	---	e1100
22	756	715	735	1300	1270	1290	1260	1240	1250	---	---	e1150
23	799	474	752	1310	1260	1300	1260	1230	1250	---	---	e1250
24	779	463	631	1310	1170	1290	1280	1230	1250	---	---	e1000
25	611	494	572	1260	1200	1230	1310	1270	1290	---	---	e926
26	685	575	630	1270	1240	1250	1310	1290	1300	908	848	869
27	712	681	697	1340	1270	1320	1370	1300	1350	919	848	880
28	914	712	853	1340	1330	1340	1390	1370	1380	926	398	653
29	---	---	---	1340	1330	1330	1400	1390	1390	808	509	638
30	---	---	---	1410	1330	1360	1420	1400	1410	985	808	926
31	---	---	---	1470	1410	1460	---	---	---	1190	962	1100
MONTH	1150	282	783	1470	690	1150	1500	563	1260	1540	396	1120

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	-	JUNE			JULY			AUGUST			SEPTEMBER	
1	1140	855	1010	1380	768	943	1620	1530	1570	1380	1320	1350
2	1130	856	1020	1000	825	913	1660	1620	1640	1360	1230	1290
3	1220	1060	1170	1310	1000	1180	1680	1590	1650	1460	1250	1390
4	1060	720	843	1460	1310	1400	1660	1610	1650	1360	1210	1290
5	772	719	743	1500	1460	1480	1670	1620	1640	1410	1290	1360
6	845	772	806	1550	1500	1520	1680	1650	1670	1290	1200	1240
7	892	845	874	1590	1550	1570	1730	1660	1690	1290	1190	1250
8	918	892	906	1650	1580	1630	1710	1670	1690	1360	1160	1270
9	1030	911	960	1690	1600	1660	1720	1680	1700	1200	791	919
10	1100	1030	1070	1690	1600	1680	1740	1700	1730	1170	804	975
11	1190	1100	1140	1690	1460	1660	1760	1720	1740	1110	935	989
12	1360	1190	1280	1690	1620	1660	1760	1620	1690	1150	929	988
13	1450	1360	1430	1660	1580	1620	1720	1680	1700	1400	1150	1310
14	1460	1430	1440	1650	1560	1610	1720	1710	1720	1510	1400	1460
15	1440	1400	1420	1570	1550	1560	1730	1680	1720	1550	138	1000
16	1470	1440	1460	1580	1560	1570	1730	1600	1640	672	273	325
17	1490	1460	1480	1580	1340	1540	1840	1730	1810	573	286	333
18	1590	1480	1550	1580	1520	1550	1950	1530	1840	590	267	374
19	1630	1590	1620	1560	1500	1540	1540	1210	1300	322	257	289
20	1610	1590	1600	1530	1460	1500	1700	1460	1650	344	194	267
21	1650	1590	1610	1540	1470	1500	1690	1500	1600	313	222	264
22	1770	1650	1730	1580	1530	1550	1700	1460	1610	456	313	366
23	1830	1770	1790	1620	1580	1600	1460	1160	1340	542	456	515
24	1830	1810	1820	1630	1550	1600	1160	1040	1100	514	468	483
25	1840	1800	1820	1600	1520	1560	1100	1040	1070	531	498	519
26	1810	1800	1800	1560	1470	1530	1120	1050	1090	499	488	493
27	1830	1790	1800	1530	1480	1510	1120	1070	1110	548	497	524
28	1810	1740	1780	1540	1500	1520	1150	1100	1120	590	547	569
29	1750	1700	1730	1570	1520	1560	1280	1150	1200	623	589	601
30	1700	1220	1470	1590	1560	1580	1350	1280	1330	664	623	641
31	---	---	---	1610	1550	1590	1400	1350	1380	---	---	---
MONTH	1840	719	1370	1690	768	1510	1950	1040	1530	1550	138	821
YEAR	2020	138	1150									

e Estimated

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	24.1	18.8	21.3	20.8	19.9	20.3	9.5	8.3	8.9	1.6	.4	1.0
2	25.4	18.9	21.9	19.9	18.0	18.8	8.3	6.7	7.5	2.3	.9	1.6
3	27.4	21.2	23.8	18.7	17.3	17.9	6.8	5.7	6.3	2.4	.6	1.6
4	28.5	22.7	25.1	17.3	16.3	16.8	6.5	5.1	5.9	3.9	1.7	2.7
5	28.0	22.9	25.1	16.4	16.1	16.3	7.2	5.6	6.5	5.2	3.1	4.1
6	22.9	16.9	19.7	16.4	15.6	16.2	7.9	6.8	7.5	6.0	4.0	5.0
7	16.9	12.6	14.2	15.6	13.0	14.1	7.4	5.4	6.6	6.9	5.4	6.1
8	15.9	10.8	12.8	13.0	10.0	11.3	8.6	6.8	7.6	6.5	4.9	5.8
9	16.9	9.7	12.8	10.0	8.8	9.2	8.0	7.2	7.5	6.0	4.5	5.4
10	14.9	10.9	12.7	9.8	8.3	9.1	9.6	7.2	8.4	5.6	4.8	5.1
11	17.7	12.5	14.7	9.5	8.9	9.0	9.5	4.7	7.7	5.1	4.4	4.8
12	21.0	15.3	17.6	9.1	8.5	8.9	4.7	.6	2.5	5.1	4.6	4.9
13	22.5	17.0	19.4	8.6	7.2	8.0	1.4	.2	.7	5.8	4.9	5.2
14	21.7	19.5	20.3	8.5	6.7	7.7	2.1	.2	1.1	7.0	5.3	6.1
15	24.0	19.5	21.1	8.4	7.4	8.0	3.0	1.6	2.2	6.7	5.1	6.0
16	24.0	20.2	21.8	10.0	8.4	9.1	4.6	3.0	3.5	6.4	5.6	6.0
17	23.2	19.7	21.5	9.1	7.4	8.2	3.2	1.7	2.4	5.6	4.2	4.8
18	22.6	18.9	20.7	8.5	7.5	7.9	3.6	1.6	2.5	4.5	3.7	4.1
19	22.5	17.4	19.8	9.1	6.9	8.0	3.5	1.8	2.6	4.8	3.4	4.0
20	20.4	17.6	18.4	8.9	7.5	8.2	4.5	1.9	3.1	3.5	2.0	2.9
21	17.9	16.9	17.5	8.6	6.6	7.7	4.4	2.9	3.5	4.8	2.8	3.6
22	19.3	17.3	18.1	9.3	7.8	8.4	3.6	2.0	2.8	5.4	3.1	4.2
23	20.5	19.1	19.6	10.4	9.3	10.0	2.9	2.2	2.6	6.2	4.8	5.4
24	20.2	18.8	19.6	10.9	10.4	10.6	3.1	1.3	2.2	7.0	6.1	6.5
25	18.8	18.1	18.4	10.7	10.1	10.4	2.9	2.6	2.8	7.0	5.1	6.2
26	18.5	18.1	18.2	10.2	9.2	9.8	2.6	1.9	2.2	8.9	6.6	7.6
27	18.9	17.9	18.3	9.9	8.8	9.4	1.9	1.4	1.5	8.2	5.9	6.7
28	19.6	18.9	19.2	10.2	8.6	9.5	2.8	1.5	2.1	6.7	5.9	6.2
29	19.9	19.2	19.5	10.4	9.0	9.8	3.2	2.4	2.7	6.7	6.1	6.4
30	20.4	19.6	20.0	9.6	8.2	8.9	2.6	1.6	2.2	7.0	6.1	6.5
31	20.8	19.8	20.2	---	---	---	2.3	.7	1.4	7.1	6.2	6.6
MONTH	28.5	9.7	19.1	20.8	6.6	10.9	9.6	.2	4.1	8.9	.4	4.9

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.8	5.5	6.2	7.3	6.5	6.9	15.2	13.2	14.2	25.1	20.6	22.7
2	6.6	5.2	6.0	8.8	7.2	7.9	17.5	14.3	15.7	25.8	22.2	23.7
3	6.9	5.0	6.0	9.1	8.5	8.8	21.3	17.1	19.1	24.8	22.7	23.7
4	7.6	5.9	6.8	10.4	8.0	9.2	23.2	20.3	21.4	23.9	19.4	22.8
5	8.0	6.0	7.1	11.4	9.0	10.3	22.4	21.8	22.1	21.3	18.8	20.0
6	9.3	7.0	8.2	11.9	9.8	10.9	22.5	21.2	21.8	21.8	20.7	21.0
7	11.4	8.5	9.6	13.5	10.9	12.2	22.1	20.0	21.1	23.3	20.1	21.6
8	13.5	11.4	12.4	13.4	11.3	12.1	22.0	20.7	21.2	24.7	20.6	22.6
9	13.8	8.7	11.5	12.5	9.9	11.3	23.5	20.7	21.9	24.9	22.1	23.6
10	8.7	6.7	7.5	12.8	10.5	11.8	22.6	21.7	22.3	25.3	23.0	24.1
11	7.3	6.2	6.8	12.8	12.2	12.4	21.7	19.5	20.8	24.9	23.1	23.9
12	6.9	6.3	6.6	14.2	12.0	12.9	20.3	18.1	19.1	25.7	21.9	23.7
13	8.3	6.9	7.4	14.5	11.9	13.3	20.7	17.6	19.1	26.8	23.7	25.1
14	11.1	8.3	9.9	14.2	13.0	13.6	20.0	18.6	19.4	27.4	24.3	25.7
15	10.6	5.6	8.1	13.7	11.6	12.9	20.8	18.3	19.3	27.3	24.7	25.9
16	5.6	4.4	4.9	11.9	9.4	10.8	21.8	18.9	20.2	27.7	24.4	26.0
17	5.3	4.1	4.6	11.8	9.9	11.0	20.2	16.9	18.2	28.0	25.5	26.6
18	5.9	4.8	5.3	11.4	10.6	11.0	17.4	15.0	16.3	28.7	25.0	26.8
19	7.9	5.4	6.4	11.6	9.9	10.7	16.9	15.4	16.3	---	---	---
20	10.4	7.7	8.8	13.0	9.6	11.2	19.6	16.8	18.1	---	---	---
21	10.3	9.0	9.8	14.6	11.2	12.9	20.1	19.4	19.6	---	---	---
22	9.2	7.4	8.4	16.6	13.2	14.9	20.8	19.2	19.8	---	---	---
23	9.1	8.1	8.3	18.0	15.0	16.5	21.2	18.4	19.8	---	---	---
24	10.7	8.5	9.7	17.8	13.3	15.8	21.1	17.5	19.3	---	---	---
25	11.3	10.2	10.7	13.3	10.5	11.8	21.8	18.0	19.7	---	---	---
26	11.2	10.2	10.7	10.5	9.4	10.0	23.0	19.2	20.9	24.3	21.6	23.0
27	11.1	10.4	10.9	9.7	8.5	9.1	24.0	20.1	21.9	26.4	22.8	24.5
28	10.4	7.2	8.7	8.8	8.2	8.5	24.3	20.7	22.4	26.0	21.6	22.9
29	---	---	---	9.6	8.7	9.1	24.5	20.7	22.5	23.5	22.1	22.9
30	---	---	---	12.5	8.9	10.6	23.6	21.1	22.3	25.4	22.7	23.9
31	---	---	---	16.0	12.0	13.8	---	---	---	26.2	24.6	25.2
MONTH	13.8	4.1	8.1	18.0	6.5	11.4	24.5	13.2	19.9	28.7	18.8	23.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.4	23.4	24.5	29.3	26.0	27.6	35.1	28.5	31.6	31.6	25.8	28.0
2	27.3	24.0	25.5	31.2	27.1	28.9	34.7	29.4	31.9	31.3	25.4	28.3
3	28.3	26.3	27.2	32.0	27.9	29.8	34.7	28.1	31.3	30.9	26.7	28.1
4	28.2	26.2	27.2	33.3	28.2	30.5	35.0	28.1	31.5	27.1	24.7	25.6
5	28.0	26.3	27.2	34.1	28.9	31.4	35.7	28.8	32.1	27.2	24.1	25.4
6	28.2	25.9	27.1	34.4	29.3	31.8	34.2	28.8	31.6	29.0	24.3	26.3
7	29.2	26.9	28.0	34.0	29.5	31.8	33.9	28.1	30.8	29.6	24.9	27.1
8	29.7	27.3	28.5	34.0	29.2	31.5	34.4	28.6	31.3	28.1	25.1	26.4
9	29.7	27.7	28.8	34.9	29.1	31.8	34.8	28.5	31.4	26.7	23.1	24.9
10	30.6	27.9	29.2	35.0	29.5	32.2	34.5	28.6	31.4	26.8	21.6	24.2
11	30.8	28.1	29.5	34.9	29.7	32.3	33.3	28.4	30.6	27.7	21.6	24.5
12	30.8	28.4	29.6	35.1	29.5	32.2	34.6	28.4	31.1	29.0	22.6	25.6
13	30.3	28.1	29.2	33.5	29.2	31.2	32.8	29.3	31.1	29.9	23.2	26.4
14	29.4	27.0	28.2	31.2	28.0	29.5	33.4	27.3	30.2	28.7	23.8	26.4
15	29.5	25.7	27.4	32.6	26.7	29.3	32.8	26.9	29.8	27.4	20.4	23.6
16	30.2	26.7	28.4	33.5	28.0	30.6	33.3	27.4	30.0	23.3	21.4	22.2
17	30.2	27.3	28.8	34.0	28.5	31.0	30.7	27.8	29.1	25.2	23.3	24.1
18	29.9	27.0	28.5	34.8	28.8	31.6	31.6	25.6	28.2	24.6	23.1	24.0
19	30.0	26.9	28.4	34.8	29.5	32.0	32.9	26.4	29.5	24.2	22.0	23.0
20	31.1	27.3	29.1	35.0	29.2	31.9	32.6	27.6	30.1	23.9	20.8	22.1
21	31.2	28.3	29.6	35.5	29.5	32.3	31.9	27.6	29.7	23.0	21.0	21.8
22	30.7	27.1	28.9	35.3	29.6	32.4	31.6	27.6	29.4	24.4	22.6	23.4
23	30.2	26.8	28.4	35.0	29.2	32.1	32.1	27.2	29.4	25.3	22.9	24.0
24	30.0	26.7	28.3	35.9	29.8	32.7	32.2	27.2	29.4	24.0	20.8	22.0
25	30.0	26.1	28.0	36.0	30.2	32.9	33.0	26.4	29.4	21.2	18.8	20.1
26	30.3	26.5	28.3	34.9	30.0	32.5	30.7	27.1	28.6	21.3	18.9	20.1
27	28.9	26.5	27.5	35.6	29.5	32.3	30.5	26.2	28.0	21.6	19.0	20.2
28	27.3	24.9	26.1	35.7	29.8	32.4	30.8	26.2	28.6	22.1	19.4	20.7
29	26.8	23.7	24.9	34.3	29.9	32.0	30.0	26.2	28.1	22.3	19.4	20.8
30	29.0	24.1	26.3	35.1	29.4	32.1	28.2	25.9	26.9	22.4	19.1	20.7
31	---	---	---	34.3	29.1	31.7	29.9	24.9	26.9	---	---	---
MONTH	31.2	23.4	27.9	36.0	26.0	31.4	35.7	24.9	30.0	31.6	18.8	24.0
YEAR	36.0	.2	17.9									

07315500 Red River near Terral, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Oct. 1967 to Sept. 1997.
BIOLOGICAL DATA: May 1997 to Sept. 1997; Oct. 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)
FEB									
08...	1230	2660	3390	7.0	12.2	10.6	104	32	20
APR									
19...	1520	778	4430	8.5	19.5	14.7	170	140	130
MAY									
23...	1100	13800	1220	7.7	20.6	8.1	92.7	1600	2000
AUG									
09...	1020	252	4900	7.6	32.5	8.8	127	13	9

07308500 Red River near Burkburnett, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: May 1968 to current year.
BIOCHEMICAL DATA: Oct. 1974 to Aug. 1994.
PESTICIDE DATA: Oct. 1973 to Sept. 1982, Oct. 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to Sept. 1981, Oct. 1994 to current year.
WATER TEMPERATURE: July 1968 to Sept. 1981, Oct. 1994 to current year.

INSTRUMENTATION.--Water-quality monitor Dec. 1968 to Sept. 1981 and Oct. 1994 to current year.

REMARKS.--Records fair. Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and a regression relation between each chemical constituent and specific conductance. The computation of the selected constituent loads might include estimated discharge or specific conductance data. New regression equations were developed based on data from water years 1992 to 2001. The standard error of estimate for dissolved solids is 3%, chloride is 7%, sulfate is 16% and for hardness is 10%. Regression equations developed for this station may be obtained from the U.S. Geological Survey Texas District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 17,400 microsiemens/cm, July 30, 1972; minimum, 462 microsiemens/cm, Feb. 24, 1997.
WATER TEMPERATURE: Maximum, 38.0°C, July 24, 2001; minimum, 0.0°C, on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 11,400 microsiemens/cm, Sept. 8; minimum, 616 microsiemens/cm, Nov. 3.
WATER TEMPERATURE: Maximum, 38.0°C, July 24; minimum, 0.0°C, Jan. 2, 3.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)
OCT													
04...	1535	19	6670	8.1	29.4	8.0	111	1300	1200	328	128	1010	12
NOV													
30...	1400	821	7880	7.8	8.9	10.8	98	1200	1000	311	101	1240	16
DEC													
21...	1245	525	9780	7.6	4.7	12.3	101	1500	1300	398	128	1480	16
JAN													
29...	1415	1700	3320	8.1	6.9	11.2	97	600	490	153	53.8	498	9
FEB													
05...	1200	914	7750	8.1	6.5	9.1	78	1300	1100	343	113	1240	15
MAR													
30...	1120	728	7110	8.3	12.2	11.2	111	1400	1200	349	123	1050	12
APR													
25...	1415	348	7800	8.2	22.6	11.5	140	1500	1400	372	136	1180	13
JUN													
01...	1245	9500	2040	7.2	23.4	8.0	97	470	360	125	37.4	251	5
18...	1120	565	5310	8.1	24.8	7.8	99	1000	950	261	96.5	724	10
JUL													
12...	1240	210	5730	8.0	28.8	7.6	104	1100	1000	260	110	811	11
AUG													
09...	1220	88	5160	7.9	29.1	7.6	104	1100	980	245	111	755	10
SEP													
21...	1020	657	3820	7.9	22.1	7.3	88	660	570	171	56.0	502	9

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, TOTAL (MG/L AS N) (00600)
OCT													
04...	11.4	100	1220	1590	.4	8.6	4350	35	--	<.006	<.047	E.030	--
NOV													
30...	8.65	180	940	2050	.4	10.7	4780	67	1.14	.012	1.16	E.021	1.8
DEC													
21...	1.50	260	1170	2270	.4	8.7	5590	31	1.32	.026	1.35	.092	2.5
JAN													
29...	5.17	112	425	824	.3	6.3	2040	576	1.14	.019	1.16	.090	3.6
FEB													
05...	7.95	183	1050	2030	.4	9.2	4910	178	1.55	.024	1.57	E.027	2.7
MAR													
30...	7.25	190	1150	1760	.4	5.4	4540	93	.605	.012	.617	<.041	1.7
APR													
25...	9.28	97	1320	1900	.4	.7	4970	59	--	<.006	<.047	<.041	--
JUN													
01...	6.06	106	348	378	.3	--	1210	<10	.531	.007	.538	E.021	3.7
18...	8.34	98	928	1150	.4	7.7	3240	500	--	<.006	<.050	<.040	--
JUL													
12...	9.25	94	983	1260	.4	6.6	3500	44	--	<.006	<.050	<.040	--
AUG													
09...	9.48	87	1010	1190	.5	12.3	3380	30	--	<.006	<.050	.065	--
SEP													
21...	7.54	92	535	845	<.8	--	2170	1520	.749	.016	.765	.051	4.4

07308500 Red River near Burkburnett, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT													
04...	--	1.0	E.055	<.060	<.018	--	5	4.4	114	100	<.11	<.14	5
NOV													
30...	--	.59	.125	.080	.072	.221	4	3.1	166	156	<.22	<.28	<1
DEC													
21...	1.0	1.1	E.056	<.060	.028	.086	3	2.3	113	126	<.44	<.14	<1
JAN													
29...	2.4	2.5	.521	.074	--	--	5	E1.7	278	--	.12	<.28	8
FEB													
05...	--	1.1	.236	E.039	.031	.095	4	3.1	146	127	<.33	<.42	8
MAR													
30...	--	1.0	.128	<.060	<.018	--	3	2.5	102	91.9	<.33	<.42	2
APR													
25...	--	.97	.093	<.060	<.018	--	E2	2.1	96.0	86.3	<.14	E.03	2
JUN													
01...	--	3.2	1.36	E.059	.057	.175	13	4.0	577	98.9	.39	<.04	26
18...	--	.79	.113	<.060	<.020	--	4	3.2	174	163	<.11	<.08	<1
JUL													
12...	--	1.0	.088	<.060	<.020	--	4	3.7	147	132	<.11	<.10	2
AUG													
09...	.97	1.0	E.051	<.060	<.020	--	7	5.5	114	103	<.11	<.10	<1
SEP													
21...	3.6	3.7	1.24	<.060	.018	.055	12	2.3	371	103	.44	<.07	17

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)
OCT													
04...	<.8	2.1	E1.3	210	<50	<1	<1.00	65	24.6	<.14	.33	<2	<2.40
NOV													
30...	<.8	2.0	E.9	590	<50	2	<1.00	56	24.3	<.14	<.23	2	<2.40
DEC													
21...	<.8	E.9	<1.3	110	<100	<1	<3.00	53	39.2	<.14	<.23	E1	<2.40
JAN													
29...	1.1	9.6	E.9	7810	<30	10	<1.00	379	39.6	<.10	<.20	13	E1.39
FEB													
05...	<1.6	3.9	<2.6	2300	<100	1	<2.00	108	55.8	<.14	<.23	4	<4.80
MAR													
30...	<.8	E1.8	<2.6	630	<50	<2	<2.00	49	11.3	<.01	<.01	E3	<4.80
APR													
25...	1.6	4.1	6.4	190	<50	<4	.22	41	18.6	<.01	<.01	19	<.03
JUN													
01...	E.5	24.8	3.7	16200	<10	23	E.05	1130	.5	.03	<.01	30	.23
18...	<.8	6.1	6.5	510	<30	<3	<.20	73	4.6	<.01	<.01	9	<.20
JUL													
12...	E.5	3.1	6.2	320	<10	<3	<.20	53	5.0	.01	<.01	5	1.76
AUG													
09...	<.8	3.5	7.3	210	<30	<3	<.20	41	5.9	<.01	<.01	5	<.20
SEP													
21...	E.4	29.4	5.7	14300	<10	23	E.08	1040	<.2	.02	<.01	33	<.10

07308500 Red River near Burkburnett, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	ENDO-SULFAN II TOTAL (UG/L) (34356)	BETA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (39338)	CHLOR-DANE CIS WATER WHOLE TOTAL (UG/L) (39062)	DELTA BENZENE HEXA-CHLOR-IDE TOTAL (UG/L) (34259)	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	P,P' DDT, TOTAL (UG/L) (39300)	CHLOR-DANE TRANS WATER WHOLE TOTAL (UG/L) (39065)
OCT								
04...	--	--	--	--	--	--	--	--
NOV								
30...	--	--	--	--	--	--	--	--
DEC								
21...	--	--	--	--	--	--	--	--
JAN								
29...	--	--	--	--	--	--	--	--
FEB								
05...	--	--	--	--	--	--	--	--
MAR								
30...	--	--	--	--	--	--	--	--
APR								
25...	--	--	--	--	--	--	--	--
JUN								
01...	<.04	<.03	<.1	<.09	<.1	<.04	<.1	<.1
18...	.24	.15	E.1	<.09	E.1	E.04	<.1	E.1
JUL								
12...	<.04	<.03	<.1	<.09	<.1	<.04	<.1	<.1
AUG								
09...	--	--	--	--	--	--	--	--
SEP								
21...	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 2000 TO SEPTEMBER 2001

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	2000	56226	1570	1010	152800	300	45770	340	51060	380
NOV.	2000	44588	2310	1480	178100	470	56770	470	56020	530
DEC.	2000	16858	7590	4790	217900	1800	83460	1200	54510	1400
JAN.	2001	24531	8000	5030	333200	2000	132500	1200	78400	1400
FEB.	2001	40737	5330	3380	372000	1200	133000	930	102500	1100
MAR.	2001	35925	4170	2660	257800	900	87440	780	75850	900
APR.	2001	16356	8510	5350	236300	2100	93760	1300	55820	1500
MAY	2001	127817	4330	2750	949700	960	329800	790	271600	910
JUNE	2001	43347	3390	2170	253700	710	83280	660	77410	760
JULY	2001	6272	5750	3650	61770	1300	21930	1000	17190	1200
AUG.	2001	7566	5980	3790	77380	1400	28130	1000	20870	1200
SEPT	2001	9204	7950	5000	124400	2000	48840	1200	29890	1400
TOTAL		429427	**	**	3215100	**	1144700	**	891100	**
WTD.AVG.		1180	4370	2770	**	990	**	770	**	890

07308500 Red River near Burkburnett, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ALDRIN, TOTAL (UG/L) (39330)	AROCLOR 1016/ 1242 PCB WATER UNFLTRD (UG/L) (81648)	AROCLOR 1221 PCB TOTAL (UG/L) (39488)	AROCLOR 1232 PCB TOTAL (UG/L) (39492)	AROCLOR 1248 PCB TOTAL (UG/L) (39500)	AROCLOR 1254 PCB TOTAL (UG/L) (39504)	AROCLOR 1260 PCB TOTAL (UG/L) (39508)
OCT													
04...	3.7	3.1	<.43	<.2	<93	<100	--	--	--	--	--	--	--
NOV													
30...	3.9	3.6	<.86	<.2	<93	<100	--	--	--	--	--	--	--
DEC													
21...	4.1	5.1	<.86	.5	<93	<200	--	--	--	--	--	--	--
JAN													
29...	E1.3	E1.5	<.40	<.2	33	<60	--	--	--	--	--	--	--
FEB													
05...	E2.2	4.5	<.86	<.3	<93	<200	--	--	--	--	--	--	--
MAR													
30...	4.8	3.0	<.86	<.3	<93	<100	--	--	--	--	--	--	--
APR													
25...	4.4	4.0	<.20	<1.0	4	6	--	--	--	--	--	--	--
JUN													
01...	2.2	1.9	.10	<1.0	105	2	<.040	<.10	<1	<.1	<.1	<.1	<.1
18...	5.0	4.1	<.15	<3.0	7	8	<.040	<.10	<1	<.1	<.1	<.1	<.1
JUL													
12...	3.6	4.7	<.15	<3.0	5	5	<.040	<.10	<1	<.1	<.1	<.1	<.1
AUG													
09...	2.6	3.4	<.15	<3.0	6	6	--	--	--	--	--	--	--
SEP													
21...	4.6	3.1	.12	<2.0	322	4	--	--	--	--	--	--	--

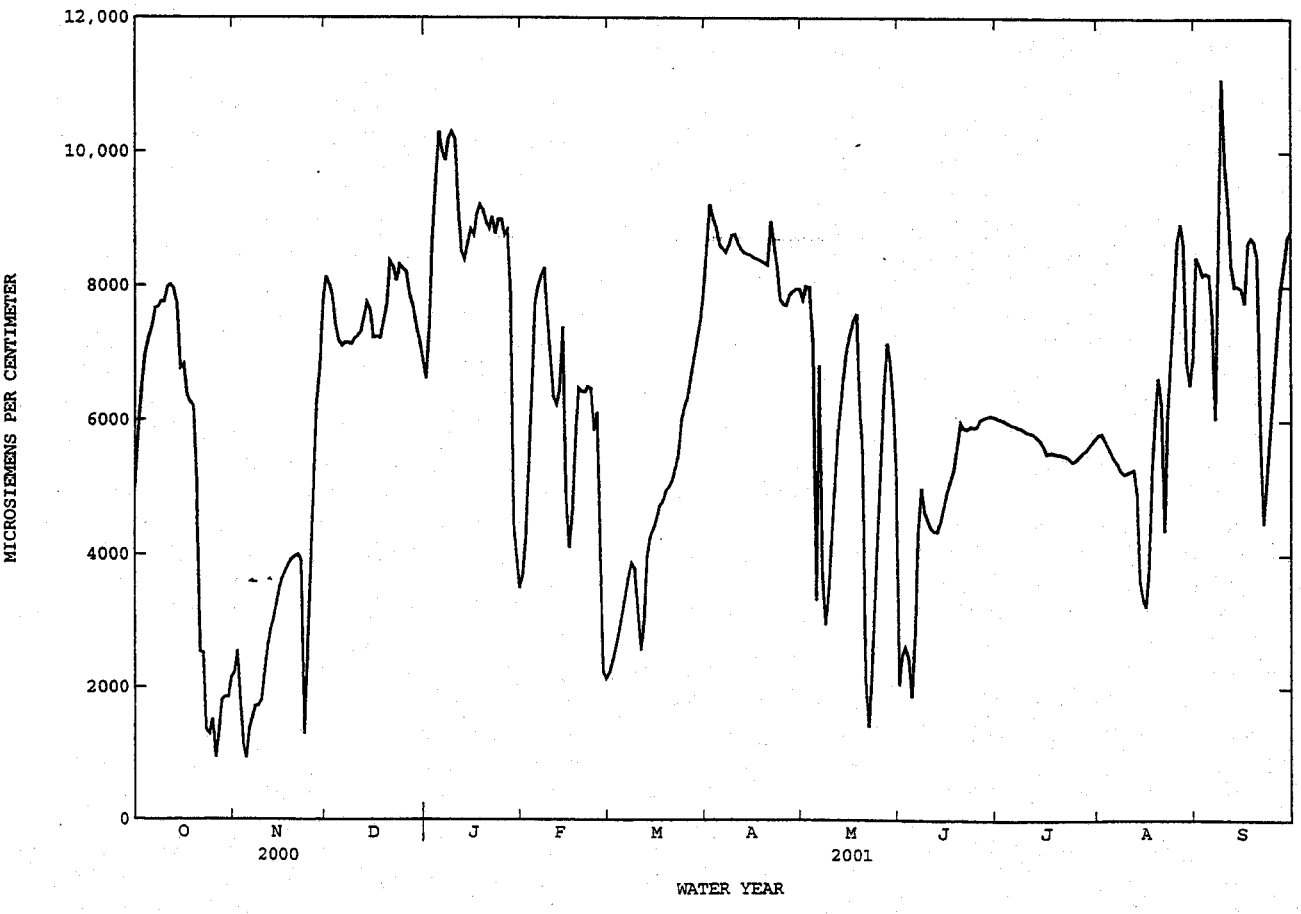
DATE	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDO-SULFAN SULFATE TOTAL (UG/L) (34351)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ENDRIN ALDE-HYDE TOTAL (UG/L) (34366)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	PCB 207 SUR SCD 1608 WATER UNFLTRD PERCENT (99781)	TOX-APHENE, TOTAL (UG/L) (39400)	ENDO-SULFAN-I WATER WHOLE REC (UG/L) (34361)	ALPHA BHC TOTAL (UG/L) (39337)	ALPHA-HCH-D6 SUR SCD 1608 WATER UNFLTRD PERCENT (99778)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
01...	<.1	<.020	<.6	<.060	<.2	<.030	<.800	<.030	113	<2	<.1	<.03	107
18...	.7	.215	<.6	.239	<.2	.036	<.800	.092	13	<2	.1	.05	41
JUL													
12...	<.1	<.020	<.6	<.060	<.2	<.030	<.800	<.030	103	<2	<.1	<.03	114
AUG													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

07308500 Red River near Burkburnett, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	e2040	6060	6010	6030	5850	5760	5810	8910	6720	8450
2	---	---	e2490	6050	5990	6020	5900	5740	5820	8780	8120	8340
3	---	---	e2600	6040	5970	6000	5790	5640	5720	8230	8130	8180
4	---	---	e2450	6000	5940	5970	5700	5540	5620	8230	8180	8210
5	---	---	e1860	5980	5920	5940	5600	5450	5530	8230	---	e8180
6	---	---	e2770	5950	5900	5930	5500	5380	5440	---	---	e7620
7	---	---	e4300	5940	5880	5900	5430	5290	5370	7530	4940	6040
8	5180	4700	5000	5920	5860	5890	5340	5210	5270	11400	5080	7960
9	4800	4580	4640	5890	5830	5860	5250	5170	5220	11400	10200	11100
10	4590	4460	4510	5860	5810	5830	5280	5190	5240	10200	9700	9900
11	4460	4340	4400	5840	5790	5820	5300	5230	5270	9820	8620	9270
12	4460	4240	4350	5830	5790	5800	5330	5240	5290	8640	8050	8320
13	4380	4310	4340	5790	5720	5760	---	---	e4910	8190	7830	8010
14	4610	4400	4500	5750	5660	5710	---	---	e3620	8090	7960	8010
15	4810	4600	4720	---	---	e5630	3590	3210	3370	8040	7910	7970
16	5000	4810	4920	---	---	e5510	3480	2560	3230	8370	7460	7760
17	5200	4990	5100	5560	5490	5530	---	---	e3810	9020	8100	8650
18	5310	5200	5270	5550	5470	5520	---	---	e5220	8890	8390	8730
19	6160	5250	5610	5550	5460	5510	---	---	e6010	8770	8490	8680
20	6020	5940	5970	5550	5450	5500	---	---	e6650	8500	8210	8430
21	6000	5800	5880	5540	5430	5490	---	---	e6270	---	---	e5720
22	5930	5830	5870	5530	5420	5480	---	---	e4370	---	---	e4480
23	5960	5870	5910	5500	5370	5440	---	---	e6140	---	---	e5100
24	5930	5860	5890	5440	5330	5390	---	---	e7000	---	---	e5830
25	5980	5880	5910	5460	5380	5420	---	---	e7710	---	---	e6520
26	6050	5980	6010	5510	5440	5480	---	---	e8670	---	---	e7230
27	6070	6020	6040	5560	5490	5530	---	---	e8940	---	---	e7920
28	6090	6040	6060	5610	5520	5570	---	---	e8650	---	---	e8350
29	6100	6040	6070	5670	5590	5630	7800	---	e6880	8920	8320	8730
30	6080	6020	6060	5740	5640	5690	7380	6030	6550	8940	8700	8840
31	---	---	---	5800	5700	5750	8670	6470	6950	---	---	---
MONTH	---	---	4720	---	---	5690	---	---	5820	---	---	7880

e Estimated



07308500 Red River near Burkburnett, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

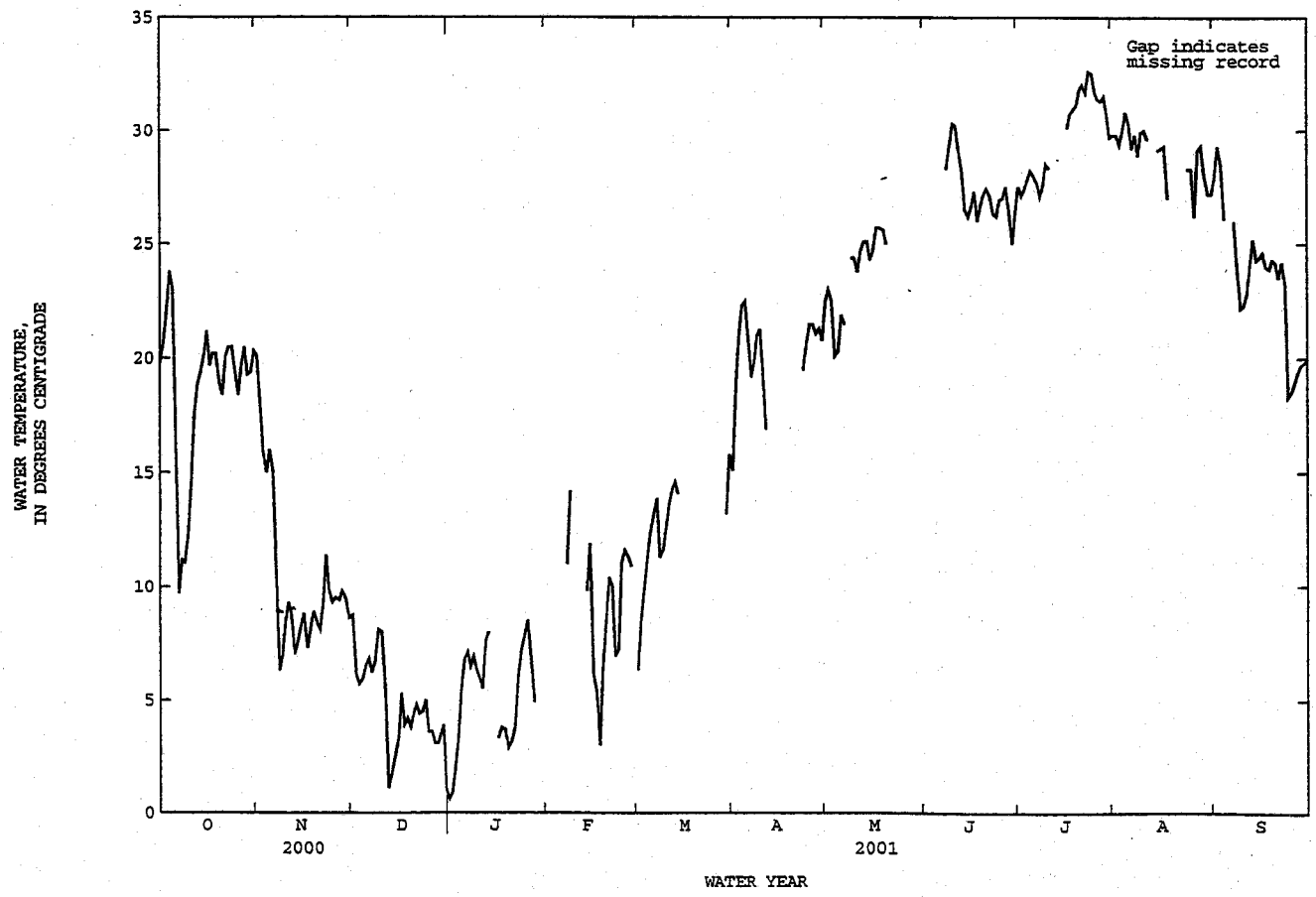
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	5650	4740	5000	2310	2190	2220	8190	8090	8140	6710	6510	6620
2	6300	5630	5860	2790	2310	2560	8130	7950	8020	8100	6680	7410
3	6850	6290	6510	3100	616	1840	8010	7710	7860	9440	8100	8740
4	7160	6850	6980	1610	801	1110	7710	7150	7410	10000	9440	9590
5	7300	7130	7210	1130	803	933	7360	6980	7180	10500	10000	10300
6	7570	7210	7370	1530	1130	1360	7200	7070	7110	10500	9680	10000
7	7780	7570	7660	1650	1500	1550	7230	7070	7160	10100	9680	9870
8	7810	7600	7680	1780	1640	1720	7190	7130	7150	10400	9990	10200
9	7950	7670	7760	1770	1680	1730	7200	7090	7130	10500	10100	10300
10	8010	7500	7760	1980	1680	1800	7230	7180	7210	10500	9810	10200
11	8040	7910	7980	2400	1980	2190	7280	7180	7250	9830	8050	9150
12	8070	7960	8010	2820	2400	2610	7380	7230	7310	8880	7880	8520
13	8010	7900	7950	2930	2820	2880	7740	7350	7520	8640	7590	8400
14	7910	7460	7720	3150	2920	3020	7800	7710	7750	8740	8360	8630
15	7490	6410	6770	3390	3140	3270	7780	7540	7640	---	---	e8840
16	7110	6430	6830	3600	3390	3500	7550	7130	7230	---	---	e8760
17	6990	5980	6370	3720	3600	3660	7380	7050	7240	9300	8710	9070
18	6490	6080	6270	3810	3720	3760	7300	7120	7220	9340	8740	9210
19	6250	6170	6200	3900	3800	3850	7550	7130	7470	9400	8780	9130
20	6240	2550	5120	3980	3890	3930	7890	7500	7720	9170	8540	8950
21	2550	2530	2540	4010	3960	3980	8550	7890	8370	9070	8420	8860
22	2730	2280	2520	4020	3960	4000	8550	8010	8280	9150	8870	9030
23	2520	919	1360	3970	3250	3920	8320	7910	8070	9020	8570	8770
24	1580	920	1300	---	---	e1290	8490	7940	8310	9200	8660	8990
25	2060	860	1530	---	---	e2400	8370	8040	8250	9210	8600	8990
26	1160	793	944	---	---	e3600	8330	7940	8210	9030	8540	8750
27	1500	967	1310	---	---	e5000	8150	7440	7870	9040	7870	8820
28	2100	1450	1810	6440	5820	6260	7870	7480	7690	9020	6760	7890
29	2100	1710	1860	7240	6440	6790	7560	6860	7400	6760	3240	4470
30	1990	1770	1860	8120	7240	7770	7550	6800	7190	---	---	e4000
31	2210	1990	2150	---	---	---	7290	6570	6900	---	---	e3500
MONTH	8070	793	5100	---	---	3150	8550	6570	7590	---	---	8510

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	e3700	2330	2100	e2220	9010	8080	8530	7990	7730	7810
2	---	---	e4260	2520	2330	2420	9380	9010	9220	8060	7910	8000
3	---	---	e5730	2740	2520	2630	9150	8840	9000	8080	7830	7990
4	---	---	e6790	3020	2740	2870	9000	8740	8880	8020	3020	7160
5	---	---	e7750	3300	3020	3160	8770	8480	8620	7980	1690	3320
6	---	---	e8010	3590	3300	3430	8600	8530	8560	8380	4830	6830
7	8370	7870	8160	3820	3590	3700	8540	8480	8500	5450	2870	3730
8	8380	7980	8270	3920	3820	3870	8700	8510	8610	---	---	e2950
9	---	---	e7550	3850	3700	3800	8830	8650	8760	---	---	e3420
10	---	---	e7000	3700	2640	3210	8800	8740	8770	---	---	e4340
11	---	---	e6340	2640	2520	2560	8760	8580	8640	---	---	e5070
12	---	---	e6240	3610	2630	3010	8650	8510	8550	---	---	e5750
13	---	---	e6440	4230	3610	3960	8540	8480	8500	---	---	e6220
14	7830	6760	7380	---	4230	e4270	8500	8450	8480	---	---	e6710
15	7160	3440	4890	---	---	e4380	8480	8450	8460	---	---	e7070
16	4420	3870	4100	---	---	e4540	8460	8380	8420	---	---	e7310
17	4870	4300	4660	---	---	e4730	8430	8370	8400	---	---	e7500
18	6460	4870	5710	---	---	e4790	8410	8340	8380	---	---	e7600
19	6600	6220	6480	---	---	e4960	8380	8320	8350	---	---	e6160
20	6490	6410	6430	---	---	e5020	8340	8300	8320	---	---	e5520
21	6500	6340	6420	---	---	e5110	---	---	e8970	3660	1480	2040
22	6560	6380	6500	---	---	e5290	---	---	e8640	---	---	e1420
23	6550	6330	6470	---	---	e5500	---	---	e8300	---	---	e2280
24	6470	4940	5850	---	---	e6000	7860	7740	7810	---	---	e3480
25	6510	4740	6120	---	---	e6200	7840	7600	7730	---	---	e4500
26	4770	2650	3540	---	---	e6330	7840	7650	7720	---	---	e5580
27	2650	1940	2240	---	---	e6630	7910	7800	7860	---	---	e6520
28	---	1900	e2130	---	---	e6920	8010	7870	7920	---	---	e7160
29	---	---	---	---	---	e7200	8020	7860	7960	---	---	e6870
30	---	---	---	---	---	e7500	8040	7800	7960	---	---	e6290
31	---	---	---	8080	7750	7870	---	---	---	---	---	e5190
MONTH	---	---	5900	---	---	4650	---	---	8430	---	---	5540

07308500 Red River near Burkburnett, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	29.1	25.9	27.5	35.3	25.6	29.8	31.8	24.9	27.9
2	---	---	---	28.8	25.3	27.1	35.1	26.5	29.8	34.0	25.3	29.3
3	---	---	---	29.4	25.6	27.4	34.6	25.4	29.4	32.0	26.2	28.5
4	---	---	---	29.7	25.7	27.8	35.7	25.5	30.0	27.8	25.0	26.1
5	---	---	---	29.6	26.5	28.2	36.9	26.1	30.8	---	23.6	---
6	---	---	---	29.6	26.2	28.0	35.1	26.6	30.3	30.4	---	---
7	---	---	---	29.1	26.0	27.7	34.5	25.5	29.2	30.0	23.0	26.0
8	31.1	26.1	28.3	28.9	25.2	27.1	34.2	26.4	29.8	25.6	22.3	23.8
9	32.1	26.6	29.3	29.5	25.7	27.5	33.9	25.6	28.9	24.8	19.6	22.2
10	33.6	27.5	30.3	30.0	26.9	28.5	35.4	25.7	29.9	26.3	18.9	22.3
11	33.0	27.9	30.2	29.5	26.7	28.3	35.6	26.6	30.0	26.5	20.4	22.8
12	31.9	26.9	29.1	---	---	---	35.2	26.0	29.6	26.8	22.1	24.0
13	30.0	26.9	28.2	---	---	---	---	---	---	29.2	22.4	25.2
14	27.4	25.7	26.5	31.0	26.9	28.7	32.8	---	---	25.7	22.8	24.3
15	28.7	23.9	26.2	---	---	---	33.6	25.5	29.1	25.5	23.6	24.4
16	29.2	24.3	26.6	---	---	---	34.7	26.7	29.2	27.6	22.7	24.6
17	29.3	25.5	27.3	34.2	27.1	30.1	33.4	26.4	29.3	25.5	22.5	24.0
18	27.2	24.6	26.0	35.1	27.5	30.7	32.9	24.0	27.0	25.5	22.5	23.9
19	30.8	24.1	26.7	35.6	27.4	30.9	---	---	---	27.2	22.0	24.3
20	30.9	24.1	27.2	36.3	27.3	31.1	---	---	---	26.9	22.5	24.2
21	30.9	24.5	27.4	37.2	27.8	31.8	---	---	---	27.2	21.1	23.5
22	31.9	23.2	27.1	37.6	27.8	32.0	---	---	---	27.7	21.5	24.2
23	29.5	23.5	26.3	37.4	27.7	31.7	---	---	---	26.5	20.1	23.3
24	31.1	22.3	26.2	38.0	28.9	32.6	33.6	24.6	28.3	21.7	15.4	18.3
25	31.6	23.2	26.9	37.7	28.7	32.5	33.9	24.0	28.3	23.1	14.6	18.5
26	31.1	23.5	27.0	36.2	28.0	31.7	29.0	23.8	26.2	23.2	15.5	18.9
27	30.9	24.4	27.5	36.2	28.0	31.4	34.7	25.4	29.1	24.1	15.6	19.4
28	28.4	24.4	26.4	36.5	28.1	31.3	32.9	26.5	29.3	23.8	16.3	19.7
29	27.8	23.0	25.0	37.4	28.2	31.5	29.5	26.6	28.0	24.5	16.2	19.8
30	28.8	24.1	26.3	35.7	27.2	30.7	28.8	25.8	27.2	25.4	15.7	20.0
31	---	---	---	35.0	25.8	29.7	30.4	25.2	27.2	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---



07308500 Red River near Burkburnett, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	24.9	15.7	19.8	21.4	18.4	20.1	11.1	6.9	8.7	1.2	.3	.6
2	26.6	16.2	20.7	19.8	16.2	18.1	7.2	5.3	6.1	2.4	.0	.9
3	27.9	17.6	22.1	17.8	14.8	15.9	7.9	4.1	5.7	5.6	.0	1.9
4	29.9	19.4	23.8	15.3	14.6	15.0	7.8	4.7	5.9	7.1	1.6	3.3
5	29.5	18.1	23.0	16.7	15.3	16.0	7.5	5.7	6.5	8.8	3.5	5.5
6	18.1	11.6	15.0	16.4	13.4	15.1	7.4	5.8	6.8	9.9	4.5	6.8
7	11.6	8.6	9.7	13.4	8.4	10.6	8.9	3.9	6.2	9.7	5.2	7.1
8	16.3	8.6	11.2	8.4	5.6	6.3	8.4	6.0	6.7	9.6	3.9	6.5
9	17.5	6.1	11.1	9.3	5.3	7.0	10.2	6.6	8.1	9.8	4.4	6.9
10	17.4	8.7	12.3	10.8	6.4	8.4	9.6	7.3	8.0	7.1	5.5	6.3
11	20.3	11.1	14.5	10.6	8.1	9.3	8.2	2.4	5.4	7.3	5.1	5.9
12	22.2	13.8	17.6	10.4	6.9	8.7	2.4	.4	1.1	6.3	4.4	5.5
13	20.7	17.2	18.8	9.5	4.9	7.0	2.2	1.3	1.8	11.0	5.7	7.6
14	22.3	17.5	19.4	10.5	4.8	7.5	2.9	2.1	2.5	10.8	5.2	8.0
15	22.8	18.0	20.1	10.1	6.3	8.2	3.7	2.9	3.3	---	---	---
16	25.2	18.4	21.2	11.4	6.7	8.8	6.5	3.6	5.3	6.5	---	---
17	21.5	17.4	19.7	9.5	5.3	7.3	6.1	2.1	3.9	4.9	2.7	3.3
18	23.9	17.5	20.2	11.1	6.3	8.2	6.1	2.7	4.2	6.7	2.3	3.8
19	23.0	17.4	20.2	12.4	6.1	8.9	6.0	2.5	3.8	6.1	1.8	3.7
20	20.3	18.5	19.0	11.2	6.2	8.4	6.1	2.6	4.4	5.3	1.2	2.9
21	19.5	17.5	18.4	12.0	5.0	8.1	5.6	4.1	4.8	6.1	2.3	3.2
22	22.7	18.4	20.1	11.2	7.5	9.3	5.2	2.8	4.4	5.8	2.7	3.8
23	20.9	20.0	20.5	12.5	10.6	11.4	5.8	3.8	4.5	6.5	5.1	6.0
24	21.1	19.6	20.5	11.3	9.1	9.8	6.2	4.5	5.0	7.9	5.9	7.2
25	20.2	18.1	19.4	11.1	7.9	9.3	4.6	3.3	3.6	9.0	7.4	7.9
26	19.0	17.9	18.4	11.5	7.6	9.5	3.7	3.6	3.6	9.1	7.5	8.5
27	21.0	18.5	19.6	11.4	7.7	9.4	3.5	2.7	3.1	9.1	5.7	6.9
28	21.2	20.0	20.5	12.4	7.6	9.8	3.3	2.9	3.1	5.9	4.0	4.9
29	20.1	18.2	19.3	11.9	7.4	9.5	3.8	3.2	3.5	---	3.3	---
30	21.0	17.8	19.4	10.9	6.8	8.6	4.4	2.2	3.9	---	---	---
31	21.3	19.4	20.3	---	---	---	2.2	.4	1.0	---	---	---
MONTH	29.9	6.1	18.6	21.4	4.8	10.3	11.1	.4	4.7	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	10.2	3.4	6.3	17.5	12.9	15.1	27.6	18.4	22.5
2	---	---	---	10.4	6.9	8.5	23.4	15.7	18.9	27.8	19.1	23.0
3	---	---	---	13.1	7.1	9.7	24.2	18.5	21.1	25.1	20.7	22.5
4	---	---	---	15.5	7.8	11.2	25.6	19.8	22.3	22.4	18.4	20.1
5	---	---	---	16.8	8.9	12.4	23.6	21.3	22.5	23.8	18.0	20.3
6	13.7	---	---	16.4	10.6	13.2	22.2	20.2	20.9	24.1	20.0	21.9
7	14.0	8.4	11.0	18.5	11.2	13.9	20.8	17.3	19.2	22.9	20.6	21.5
8	16.5	12.4	14.2	14.5	9.6	11.3	21.2	19.0	19.9	---	---	---
9	---	---	---	16.2	7.7	11.6	22.3	19.9	21.0	26.7	22.4	24.4
10	---	---	---	15.0	10.9	12.6	22.0	20.8	21.3	26.2	22.9	24.4
11	---	---	---	15.9	12.3	13.7	21.1	17.6	19.2	25.3	22.3	23.8
12	---	---	---	17.1	12.1	14.3	18.3	15.5	16.9	27.7	22.3	24.7
13	11.4	8.7	9.8	18.0	11.8	14.6	---	---	---	26.4	23.5	25.1
14	13.6	8.6	11.9	15.9	13.0	14.1	---	---	---	25.9	24.2	25.1
15	8.7	4.7	6.1	---	---	---	---	---	---	25.4	23.1	24.3
16	8.1	3.7	5.3	---	---	---	---	---	---	26.0	23.4	24.7
17	6.7	1.5	3.0	---	---	---	---	---	---	26.9	24.6	25.7
18	8.4	4.3	6.3	---	---	---	---	---	---	27.1	24.2	25.7
19	11.7	5.8	8.6	---	---	---	---	---	---	27.0	24.0	25.6
20	11.3	10.1	10.4	---	---	---	---	---	---	27.9	23.2	25.0
21	11.4	8.2	10.0	---	---	---	---	---	---	---	---	---
22	8.2	6.5	6.9	---	9.2	---	---	---	---	---	---	---
23	7.5	7.0	7.2	---	---	---	---	---	---	---	---	---
24	14.8	7.5	11.1	---	---	---	24.5	14.8	19.5	---	---	---
25	14.2	9.7	11.6	---	---	---	25.8	16.1	20.6	---	---	---
26	12.6	10.0	11.3	---	---	---	25.9	17.4	21.5	---	---	---
27	12.2	7.0	10.9	---	---	---	25.7	17.6	21.5	---	---	---
28	7.0	---	---	---	---	---	24.3	17.8	21.1	---	---	---
29	---	---	---	---	---	---	25.5	17.6	21.3	---	---	---
30	---	---	---	16.4	10.2	13.2	24.3	17.8	20.8	---	---	---
31	---	---	---	19.4	12.6	15.8	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

07300000 Salt Fork Red River near Wellington, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL DATA: Feb. 1951 to Oct. 1954, Oct. 1967 to Sept. 1997, Oct. 1999 to current year.
BIOLOGICAL DATA: Oct. 1974 to Sept. 1997, Oct. 1999 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1952 to Sept. 1954, Oct. 1967 to Sept. 1991.
TEMPERATURE: June 1952 to Sept. 1954, Oct. 1967 to Sept. 1991.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)
FEB													
08...	1500	48	2910	8.2	14.0	9.4	100	770	580	1160	1000	330	81.0
APR													
19...	1155	21	3340	8.1	19.0	8.5	99.6	58	42	1520	1370	464	88.8
MAY													
23...	1310	43	2560	7.9	25.5	7.9	105	57	60	926	772	258	68.2
AUG													
09...	1130	2.2	3080	8.0	29.9	7.7	110	370	470	1650	1520	518	86.1

DATE	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)
FEB													
08...	216	2.76	4.51	157	1030	296	.8	18.6	2080	15	--	E.005	.764
APR													
19...	206	2.29	3.88	150	1400	295	.7	19.4	2570	<10	1.53	.011	1.54
MAY													
23...	205	2.94	5.52	154	836	274	.8	26.1	1770	44	--	--	--
AUG													
09...	140	1.50	4.04	124	1540	198	.6	24.2	2600	<10	1.90	.025	1.92

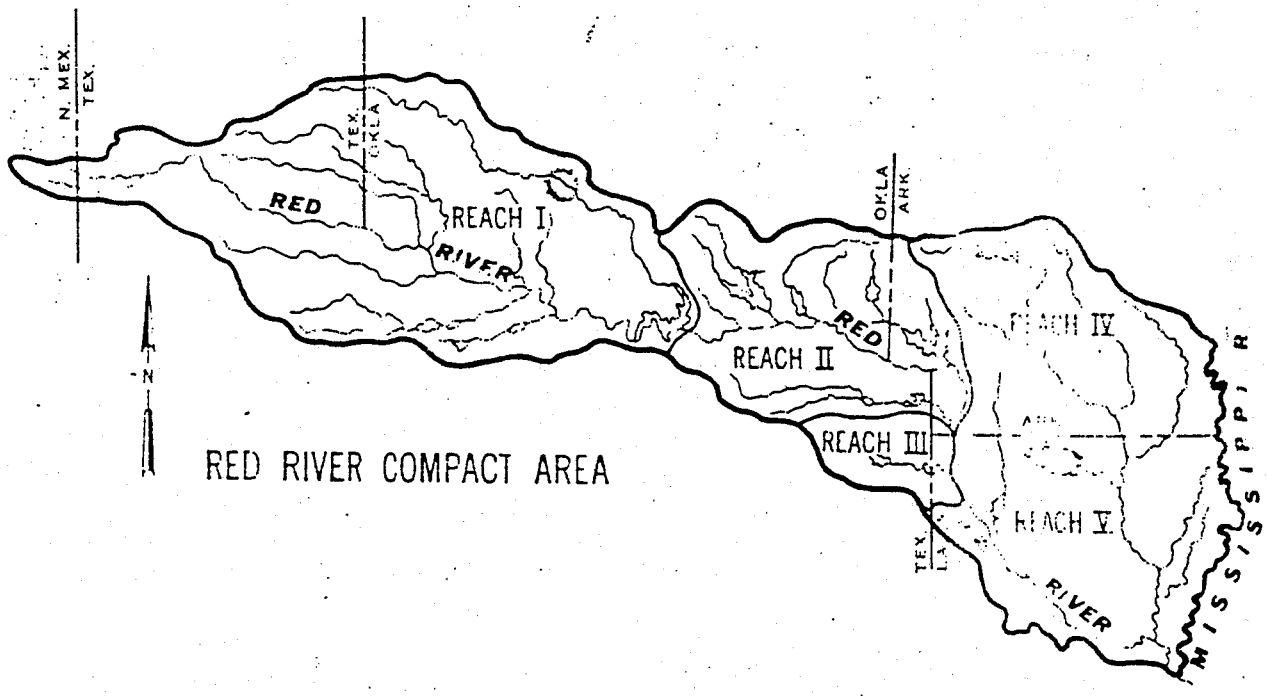
DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N) (00607)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)
FEB									
08...	.073	1.10	.263	.167	.24	.34	.015	<.006	<.018
APR									
19...	<.041	1.73	--	--	E.08	.20	.004	<.006	<.018
MAY									
23...	--	--	--	--	--	.26	--	--	--
AUG									
09...	.072	2.18	.182	.171	.24	.25	.004	<.006	<.020

RED RIVER COMPACT

ARKANSAS - LOUISIANA - OKLAHOMA - TEXAS

APPROVED BY THE

RED RIVER COMPACT COMMISSION



MAY 12, 1978

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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 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.

(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 at 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 COMMISSION

(As Amended April 25, 1984, April 30, 1991, May 4, 1993, and March 24, 1994)

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.

1.4 Persons designated to substitute for duly appointed Commissioners at meetings of the Compact Commission shall present the Commission with credentials of authority by letter, or other form of appointment acceptable to the Commission, which states the scope or limitations of the appointment, together with a copy of the state or federal law or Attorney General's opinion which authorizes the appointment.

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 or the designated representative of 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 at the annual meeting from the Commissioners of the host state for the coming year as reflected by the minutes, and shall hold office for a term of one year, beginning on July 1 following the election, or until a 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 or the designated representative of the Federal Commissioner.

2.4 The Secretary shall be selected at the annual meeting by the Commission from the state designated to host the next annual meeting as reflected in the minutes. The Secretary shall serve for the term of one year, beginning on July 1 following the selection, 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 for a term of one year, beginning on July 1 following the selection. 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 of the Treasurer.

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.

2.7 Whenever there is a permanent change in the Commander of the Lower Mississippi Valley Division, Department of the Army Corps of Engineers, or its counterpart in any future reorganization of the Corps, the Vice-Chairman shall immediately request the President to appoint the new Commander as the U.S. Commissioner to the Compact Commission.

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 ordinary mail at least ten days in advance of each meeting and 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 actions is not expressly provided for in the Compact, eight concurring votes shall be required. Any other actions 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 the Treasurer;
Report of the 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;

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

(2) 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.

(3) 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 executive 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.

4.10 In the absence of a Chairman and Vice-Chairman, all of the Commissioners from any two (2) states may call an emergency or a special meeting of the Compact Commission.

ARTICLE V
COMMITTEES

5.1 There may be the following standing committees:

(a) Budget Committee;
(b) Engineering Committee;
(c) Environmental and Natural Resources Committee;
(d) Legal Committee.

5.2 The committees shall have the following duties:

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

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

(3) The Environmental and Natural Resources Committee shall advise the Commission on all environmental and natural resource matters that may be referred to it.

(4) The Legal Committee shall advise the Commission on all legal 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 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 contain:

(1) Minutes of all regular, special or emergency meetings held during the year;

(2) All findings of facts made by the Commission during the preceding year;

(3) Recommendations for actions by the signatory states;

(4) Statements as to any cooperative studies made during the preceding year;

(5) All data which the Commission deems pertinent;

(6) The budget for current and future years;

(7) The most recent audit report or current financial statement of the Red River Compact Fund;

(8) Name, address and phone number of each Commissioner and each member of all standing committees;

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

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 totaled, 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 Sub-sections 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. * * * *"

(2) 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.

f. **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 Compact Compliance Computations:**

      (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).